

Hose, Couplings & Equipment









WARNING

Gates Corporation recommends Industrial hoses for normal service as described in this catalog. Other applications should be referred to your respective marketing representative.

In any application, there may be inherent risk of bodily injury or property damage and the user is responsible for implementation of adequate safety precautions. It is the responsibility of the person supplying the hose to advise the user of proper instructions for the adequate safe use and/or precautions and to warn the user of consequences of failure to heed such instruction. Should a hose assembly fail during use because of excessive pressure, injurious and/or damaging chemicals, elevated temperature materials, explosives or flammable materials, then serious bodily injury or destruction of property could result from impelled couplings, whipping hose, high pressure or high velocity discharge, chemical contact, high temperature materials, explosion or fire.

In known high risk areas, it is recommended that hose inspections be performed at frequent intervals related to the risk factor. Hose with obvious damage should be scrapped and replaced. These inspections should include tube and cover conditions, leaking or slipped couplings and proof test.

Detailed information concerning storage, care and maintenance may be found in the Hose Handbook published by The Rubber Manufacturers' Association, 1901 Pennsylvania Avenue, N.W., Washington, D.C. 20006 and in SAE Recommended Practices J1273.

IMPORTANT

Gates recommends only those applications of products specified in Gates product literature.

Gates disclaims any liability for use of its products in applications other than those for which they were designed.

Service Life

All rubber products, including Industrial Hose assemblies, have a limited life on a given application. Assuming the correct hose has been selected for the application, this service life can be adversely affected by many variable conditions. The major ones are:

- Exposure to severe external abuse such as kinking, bending, high end pull, crushing or abrasion.
- Exposure to higher-than-rated working pressures or to high surge pressures.
- Exposure to higher-than rated temperatures.
- Misapplication or exposure to corrosive liquids or gases outside the range of suitable applications.
- External abuse—hoses should be placed where they will not be run over by equipment or subjected to high end pull. Hoses should not be bent below recommended minimum bend radius. This could result in kinking the hose or reducing its pressure resistance. Large diameter hoses also may require additional support to reduce external abuse.
- Hose & System Pressures—In establishing and determining pressures related to hose and the systems to which they are applied, it is necessary to consider separately the characteristics of the hose and the system.
 - The system (or device or application) can have several pressures depending on pressure sources and surges imposed by the operator or mechanical components.
 - A given hose has a fixed characteristic with respect to the pressure it can withstand (and how it is applied) and still give satisfactory life.
- 3. High Temperatures—The allowable temperature ranges for industrial hoses are shown on Page 6. These are for product temperatures and should not be exceeded. High temperatures can degrade rubber stocks very quickly resulting in short service life. Where external temperatures are higher than normal ambient, contact your Gates field representative for recommendations.
- Misapplication—All industrial hoses are designed for a certain specific application or related application. They should not be used for any other applications.
- Hose Information—Refer to the following pages for details of hose construction and physical characteristics. These are shown in the data pages and include such items as rated working pressure, vacuum rating, minimum bend radius and static conductivity ratings.

 Internal Abrasion—For applications of a highly abrasive nature where the hose makes one or more bends, hose should be rotated 90° periodically to lengthen service life.

The hose manufacturer established, through design and testing, the recommended rated working pressure for the hose. It is the responsibility of the user to accurately determine the system pressure. Steady state pressure can be measured readily by gauges. Surges are difficult to measure and may require the use of electronic pressure pickup devices. Also, surge values depend on so many variables that a series of tests are usually required to obtain a valid set of readings. However, if there are extreme surges in the normal operation, or if there is the likelihood of abnormal operation of the system, the magnitude must be determined.

Considering the recommended rated working pressure of the HOSE and the various pressures of the SYSTEM, the hose is matched to the system using proper application engineering principles.

WARRANTY

GATES CORPORATION LIMITED WARRANTY

The Gates Corporation ("Gates") product is warranted to be free from defects in material or workmanship for twenty-four (24) months from the date of delivery to Customer. Gates will, at its option, replace or repair any merchandise proved defective in material or workmanship, or both. In no event will Gates honor any warranty claim unless it is notified of the claim within six (6) months of the expiration of the warranty period. This shall be the sole remedy for breach of warranty.

This is the exclusive remedy, limited to the Customer's purchase price of the product. Damage to the product due to abuse, misuse, improper use, inadequate maintenance, or failure to follow published installation, use and service recommendations automatically voids this warranty. For warranty service, please contact the Customer Service Department of Gates Corporation, 1551 Wewatta Street, Denver, Colorado 80202.

ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE HEREBY EXPRESSLY DISCLAIMED. IN NO EVENT WILL GATES BE LIABLE TO ANY PARTY FOR CONSEQUENTIAL, INCIDENTAL, SPECIAL, EXEMPLARY AND INDIRECT DAMAGES, INCLUDING BUT NOT LIMITED TO LOST PROFITS, REGARDLESS OF WHETHER SUCH DAMAGES WERE REASONABLY FORESEEABLE, OR WHETHER GATES HAD KNOWLEDGE THAT THEY COULD OCCUR.

Some states do not allow the exclusion or limitation of incidental or consequential damages, and some states do not allow limitations on how long an implied warranty lasts, so the above limitation and exclusion may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.



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TERMS, CONDITIONS AND TRANSPORTATION POLICY

TERMS POLICY

As shown on applicable discount schedule.

Conditions

- · Prices do not include charges for special packaging, which will be extra, unless otherwise specified.
- Prices are subject to change without notice.
- Buyer shall reimburse Seller for all taxes, excise or other charges. Seller may be required to pay to any government (Federal, State or local) upon the sales, use, production or transportation of the merchandise sold hereunder.
- Seller shall be excused and not liable for delays caused by Buyer's request, labor troubles, shortages in materials, damage to plant, government regulations or other cause, similar or otherwise beyond Seller's control.

TRANSPORTATION POLICY

All prices are F.O.B point of shipment. The "F.O.B. point of shipment" term means that the title to the goods passes to the consignee (customer) at time of shipment and any claims against the carrier for loss or damage become the responsibility of the consignee.

- Freight terms: As shown on applicable discount schedule. F.O.B. point of shipment, and shipped to any one location served by common
 carrier within the Continental United States, Hawaii or Alaska. On shipments to Hawaii or Alaska, shipment by sea service is considered
 common carrier.
- Industrial Hose Products must be shipped to the location issuing the purchase order.
- Nonstock or special manufactured items will stand on their own for freight allowance, F.O.B. point of manufacture.
- Partial shipments made at Gates discretion will be shipped prepaid provided the original order qualified for prepaid shipment.

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Adapta Flex™ Red		Fig. 1502 Hammer Ur	•	Sea Horse® (Fuel Tra	
Adapta Flex™ Red Cover -		Heater Hose		Sea Horse® HW (Fue	,
Shippable Reels		Heavy-Duty T-Bolt Clar		Suction/Discharge -	
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Hardwall)		Fuel-Corrugated)		Stallion® Crush Resis	
Blender Transfer		Longwall Mine Emulsio		Steelhead®	
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Hose Temperature Ranges

Temperature ranges for the industrial hoses are shown by application groups. The range in the Normal Service column indicates the usual temperature range for each specific hose listed under each application group.

The lower limit column indicates the approximate temperature at which the hose will become too stiff to use. For information on applications or temperatures not listed in this table, contact Denver Production Application.

	Normal	Lower
Application Group	Service F*	Limit F
Acid-Chemical		
77B	0-125 [†]	-40
	0-125	-40 -40
Appaloosa®	0-125 [†]	-40 -40
Colt®	0-125 [†]	
Mustang [®]	0-125 [†]	-40
Rengade A	0-125 [†]	-40
Stallion®	0-125 [†]	-40
Thermo-Ag [®] 570	0-130	-10
Thermo-Ag 800	0-130	-10
Air & Multi-Purpose	0.000**	40
6B	0-200**	-40
18MB	0-212	-30
19B/119B	0-212**	-40***
33HB (Divers Air)	0-120	-40
63SB	0-250	-30
163SB	0-250	-30
319MB (Gold Master®)	0-212	-40
500 MP/Air Drill	0-180	-22
1000 MP/Mine Spray	0-212	-40
Duro Flex®	0-200**	-40
LOL Plus	0-212	-40
Longwall Mine Emulsion	0-212	-40
Ohmega [®]	0-150	-20
Premo Flex®	0-212**	-40
Python [®] Plus	0-212	-20
Terminator®	0-212	-40
Tufflex [®] Plus	0-150	-15
Food & Beverage		
610W	0-150	-40
690SB	0-150	-40
692SB	0-180	-40
Brew Master®	0-230	-40
Cellar Master®	0-230	-40
Cellar Master Light	0-212	-40
Food and Beverage Master®	0-230	-40
Food Master® Lite [™]	0-230	-40
Master Flex® 200CL	10-130	-10
Master Flex 201CR	10-130	-10
Master Flex 202SW	10-130	-10
Sani-Pure [™]	0-230	-40
Tufflex® Food	10-130	-10
Marine		
75W (Standard Wall Coolant)	32-257	-40
76W (Heavy Wall Coolant)	32-257	-40
4219G (Fuel Line & Tank Vent)	0-257	-40
4663K (Fuel Tank Filler)	0-212	-40
4684CF (Wet Exhaust)	0-212	-40
C5M (Fuel Line)	0-212	-4
Engine Coolant (Softwall)	0-212	-40
Engine Coolant (Hardwall)	0-257	-40
Engine Coolant (Silicone)	0-347	-65
Fuel Fill (USCG Type A2&B2)	0-212	-40
Fuel Line (USCG Type A1)	0-212	-40
Fuel Line (USCG Type B)	0-250	-40
Heater Hose	0-257	-40
Vacuum Tubing	0-257	-40
Wet Exhaust (Softwall)	0-257	-40
Wet Exhaust (Hardwall)	0-257	-40
Material Handling	0 201	.0
429W	0-150	-40
609W	0-150	-40
688SB	0-150	-40
	00	

Range for

Application Group	Range for Normal Service F*	Lower Limit F
Material Handling		
770SB	0-150	-40
Hot Air Blower	0-350	-40
Master Flex 300EPDM	10-140	-30
Master Flex 400	32-140	-30
Oil Field		
Powerbraid [®] Plus	0-180	-40
Black Gold® Rotary (Grade D & E)	0-180	-4
Black Gold Rotary Cementing	0-180	-4
Black Gold Rotary Cementing	0-212	-4
Black Gold Rotary Sour Service	0-200	-4
Black Gold Rotary Choke & Kill	0-200	-4
Black Gold Rotary Super Choke & Kill	0-200	-4
Petroleum		
Blacksnake [®]	0-120	-40
Blender Transfer	0-180	-40
Brahma [®]	0-180	-40
Fuel Oil Delivery	0-180	-40***
Longhorn [®]	0-180	-40
Longhorn®AF	0-180	-30
LP350X	0-180	-40***
LPG Vapor	0-150	-30
Maverick [™]	0-180	-40
Master Flex® Fuel Delivery	0-130	-30
Master Flex Vapor Recovery	0-140	-30
Sea Horse®	0-180	-40
Sea Horse HW	0-180	-40
Steer®	0-180	-40
Super-Vac®	0-150	-40
Trident® 400	0-158	-30
Pressure Washer		
Creamery/Paper Mill Washdown	0-212	-40
Cyclone®	0-212	-40
PowerClean [™]	0-250	-40
Pressure Washer Assemblies	0-250	-40
Steam		
205MB	0-450 ¹	-40
232MB	0-450 ¹	-40
Water		
Barracuda [®]	0-180	-40
Dolphin [®]	0-180	-40
Marlin [®]	0-180	-40
Master Flex® 100GR	10-130	-10
Master Flex 101CL	10-130	-10
Master Flex 500	25-120	+25
Shark®	0-180	-40
Steelhead [®]	0-150	-40
As temperature increases, allowable press see the rated working pressure/temperature hose specifications. Contact Denver Product Application for ch with saturated or superheated steam.		

from reels.
SUCTION VALUES ARE AT AMBIENT TEMPERATURES UNLESS OTHERWISE STATED.

<sup>With saturated steam only.

* Ambient or product temperature.

** If hose is subjected to this temperature continuously, reduce the catalog rated working pressure by 30%, or use interlocking type couplings.

***These hoses will be flexible down to -20°F. At temperatures between -20°F and -40°F, the hose may require significant force to be bent, flexed or pulled from reds.</sup>

Selection of Hoses and Couplings

There are many types of industrial hoses—all designed for a particular application or several related applications. When hoses are mated with the proper couplings and used in the correct application, hose assemblies will give long, trouble-free service.

This catalog is designed to make certain that you obtain long service life by:

- Helping you select the proper hose and coupling from among the many types available.
- Giving you suggestions on how to take reasonable care of the hose assembly and maintain it for maximum service life.

Follow the instructions and procedures given below:

Selection of Hoses and Couplings

Information in this catalog will enable you to select hose and couplings for many applications.

Remember the Word STAMPED To Help You Select the Best Hose

Size: Inside diameter, outside diameter, length. **T**emperature: Minimum and maximum °F.

Application: How and where used: Special needs, UL, Government, FDA, MSHA, etc.

Material Conveyed: Air, water, chemicals (concentration and

temperature), petroleum, etc. ${f P}$ ressure: Maximum rated W.P. (psi) or Suction (In.Hg)

Ends: Straight, Male, etc.

Delivery: When, where, quantity.

Select one of the recommended couplings from the hose coupling information section. In each individual Hose Specification Section, couplings are recommended by a bold number in brackets.

For example: 19. Check coupling compatibility in Industrial Hose Coupling Assembly Guide #39505 with the material to be handled.

Provide for proper care and maintenance of the assembly.

Certain critical applications require the use of just one specific hose or group of hoses. **DO NOT SUBSTITUTE.**

Critical Application	Recommended Gates Hoses						
Steam	Select a hose that meets the application requirements from Steam Hose Section only.						
LP Gas	LP350/LP350X						
Corrosive Chemicals							
(Acids—Bases)	Select a hose that meets the application requirements from Acid-Chemical Hose Section only.						
Edible Products	Select a hose that meets application requirements from Beverage and Food Hoses. Hose must have FDA tube stock.						

SPECIAL HOSES ARE AVAILABLE

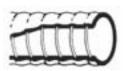
Gates can furnish special hoses for specific applications. For information, contact Denver – furnishing complete details of hose application.

Ends for Gates Hose

Many applications require hose with special ends to provide protection and better coupling for the hose.

To be sure you receive the proper hose end, always specify the type of end, the length of end and its inside diameter (if enlarged

Four Types of Hose Ends



1. Plain end (When ordering—specify P.E.)

Braided, spiral and thermoplastic hoses are available only with plain ends. Plain ends ends. Plain ends are generally furnished on wrapped and horizontal braid hoses, unless braid hoses, un-less otherwise specified. The plain end is obtained by merely cutting merely cutting hose to a specified length.



2. Straight End (When ordering—specify S.E.)

All wire-reinforced, hand-built hoses are available with straight ends. The straight end, not corrugated, has all construction elements except the wire. Straight ends permit leakproof clamping of the hose because the wire does not overlap the coupling shank.



3. Enlarged End (When ordering—specify E.E.)

Hand-built hoses, either wire-reinforced or wrapped, are also available with enlarged ends. The hose end is enlarged to accommodate the O.D. of a nipple and the depth of the shank. Thus, an enlarged end to 6-5/8" I.D. is made to fit a 6" nipple, which has a 6-5/8" O.D.



4. Smooth End (Seldom Used)

The smooth end is used on wire reinforced hose with corrugated cover. Construction elements, including wire, extend through to the end of the hose. The outside of the end is smooth with no corrugations.



Acid-Chemical Hose

Stallion®

(Specification 4698B)

Nom. I.D.	Θ	Nom. O.D.	O	Max. W.P.	(Suction	0	Min. Bend Radius	P	Wt. Per Ft.	Å	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
3/4	19.1	1.29	32.8	200	1.38	30.0	762	4.0	102	.52	.24	100 ft.	X	4698-0011
3/4	19.1	1.29	32.8	200	1.38	30.0	762	4.0	102	.52	.24	20 ft.	X	4698-0021
1	25.4	1.56	39.6	200	1.38	30.0	762	5.0	127	.63	.29	100 ft.	X	4698-0012
1	25.4	1.56	39.6	200	1.38	30.0	762	5.0	127	.63	.29	20 ft.	X	4698-0022
1	25.4	1.56	39.6	200	1.38	30.0	762	5.0	127	.63	.29	200 ft.	400 ft.	4698-0029
1 1/2	38.1	2.05	52.1	200	1.38	30.0	762	8.0	203	.93	.42	100 ft.	X	4698-0013
1 1/2	38.1	2.05	52.1	200	1.38	30.0	762	8.0	203	.93	.42	20 ft.	X	4698-0023
1 1/2	38.1	2.05	52.1	200	1.38	30.0	762	8.0	203	.89	.42	200 ft.	400 ft.	4698-0031
2	50.8	2.55	64.8	200	1.38	30.0	762	9.0	229	1.18	.54	100 ft.	X	4698-0014
2	50.8	2.55	64.8	200	1.38	30.0	762	9.0	229	1.18	.54	20 ft.	X	4698-0024
2 1/2	63.5	3.07	78.0	150	1.03	30.0	762	12.0	305	1.49	.68	100 ft.	X	4698-0015
2 1/2	63.5	3.07	78.0	150	1.03	30.0	762	12.0	305	1.49	.68	20 ft.	X	4698-0025
3	76.2	3.59	91.2	150	1.03	30.0	762	18.0	457	1.83	.83	100 ft.	X	4698-0016
3	76.2	3.59	91.2	150	1.03	30.0	762	18.0	457	1.83	.83	20 ft.	X	4698-0026
4	101.6	4.66	118.4	125	.86	30.0	762	24.0	610	2.74	1.24	100 ft.	X	4698-0017
4	101.6	4.66	118.4	125	.86	30.0	762	24.0	610	2.74	1.24	20 ft.	X	4698-0027

RECOMMENDED FOR:

Tank truck, barge, ship, or storage tank transfer of a variety of chemical products. Stallion has a wire helix for full suction capability. The tube stock (Teflon* or Neoflon**) has excellent chemical resistance and is backed by Gates Gatron™ for flex fatigue safety at the coupling. Stallion is designed for easy cleaning in a bath containing 10% (NaOH) @ 212°F (100°C). Cleaning in place (CIP) methods may be used. Applications include most basic chemicals which are building blocks for numerous chemicals used in a variety of industries. Reference Gates Chemical Resistance Table for proper hose selection. Compatible with commercially available Bio-Diesel fuels up

TEMPERATURE:

-40°F to +300°F (-40°C to +149°C) normal service. Stallion is designed to withstand fluid temperatures to +300°F (+149°C), however the rating is dependent on the specific chemical conveyed. Contact Denver Product Application (303) 744-5070 for any chemical above $+125^{\circ}F$ (+52°C).

CONSTRUCTION:

Type T (FEP) Teflon* or Neoflon**. White. Backed with Gatron™ (Modified XLPE).

Synthetic, high tensile textile with steel wire helix. Type P (EPDM). Blue corrugated with red spiral stripe. Reinforcement:

COUPLINGS:

Tube:

Gates has tested hose assemblies at the maximum rated service temperature to assure your safety. Use permanent

fittings only 71 or 73 for fluid temperatures up to 300°F (149°C). Reference the Hose Coupling Section.

PACKAGING:

All lengths coiled and wrapped in polyethylene.

BRANDING:

Continuous transfer label. Example: "GATES® Stallion® U.S. Pat. No. 5,647,400 Acid-Chemical Suction/Discharge

200 PSI (1.38MPa) WP Made In U.S.A. For your safety: Use Permanent Fittings Only

SPECIAL ORDER REQUIREMENTS:

Black, red, green and yellow covers are made to order and require minimum production order quantities of 400

feet per size. For price, add 10% (x1.10) to price.

Special production runs require minimum order quantities of 400 feet per size. If a special transfer label is

required, contact Gates Corporation for minimum quantity.

Specific cut lengths available through the Cut Length Program. Contact Customer Service for details.

REMNANT LENGTHS:

Remnant lengths are sometimes available in popular sizes at a discount. Contact Gates Corporation for pricing, order requirements and availability.

^{*}Teflon® is a Registered Trademark of DuPont.
**Neoflon® is a Registered Trademark of Daikin.



Acid-Chemical Hose

Stallion® Crush Resistant

(Specification 4698MB)

	Nom. I.D.	Θ	Nom. O.D.	O	Max. W.P.	(Suction	0	Min. Bend Radius	P	Wt. Per Ft.	Å	Standard	Stock (X) or Minimum	Gates
	(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
	3/4	19.1	1.33	33.8	200	1.38	20.0	508	4.0	102	.53	.24	100 ft.	400 ft.	4698-0001
	1	25.4	1.58	40.1	200	1.38	20.0	508	5.0	127	.63	.29	100 ft.	X	4698-0002
	1 1/2	38.1	2.08	52.8	200	1.38	20.0	508	8.0	203	.86	.39	100 ft.	X	4698-0003
- [2	50.8	2.58	65.5	200	1.38	20.0	508	9.0	229	1.09	.49	100 ft.	X	4698-0004

RECOMMENDED FOR:

Tank truck, barge, ship, or storage tank transfer of a variety of chemical products. Stallion Crush Resistant has a monofilament helix for suction and crush resistant capability. The tube stock (Teflon* or Neoflon**) has excellent chemical resistance and is backed by Gates Gatron™ for flex fatigue safety at the coupling. Stallion Crush Resistant is designed for easy cleaning in a bath containing 10% (NaOH) @ 212°F (100°C). Cleaning in place (CIP) methods may be used. Applications include most basic chemicals which are building blocks for numerous chemicals used in a variety of industries. Reference Gates Chemical Resistance Table for proper hose selection. Compatible with commercially available Bio-Diesel fuels up to B-100.

TEMPERATURE:

-40°F to +300°F (-40°C to +149°C) normal service. Stallion Crush Resistant is designed to withstand fluid temperatures to 300°F (+149°C), however the rating is dependent on the specific chemical conveyed. Contact Denver Product Application (303) 744-5070 for any chemical above 125°F (+52°C).

CONSTRUCTION:

Type T (FEP) Teflon* or Neoflon**. White. Backed with Gatron™ (Modified XLPE). Reinforcement: Synthetic, high tensile textile with monofilament helix and static wire.

Type P (EPDM). Blue corrugated with red spiral stripe.

COUPLINGS:

Gates has tested hose assemblies at the maximum rated service temperature to assure your safety. Use permanent fittings only 71 or 73 for fluid temperatures up to 300°F (149°C). Reference the Hose Coupling Section.

PACKAGING:

100' length coiled and wrapped in polyethylene.

BRANDING:

Continuous transfer label. Example: "GATES® Stallion® U.S. Pat. No. 5,647,400 Crush Resistant Acid-Chemical Suction/Discharge 200 PSI (1.38MPa) WP Made In U.S.A. For your safety: Use Permanent Fittings Only

SPECIAL ORDER REQUIREMENTS:

Black, red, green and yellow covers are made to order and require minimum production order quantities of 400

feet per size. For price, add 10% (x1.10) to price.

Special production runs require minimum order quantities of 400 feet per size. If a special transfer label is required, contact Gates Corporation for minimum quantity.

REMNANT LENGTHS:

Remnant lengths are sometimes available in popular sizes at a discount. Contact Gates Corporation for pricing, order requirements and availability.

*Teflon® is a Registered Trademark of DuPont. **Neoflon® is a Registered Trademark of Daikin.



Acid-Chemical Hose

Mustang®

(Specification 4695/4695G)

Black Cover (4695)

Nom. I.D.	Θ	Nom. O.D.	10	Max. W.P.	O	Suction	\bigcirc	Min. Bend Radius	P	Wt. Per Ft.	Å	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
3/4	19.1	1.25	31.8	200	1.38	30.0	762	4.0	102	.45	.20	100 ft.	X	4695-0002
3/4	19.1	1.25	31.8	200	1.38	30.0	762	4.0	102	.45	.20	200 ft.	400 ft.	4695-0737
1	25.4	1.50	38.1	200	1.38	30.0	762	5.0	127	.56	.25	100 ft.	X	4695-0003
1 1 1/4 1 1/4	25.4 31.8 31.8	1.50 1.75 1.75	38.1 44.5 44.5	200 200 200 200	1.38 1.38 1.38	30.0 30.0 30.0	762 762 762	5.0 6.0 6.0	127 152 152	.56 .66 .66	.25 .30 .30	200 ft. 100 ft. 200 ft.	400 ft. X 400 ft.	4695-0670 4695-0004 4695-0738
1 1/2	38.1	2.04	51.8	200	1.38	30.0	762	8.0	203	.87	.40	100 ft.	X	4695-0005
2	50.8	2.54	64.5	200	1.38	30.0	762	9.0	229	1.10	.50	100 ft.	X	4695-0001
2	50.8	2.54	64.5	200	1.38	30.0	762	9.0	229	1.10	.50	200 ft.	400 ft.	4695-0698
2 1/2	63.5	3.05	77.5	150	1.03	30.0	762	12.0	305	1.40	.64	100 ft.	X	4695-0006
2 1/2	63.5	3.05	77.5	150	1.03	30.0	762	12.0	305	1.40	.64	200 ft.	400 ft.	4695-0720
3	76.2	3.58	90.9	150	1.03	30.0	762	18.0	457	1.79	.81	100 ft.	X	4695-0007
3	76.2	3.58	90.9	150	1.03	30.0	762	18.0	457	1.79	.81	200 ft.	400 ft.	4695-0699
4	101.6	4.69	119.1	125	.86	30.0	762	24.0	610	2.72	1.23	100 ft.	X	4695-0008
4	101.6	4.69	119.1	125	.86	30.0	762	24.0	610	2.72	1.23	200 ft.	400 ft.	4695-0055

Green Cover (4695G)

Nom. I.D.	Θ	Nom. O.D.	Ō	Max. W.P.	(Suction	\bigcirc	Min. Bend Radius	(P)	Wt. Per Ft.	\triangle	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
1	25.4	1.50	38.1	200	1.38	30.0	762	5.0	127	.56	.25	100 ft.	Х	4695-0628
1 1/2	38.1	2.04	51.8	200	1.38	30.0	762	8.0	203	.88	.40	100 ft.	X	4695-0211
2	50.8	2.54	64.5	200	1.38	30.0	762	9.0	229	1.11	.50	100 ft.	X	4695-0216
2	50.8	2.54	64.5	200	1.38	30.0	762	9.0	229	1.11	.50	200 ft.	400 ft.	4695-0700
3	76.2	3.58	90.9	150	1.03	30.0	762	18.0	457	1.81	.82	100 ft.	X	4695-0229
3	76.2	3.58	90.9	150	1.03	30.0	762	18.0	457	1.81	.82	200 ft.	400 ft.	4695-0701

RECOMMENDED FOR: NOTE: For applications requiring greater than 90% sulfuric acid contact Denver Product Application (303)

744-5070.

Tank truck, barge, ship, or storage tank transfer of a variety of chemical products. Mustang contains a wire helix for full suction capability, as well as for routing hoses through tight bends. Its Modified Cross-linked Polyethylene tube stock is "best in class" for maintaining a tight seal with stainless steel fittings, and is designed for cleaning with "open end" 50 PSI steam or in a bath containing 10% (NaOH) @ 212°F (100°C). Cleaning in place (CIP) methods may be used. Not recommended for "closed steam" cleaning. Applications include over 950 basic chemicals that are building blocks for numerous chemicals used in a variety of industries. Reference Gates Chemical Resistance Table for proper hose selection.

 $-40^{\circ}F \ to \ +250^{\circ}F \ (-40^{\circ}C \ to \ +121^{\circ}C) \ normal \ service. \ Mustang \ is \ designed \ to \ with stand \ fluid \ temperatures \ to \ 250^{\circ}F$ **TEMPERATURE:** (+121°C), however the rating is dependent on the specific chemical conveyed. Contact Denver Product Application (303) 744-5070 for any chemical above 125°F (+52°C).

CONSTRUCTION: Type K (Gatron™ Modified Cross-linked Polyethylene.) Tan. High chemical resistance.

Reinforcement:

Synthetic, high tensile textile cord with steel wire helix.

Type P (EPDM). Black or green corrugated with orange spiral stripe. Blue, red, and yellow Cover:

covers available on special order.

PACKAGING: 100' length coiled and wrapped in polyethylene.

Continuous transfer label. Example: "GATES® Mustang® Acid-Chemical Suction/Discharge 200 PSI (1.38MPa) **BRANDING:**

WP Made In U.S.A. For your safety: Use Permanent Couplings above 125°F.

SPECIAL ORDER Blue, red, and yellow covers are made to order and require minimum production order quantities of 400 feet per

REQUIREMENTS: size. For price, add 10% (x1.10) to price.

Special production runs require minimum order quantities of 400 feet per size. If a special transfer label is

required, contact Gates Corporation for minimum quantity.

Specific cut lengths available through the Cut Length Program. Contact Customer Service for details.

REMNANT LENGTHS: Remnant lengths are sometimes available in popular sizes at a discount. Contact Gates Corporation for pricing,



Acid-Chemical Hose

Mustang® Crush Resistant

(Specification 4695M)

	Nom. I.D.	Θ	Nom. O.D.	O	Max. W.P.	(Suction	0	Min. Bend Radius	P	Wt. Per Ft.	Å	Standard	Stock (X) or Minimum	Gates
	(ln.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
Γ	3/4	19.1	1.36	34.5	200	1.38	20.0	508	4.0	102	.53	.24	100 ft.	400 ft.	4695-0607
	1	25.4	1.61	40.9	200	1.38	20.0	508	5.0	127	.64	.29	100 ft.	X	4695-0608
	1 1/2	38.1	2.13	54.1	200	1.38	20.0	508	8.0	203	.90	.41	100 ft.	X	4695-0609
Γ	2	50.8	2.63	66.8	200	1.38	20.0	508	9.0	229	1.13	.51	100 ft.	X	4695-0610

RECOMMENDED FOR:

NOTE: For applications requiring greater than 90% sulfuric acid contact Denver Product Application (303)

744-5070.

Tank truck, barge, ship, or storage tank transfer of a variety of chemical products. Mustang Crush Resistant contains a monofilament helix for suction and crush resistant capability, as well as for routing hoses through tight bends. Its Modified Cross-linked Polyethylene tube stock is "best in class" for maintaining a tight seal with stainless steel fittings, and is designed for cleaning with "open end" 50 PSI steam or in a bath containing 10% (NaOH) @ 212°F (100°C). Cleaning in place (CIP) methods may be used. Not recommended for "closed steam" cleaning. Applications include over 950 basic chemicals that are building blocks for numerous chemicals used in a variety of industries. Reference Gates Chemical Resistance Table for proper hose selection.

TEMPERATURE:

-40°F to +250°F (-40°C to +121°C) normal service. Mustang Crush Resistant is designed to withstand fluid temperatures to 250°F (+121°C), however the rating is dependent on the specific chemical conveyed. Contact Denver Product Application (303) 744-5070 for any chemical above 125°F (+52°C).

CONSTRUCTION:

Type K (Gatron™ Modified Cross-linked Polyethylene.) Tan. High chemical resistance. Reinforcement:

Synthetic, high tensile textile with monofilament helix and static wire providing crush and kink

Cover: Type P (EPDM). Black corrugated with orange spiral stripe. Green, blue, red, and yellow covers

available on special order.

COUPLINGS:

Gates has tested hose assemblies at the maximum rated service temperature to assure your safety. Use 7, 8, or 49 for fluid temperatures to 125°F (+52°C). Use permanent fittings only 71 or 73 for fluid temperatures above 125°F

(+52°C) and up to 250°F (+121°C). Reference the Hose Coupling Section.

PACKAGING: 100' length coiled and wrapped in polyethylene.

Continuous transfer label. Example: "GATES" Mustang" Crush Resistant Acid-Chemical Suction/Discharge 200 PSI (1.38MPa) WP Made In U.S.A. For your safety: Use Permanent Couplings above 125°F." **BRANDING:**

SPECIAL ORDER **REQUIREMENTS:**

Green, blue, red, and yellow covers are made to order and require minimum production order quantities of 400

feet per size. For price, add 10% (x1.10) to price.

Special production runs require minimum order quantities of 400 feet per size. If a special transfer label is

required, contact Gates Corporation for minimum quantity.

REMNANT LENGTHS:

Remnant lengths are sometimes available in popular sizes at a discount. Contact Gates Corporation for pricing,



Acid-Chemical Hose

Appaloosa®

(Specification 4695RG)

Nom. I.D.	Θ	Nom. O.D.	O	Max. W.P.	(Suction	0	Min. Bend Radius	P	Wt. Per Ft.	Å	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(ln.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
1 1/2	38.1	1.97	50.0	200	1.38	30.0	762	8.0	203	.76	.35	100 ft.	200 ft.	4695-0665
2	50.8	2.47	62.7	200	1.38	30.0	762	9.0	229	.97	.44	100 ft.	200 ft.	4695-0666
3	76.2	3.51	89.2	150	1.03	30.0	762	18.0	457	1.58	.72	100 ft.	200 ft.	4695-0668

RECOMMENDED FOR: Use for tank truck, barge, ship, or storage tank transfer of a variety of chemical products where external abrasion

resistance is critical. Appaloosa contains a wire helix for full suction capability, as well as for routing hoses through tight bends. Its Modified Cross-linked Polyethylene tube stock is "best in class" for maintaining a tight seal with stainless steel fittings and is designed for cleaning with "open end" 50 PSI steam or in a bath containing 10% (NaOH) @ 212°F (100°C). Cleaning in place (CIP) methods may be used. Not recommended for "closed steam" cleaning. Capable of handling more than 950 basic chemicals. Reference Gates Chemical Resistance Table

for proper hose selection.

-40°F to +225°F (-40°C to +107°C) normal service. Appaloosa is designed to withstand fluid temperatures to 225°F (+107°C), however the rating is dependent on the specific chemical conveyed. Contact Denver Product Application (303) 744-5070 for any chemical above 125°F (+52°C). TEMPERATURE:

CONSTRUCTION: Type K (Gatron™ Modified Cross-linked Polyethylene.) Tan. High chemical resistance.

Reinforcement: Synthetic, high tensile textile with steel wire helix.

Type L (UHMWPE) over a base of Type P (EPDM). Black corrugated cover with green dots Cover:

and a green spiral stripe.

COUPLINGS: Gates has tested hose assemblies at the maximum rated service temperature to assure your safety. Use 7, 8, or 49

for fluid temperatures to 125°F (+52°C). Use permanent fittings only 71 or 73 for fluid temperatures above 125°F

(+52°C) and up to 250°F (+121°C). Reference the Hose Coupling Section.

PACKAGING: 100' length coiled and wrapped in polyethylene.

BRANDING: Continuous transfer label. Example: "GATES® Appaloosa® Acid-Chemical Suction/Discharge 200 PSI (1.38MPa)

WP Made In U.S.A. For your safety: Use Permanent Couplings above 125°F.

SPECIAL ORDER Special production runs require minimum order quantities of 400 feet per size. If a special transfer label is **REQUIREMENTS:** required, contact Gates Corporation for minimum quantity.

Specific cut lengths available through the Cut Length Program. Contact Customer Service for details.

REMNANT LENGTHS: Remnant lengths are sometimes available in popular sizes at a discount. Contact Gates Corporation for pricing,



Acid-Chemical Hose

$Renegade^{^{TM}}$

(Specification 4697G)

Nom. I.D.	Θ	Nom. O.D.	O	Max. W.P.	(Suction	\bigcirc	Min. Bend Radius	P	Wt. Per Ft.	Å	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
3/4	19.1	1.22	31.0	200	1.38	30.0	762	4.0	102	.41	.19	100 ft.	X	4697-0014
1	25.4	1.47	37.3	200	1.38	30.0	762	5.0	127	.51	.23	100 ft.	X	4697-0015
1	25.4	1.47	37.3	200	1.38	30.0	762	5.0	127	.51	.23	200 ft.	400 ft.	4697-0057
1 1/4	31.8	1.72	43.7	200	1.38	30.0	762	6.0	152	.60	.27	100 ft.	X	4697-0016
1 1/2	38.1	2.00	50.8	200	1.38	30.0	762	8.0	203	.78	.35	100 ft.	X	4697-0017
1 1/2	38.1	2.00	50.8	200	1.38	30.0	762	8.0	203	.78	.35	200 ft.	400 ft.	4697-0058
2	50.8	2.50	63.5	200	1.38	30.0	762	9.0	229	.99	.45	100 ft.	X	4697-0018
2	50.8	2.50	63.5	200	1.38	30.0	762	9.0	229	.99	.45	200 ft.	400 ft.	4697-0059
2 1/2	63.5	3.01	76.5	150	1.03	30.0	762	12.0	305	1.28	.58	100 ft.	X	4697-0019
3	76.2	3.53	89.7	150	1.03	30.0	762	18.0	457	1.63	.74	100 ft.	X	4697-0020
3	76.2	3.53	89.7	150	1.03	30.0	762	18.0	457	1.63	.74	200 ft.	400 ft.	4697-0022
4	101.6	4.53	115.1	125	.86	30.0	762	24.0	610	2.11	.96	100 ft.	X	4697-0021

RECOMMENDED FOR: Tank truck, barge, ship, or storage tank transfer of a variety of chemical products. Renegade contains a wire helix for full suction capability, as well as for routing hoses through tight bends. The Ultrahigh Molecular Weight

Polyethylene tube stock has excellent chemical resistance and is backed by Gates Gatron™ for flex fatigue safety at the coupling. Renegade is designed for easy cleaning in bath containing 10% (NaOH) @ 212°F (+100°C). Cleaning in place (CIP) methods may be used. Applications include over 450 basic chemicals which are building blocks for numerous chemicals used in a variety of industries. Reference Gates Chemical Resistance Table for

proper hose selection.

TEMPERATURE: -40°F to +212°F (-40°C to +100°C) normal service. Renegade is designed to withstand fluid temperatures to 212°F

(+100°C), however the rating is dependent on the specific chemical conveyed. Contact Denver Product Application

(303) 744-5070 for any chemical above 125°F (+52°C).

CONSTRUCTION: Tube: Type L (Ultrahigh Molecular Weight Polyethylene). Clear, backed with Gatron™ Modified

XĹPE.

Reinforcement: Synthetic, high tensile textile with steel wire helix.

Cover: Type P (EPDM). Green corrugated with yellow spiral stripe.

COUPLINGS: Gates has tested hose assemblies at the maximum rated service temperature to assure your safety. Use 7, 8, or 49

for fluid temperatures to 125°F (+52°C). Use permanent fittings only 71 or 73 for fluid temperatures above 125°F

(+52°C) and up to 212°F (+100°C). Reference the Hose Coupling Section.

PACKAGING: 100' length coiled and wrapped in polyethylene.

BRANDING: Continuous transfer label. Example: "GATES® Renegade™ Acid-Chemical Suction/Discharge 200 PSI (1.38MPa)

WP Made In U.S.A. For your safety: Use Permanent Couplings above 125°F.

SPECIAL ORDER Black, red, blue and yellow covers are made to order and require minimum production order quantities of 400 feet

REQUIREMENTS: per size. For price, add 10% (x1.10) to price.

Special production runs require minimum order quantities of 400 feet per size. If a special transfer label is

required, contact Gates Corporation for minimum quantity.

Specific cut lengths available through the Cut Length Program. Contact Customer Service for details.

REMNANT LENGTHS: Remnant lengths are sometimes available in popular sizes at a discount. Contact Gates Corporation for pricing,



Acid-Chemical Hose

 $\operatorname{\mathsf{Colt}}^{\scriptscriptstyle{\mathbb{B}}}$

(Specification 4696A)

Nom. I.D.	Θ	Nom. O.D.	O	Max. W.P.	(Suction	0	Min. Bend Radius	P	Wt. Per Ft.	Å	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
3/4	19.1	1.27	32.3	150	1.03	30.0	762	3.0	76	.50	.23	100 ft.	400 ft.	4696-0002
1	25.4	1.52	38.6	150	1.03	30.0	762	3.5	89	.61	.28	100 ft.	X	4696-0001
1 1/4	31.8	1.79	45.5	150	1.03	30.0	762	4.0	102	.77	.35	100 ft.	400 ft.	4696-0003
1 1/4	31.1	1.79	45.5	150	1.03	30.0	762	4.0	102	.77	.35	200 ft.	400 ft.	4696-0203
1 1/2	38.1	2.04	51.8	150	1.03	30.0	762	5.0	127	.89	.40	100 ft.	X	4696-0004
2	50.8	2.54	64.5	150	1.03	30.0	762	6.0	152	1.11	.50	100 ft.	X	4696-0005
2 1/2	63.5	3.05	77.5	150	1.03	30.0	762	9.0	229	1.48	.67	100 ft.	400 ft.	4696-0006
3	76.2	3.60	91.4	150	1.03	30.0	762	11.0	279	1.94	.88	100 ft.	X	4696-0009
3	76.2	3.60	91.4	150	1.03	30.0	762	11.0	279	1.94	.88	200 ft.	400 ft.	4696-0013
4	101.6	4.60	116.8	125	.86	30.0	762	16.0	406	2.52	1.14	100 ft.	X	4696-0012
6	152.4	6.78	172.2	125	.86	30.0	762	24.0	610	4.95	2.25	100 ft.	X	4696-0017

RECOMMENDED FOR:

Tank truck, barge ship, or storage tank transfer of a variety of mild chemical products. Colt contains a wire helix for full suction capability, as well as for routing hoses through tight bends. Its EPDM tube stock will withstand $250^{\circ}F$ (+ $121^{\circ}C$) applications. Reference Gates Chemical Resistance Table for proper hose selection.

 $-40^{\circ}F \ to \ +250^{\circ}F \ (-40^{\circ}C \ to \ +121^{\circ}C) \ normal \ service. \ Colt \ is \ designed \ to \ with stand \ fluid \ temperatures \ to \ 250^{\circ}F$ **TEMPERATURE:**

 $(+121^{\circ}C)$, however the rating is dependent on the specific chemical conveyed. Contact Denver Product Application (303) 744-5070 for any chemical above 125°F (+52°C).

CONSTRUCTION: Type P (EPDM). Black. Mild chemical resistance. Reinforcement:

Synthetic, high tensile textile with steel wire helix. Type P (EPDM). Yellow corrugated with green spiral stripe. Cover:

COUPLINGS:

Gates has tested hose assemblies at the maximum rated service temperature to assure your safety. Use 7, 8, or 49 for fluid temperatures to $125^{\circ}F$ (+ $52^{\circ}C$). Use permanent fittings only 71 or 73 for fluid temperatures above $125^{\circ}F$ (+ $52^{\circ}C$) and up to $250^{\circ}F$ (+ $121^{\circ}C$). Reference the Hose Coupling Section.

PACKAGING: 100' length coiled and wrapped in polyethylene.

Continuous transfer label. Example: "GATES® Colt® Acid-Chemical Suction/Discharge 150 PSI (1.03MPa) WP **BRANDING:**

Made In U.S.A. For your safety: Use Permanent Couplings above 125°F."

Special production runs require minimum order quantities of 400 feet for sizes through 4" and 200 feet for sizes above 4". If a special transfer label is required, contact Gates Corporation for minimum quantity. SPECIAL ORDER **REQUIREMENTS:**

Specific cut lengths available through the Cut Length Program. Contact Customer Service for details.

REMNANT LENGTHS: Remnant lengths are sometimes available in popular sizes at a discount. Contact Gates Corporation for pricing,



Acid-Chemical Hose

Thermo AG® 570 (Ag Spray)

(Specification 4465)

Nom. I.D.	Θ	Nom. O.D.	O	Max. W.P.	(Suction	0	Min. Bend Radius	P	Wt. Per Ft.	Å	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
3/8	9.5	.67	17.0	570	3.93	25.0	635	4.0	102	.12	.05	300 ft.	X	4465-1701
3/8	9.5	.67	17.0	570	3.93	25.0	635	4.0	102	.12	.05	400 ft.	X	4465-1702
1/2	12.7	.81	20.6	570	3.93	25.0	635	5.0	127	.17	.08	300 ft.	X	4465-1704
1/2	12.7	.81	20.6	570	3.93	25.0	635	5.0	127	.17	.08	400 ft.	X	4465-1705
3/4	19.1	1.08	27.4	570	3.93	25.0	635	6.0	152	.27	.12	300 ft.	X	4465-1706
3/4	19.1	1.08	27.4	570	3.93	25.0	635	6.0	152	.27	.12	400 ft.	X	4465-1707

^{*}Working Pressure and Suction at +72°F (+22°C).

Spraying lawns, trees and similar applications with diluted solutions of water and oil based pesticides and RECOMMENDED FOR: herbicides. For pesticides or herbicides containing more than 2% Toluene or Xylene, use Gates 77B.

-10°F to +130°F (-23°C to +55°C). Maximum temperature dependent on pesticide/herbicide or chemicals conveyed. For temperatures above 120°F (+49°C), contact Denver Product Application (303) 744-5070. TEMPERATURE:

CONSTRUCTION: Tube: Type G (PVC). Yellow.

Synthetic, high tensile textile cord. Type G (PVC). Yellow. Striated. Reinforcement: Cover:

8, 14 or 15, 21 (multiple clamps required), 48, 72 Gates Power Crimp®, or 75 Gates GLX® couplings. Reference **COUPLINGS:**

the Hose Coupling Section.

PACKAGING: All lengths coiled in a polyethylene bag.

Continuous ink brand. Example: "3/8" 570 PSI WP SPRAY HOSE JAPAN" **BRANDING:**

SPECIAL ORDER **REQUIREMENTS:** REMNANT LENGTHS: None.



Acid-Chemical Hose

Thermo AG® 800 (Ag Spray)

(Specification 4465)

Nom. I.D.	Θ	Nom. O.D.	O	Max. W.P.	(Suction	0	Min. Bend Radius	P	Wt. Per Ft.	Å	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
3/8	9.5	.69	17.5	800	5.52	25.0	635	4.0	102	.14	.06	300 ft.	X	4465-1361
3/8	9.5	.69	17.5	800	5.52	25.0	635	4.0	102	.14	.06	400 ft.	X	4465-1362
1/2	12.7	.84	21.3	800	5.52	25.0	635	5.0	127	.18	.08	300 ft.	X	4465-1371
1/2	12.7	.84	21.3	800	5.52	25.0	635	5.0	127	.18	.08	400 ft.	X	4465-1372
3/4	19.1	1.41	35.8	800	5.52	25.0	635	6.0	152	.30	.14	300 ft.	X	4465-1381
3/4	19.1	1.41	35.8	800	5.52	25.0	635	6.0	152	.30	.14	400 ft.	X	4465-1382

^{*}Working Pressure and Suction at +72°F (+22°C).

Spraying lawns, trees and similar applications with diluted solutions of water and oil based pesticides and herbicides. For pesticides or herbicides containing more than 2% Toluene or Xylene, use Gates 77B. RECOMMENDED FOR:

TEMPERATURE: -10°F to +130°F (-23°C to +55°C). Maximum temperature dependent on pesticide/herbicide or chemicals conveyed. For temperatures above 120°F (+49°C), contact Denver Product Application (303) 744-5070.

CONSTRUCTION: **Tube:** Type G (PVC). Green.

Synthetic, high tensile textile cord. Type G (PVC). Green. Striated. Reinforcement: Cover:

 $8,\,14$ or $15,\,21$ (multiple clamps required), $48,\,72$ Gates Power Crimp®, or 75 Gates GLX® couplings. Reference the Hose Coupling Section. **COUPLINGS:**

PACKAGING: All lengths coiled in a polyethylene bag.

BRANDING: Continuous ink brand. Example: "1/2" 800 PSI WP SPRAY HOSE JAPAN"

SPECIAL ORDER **REQUIREMENTS:**

REMNANT LENGTHS: None.



77B (Paint Spray and **Acid-Chemical Hose Chemical**)

(Specification 3207NN/3207T)

	Nom. I.D.	Θ	Nom. O.D.	O	Max. W.P.	(Suction	0	Min. Bend Radius	P	Wt. Per Ft.	Å	Standard	Stock (X) or Minimum	Gates
	(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
ſ	1/4	6.4	.52	13.2	500	3.45	30.0	762	3.0	76	.09	.04	Reel	X	3207-0290
	5/16	7.9	.59	15.0	500	3.45	30.0	762	3.0	76	.11	.05	Reel	X	3207-0291
L	3/8	9.5	.67	17.0	500	3.45	30.0	762	3.0	76	.14	.06	Reel	X	3207-0292
Γ	1/2	12.7	.87	22.1	750	5.17	25.0	635	5.0	127	.23	.10	Reel	X	3207-0294
	3/4	19.1	1.16	29.5	750	5.17	25.0	635	6.0	152	.35	.16	Reel	X	3207-0296

RECOMMENDED FOR: Paint spray applications, as well as transfer of petroleum based products (aliphatic, aromatic and chlorinated

hydrocarbon such as Toluene, Xylene, Benzene, gasoline and carbon tetrachloride). Reference Gates Chemical Resistance Table for proper hose selection. Compatible with commercially available Bio-Diesel fuels up to B-100. NOT RECOMMENDED FOR ACIDS OR USE IN HIGH PRESSURE PAINT SPRAY APPLICATIONS

REQUIRING A STATIC CONDUCTIVE HOSE.

TEMPERATURE: -40°F to +150°F (-40°C to +66°C) continuous service. NOTE: Contact Denver Product Application (303) 744-

5070 when conveying chemicals above 120°F (+49°C).

CONSTRUCTION: Tube: Type Z (Special flexible Nylon 11). Clear.

Synthetic, high tensile textile cord. Type A (Neoprene). Black. Reinforcement:

Cover:

COUPLINGS: 48. For paint service: Binks 3 piece compression ring only. Reference the Hose Coupling Section.

PACKAGING: 1/4" through 1/2": Packaged in 600' to 800' reels. Maximum 4 pieces. One length 25' to 50'. Maximum of 2 pieces

3/4": Packaged in 300' to 400' reels. Maximum 3 pieces. One length between 25' to 50'. All other lengths over 50'.

BRANDING: Continuous ink print label. Example: "GATES® 77B PAINT SPRAY AND CHEMICAL 3/8" (9.5mm) 500 PSI

(3.45MPa) WP Made In U.S.A.'

SPECIAL ORDER Special production runs require minimum order quantities of 5,000 feet for all sizes except 3/8". 3/8" requires

REQUIREMENTS:

REMNANT LENGTHS: None.



Air and Multi-Purpose Hose

19B Plant Master®

(Specification 3219AR)

Nom. I.D.	Θ	Nom. O.D.	O	Max. W.P.	(Suction	0	Min. Bend Radius	P	Wt. Per Ft.	Å	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
3/16	4.8	.43	10.9	500	3.45	30.0	762	3.0	76	.07	.03	Reel	X	3219-2901
1/4	6.4	.50	12.7	250	1.72	30.0	762	3.0	76	.09	.04	Reel	X	3219-2902
1/4	6.4	.62	15.8	500	3.45	30.0	762	3.0	76	.14	.06	Reel	X	3219-2903
5/16 5/16 3/8	7.9 7.9 9.5	.62 .69 .69	15.8 17.5 17.5	250 500 250	1.72 3.45 1.72	30.0 30.0 30.0	762 762 762	3.0 3.0 3.0	76 76 76	.13 .17 .15	.06 .08 .07	Reel Reel Reel	5,000 ft. X	3219-2904 3219-2905 3219-2906
3/8	9.5	.75	19.1	500	3.45	30.0	762	3.0	76	.18	.08	Reel	X	3219-2907
1/2	12.7	.84	21.3	250	1.72	25.0	635	5.0	127	.20	.09	Reel	X	3219-2908
1/2	12.7	.88	22.4	500	3.45	25.0	635	5.0	127	.23	.10	Reel	X	3219-2909
5/8	15.9	.94	23.9	250	1.72	20.0	508	6.0	152	.22	.10	Reel	X	3219-2910
5/8	15.9	1.00	25.4	500	3.45	20.0	508	6.0	152	.27	.12	Reel	X	3219-2911
3/4	19.1	1.09	27.7	250	1.72	20.0	508	6.0	152	.28	.13	Reel	X	3219-2912
3/4	19.1	1.19	30.2	500	3.45	20.0	508	6.0	152	.38	.17	Reel	X	3219-2913
1	25.4	1.38	35.1	250	1.72	10.0	254	8.0	203	.41	.19	Reel	X	3219-2914
1	25.4	1.50	38.1	500	3.45	20.0	508	8.0	203	.55	.25	Reel	X	3219-2915
1 1/4	31.8	1.75	44.5	250	1.72	10.0	254	10.0	254	.67	.30	Reel	X	3219-2916
1 1/4	31.8	1.75	44.5	500	3.45	10.0	254	10.0	254	.76	.30	Reel	5,000 ft.	3219-2917
1 3/8	34.9	1.87	47.5	250	1.72	10.0	254	10.0	254	.71	.32	Reel	5,000 ft.	3219-2918
1 3/8	34.9	1.88	47.8	500	3.45	10.0	254	10.0	254	.73	.33	Reel	5,000 ft.	3219-2919
1 1/2	38.1	2.00	50.8	250	1.72	10.0	254	12.0	305	.78	.35	Reel	X	3219-2920
1 1/2	38.1	2.00	50.8	500	3.45	10.0	254	12.0	305	.78	.35	Reel	5,000 ft.	3219-2921

RECOMMENDED FOR:

Applications requiring a premium grade braided hose, with excellent flexibility and maximum resistance to air, water, petroleum oils, gasoline, kerosene and fuel oil (to 120°F) and lubricating oils (to 212°F). Excellent weather

and ozone resistance.

NOTE: Not recommended for constant contact with fuels. Not recommended for Bio-Diesel fuels.

TEMPERATURE: -40°F to +212°F (-40°C to +100°C) continuous service.

CONSTRUCTION: Tube: Type C (Nitrile). Black.

Braided, high tensile synthetic textile cord. Type C2 (Modified Nitrile). Red. **Reinforcement:**

Cover:

19 (up through 1/2" only), 3 or 4, (up through 1/2" with 20 brass ferrules, up through 1" with bands), 1, 14, or 15 (all sizes), 72 Gates Power Crimp $^{\circ}$ or 75 Gates GLX $^{\circ}$. Reference the Hose Coupling Section. **COUPLINGS:**

PACKAGING: 3/16" through 1/2": Packaged in 500' to 750' reels. Maximum 3 pieces. Minimum length 50'.

5/8" through 1": Packaged in 400' to 650' reels. Maximum 3 pieces. Minimum length 50'. 1 1/4" & over: Packaged in 250' to 400' reels. Maximum 3 pieces. Minimum length 50'.

BRANDING: Continuous ink brand. Example: "GATES" 19B Plant Master® Multi-Purpose 3/8" (9.5mm) 250 PSI (1.72MPa)

WP Made in U.S.A."

SPECIAL ORDER REQUIREMENTS:

Special production runs require minimum order quantities of 5,000 feet.

REMNANT LENGTHS:

Mil-H-2815G Section 3.12.2 off-gassing for breathing applications such as supplied air respirators, through 1/2" I.D. Nonconductive at 1000 volts D.C. Electrical resistance is greater than one megohm per inch when subjected to 1000 volts D.C. Storage and use may adversely affect electrical properties.

Tube:

RMA (Class A) High oil resistance. STANDARDS:

RMA (Class B) Medium oil resistance. Cover:



Air and Multi-Purpose Hose

119B Plant Master®

(Specification 3219AB)

Nom. I.D.	Θ	Nom. O.D.	O	Max. W.P.	(Suction	0	Min. Bend Radius	P	Wt. Per Ft.	Å	Standard	Stock (X)	Gates
(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
1/4 1/4 5/16	6.4 6.4 7.9	.50 .62 .62	12.7 15.8 15.8	250 500 250	1.72 3.45 1.72	30.0 30.0 30.0	762 762 762	3.0 3.0 3.0	76 76 76	.09 .16 .13	.04 .07 .06	Reel Reel Reel	5,000 ft. X	3219-2930 3219-2931 3219-2932
3/8	9.5	.69	17.5	250	1.72	30.0	762	3.0	76	.15	.07	Reel	X	3219-2933
3/8	9.5	.75	19.1	500	3.45	30.0	762	3.0	76	.21	.10	Reel	5,000 ft.	3219-2934
1/2	12.7	.84	21.3	250	1.72	25.0	635	5.0	127	.21	.10	Reel	5,000 ft.	3219-2935
1/2	12.7	.88	22.4	500	3.45	25.0	635	5.0	127	.26	.12	Reel	5,000 ft.	3219-2936
5/8	15.9	.94	23.9	250	1.72	20.0	508	6.0	152	.23	.10	Reel	5,000 ft.	3219-2937
3/4	19.1	1.09	27.7	250	1.72	20.0	508	6.0	152	.29	.13	Reel	X	3219-2938
3/4	19.1	1.19	30.2	500	3.45	20.0	508	6.0	152	.42	.19	Reel	5,000 ft.	3219-2939
1	25.4	1.38	35.1	250	1.72	10.0	254	8.0	203	.42	.19	Reel	X	3219-2940
1	25.4	1.50	38.1	500	3.45	20.0	508	8.0	203	.62	.28	Reel	5,000 ft.	3219-2941
1 1/4	31.8	1.75	44.5	250	1.72	10.0	254	10.0	254	.69	.31	Reel	5,000 ft.	3219-2942
1 1/2	38.1	2.00	50.8	250	1.72	10.0	254	12.0	305	81	37	Reel	5,000 ft	3219-2943

RECOMMENDED FOR: Applications requiring a premium grade braided hose, with excellent flexibility and maximum resistance to air,

water, petroleum oils, gasoline, kerosene and fuel oil (to 120°F) and lubricating oils (to 212°F). Excellent weather

and ozone resistance.

NOTE: Not recommended for constant contact with fuels. Not recommended for Bio-Diesel fuels.

TEMPERATURE: -40°F to +212°F (-40°C to +100°C) continuous service.

CONSTRUCTION: Type C (Nitrile). Black.

Braided, high tensile synthetic textile cord. Type A (Neoprene). Black. Reinforcement:

19 (up through 1/2" only), 3 or 4, (up through 1/2" with 20 brass ferrules, up through 1" with bands), 1, 14, or 15 (all sizes), 72 Gates Power Crimp® or 75 Gates GLX®. Reference the Hose Coupling Section. **COUPLINGS:**

PACKAGING: 1/4" through 1/2": Packaged in 500' to 750' reels. Maximum 3 pieces. Minimum length 50'.

5/8" through 1": Packaged in 400' to 650' reels. Maximum 3 pieces. Minimum length 50'. 1 1/4" & over: Packaged in 250' to 400' reels. Maximum 3 pieces. Minimum length 50'.

Continuous ink brand. Example: "GATES® 119B Plant Master® Multi-Purpose 3/8" (9.5mm) 250 PSI (1.72MPa) **BRANDING:**

WP Made In U.S.A.

SPECIAL ORDER Special production runs require minimum order quantities of 5,000 feet. **REQUIREMENTS:**

REMNANT LENGTHS: None.

> STANDARDS: Mil-H-2815G Section 3.12.2 off-gassing for breathing applications such as supplied air respirators, through 1/2"

I.D. Nonconductive at 1000 volts D.C. Electrical resistance is greater than one megohm per inch when subjected

to 1000 volts D.C. Storage and use may adversely affect electrical properties.

RMA (Class A) High oil resistance. **Tube:** Cover: RMA (Class B) Medium oil resistance.



Air and Multi-Purpose Hose

Terminator®

(Specification 3202T/3202TW)

Nom. I.D.	Θ	Nom. O.D.	Ō	Max. W.P.	(Suction	\bigcirc	Min. Bend Radius	P	Wt. Per Ft.	\triangle	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
1/4	6.4	.57	14.5	501	3.45	30.0	762	3.0	76	.12	.05	Reel	Х	3202-0001
3/8	9.5	.75	19.1	501	3.45	25.0	635	3.0	76	.19	.09	Reel	X	3202-0006
1/2	12.7	.89	22.6	501	3.45	25.0	635	5.0	127	.25	.11	Reel	X	3202-0011
3/4	19.1	1.22	31.0	501	3.45	15.0	381	6.0	152	.42	.19	Reel	X	3202-0016
1	25.4	1.51	38.4	501	3.45	10.0	254	8.0	203	.57	.26	Reel	X	3202-0021
1 1/4	31.8	1.78	45.2	501	3.45	10.0	254	10.0	254	.73	.33	Reel	X	3202-0027
1 1/2	38.1	2.09	53.1	501	3.45	10.0	254	12.0	305	.96	.44	100 ft.	X	3202-0029
2	50.8	2.64	67.1	501	3.45	10.0	254	14.0	356	1.35	.61	100 ft.	X	3202-0032
2	50.8	2.64	67.1	501	3.45	10.0	254	14.0	356	1.35	.61	200 ft.	400 ft.	3202-0033

RECOMMENDED FOR:

Applications requiring a premium-quality, multi-purpose hose with superior abrasion resistance for air, oil and some chemical applications. Excellent durability for extra long life in these applications: mining, air drill,

construction, poultry plants and other severe service. Excellent weather and ozone resistance.

NOTE: Due to Terminator's 501 PSI working pressure, care should be taken to properly select couplings to match.

Hose assembly working pressure is the working pressure of the lowest rated component.

TEMPERATURE: -40°F to +212°F (-40°C to +100°C) continuous service.

CONSTRUCTION: **Tube:** Type C (Nitrile). Black.

Synthetic, high tensile textile cord. Type C4 (Carboxylated Nitrile). Yellow. Reinforcement:

19 (up through 1/2" only), 1, 3 or 4, (up through 1/2" with 20 brass ferrules, up through 1" with bands), 15, 71,**COUPLINGS:**

72 Gates Power Crimp®, 73 (up to 250 psi), 74 Gates Mega Crimp® or 75 Gates GLX®. Reference the Hose

Coupling Section.

Minimum of 90% of hose reels will be 1-piece lengths. PACKAGING:

1/4" through 3/4": Packaged in 500' to 700' reels. Maximum 2 pieces in 50' increments. 1" and 1 1/4": Packaged in 350' reels. Maximum 3 pieces. Minimum length 50'.

1 1/2" and 2": Packaged 100' coiled and wrapped in polyethylene.

Continuous ink brand. Example: "GATES® TERMINATOR® 501 PSI (3.45MPa) WP 3/4" (19.1mm) FLAME **BRANDING:**

RESISTANT MSHA 2G-IC-11C MADE IN USA"

SPECIAL ORDER Special production runs require minimum order quantities of 25,000 feet for sizes through 3/4", 5,000 feet for 1"

REQUIREMENTS: and 1 1/4", 400 feet for 1 1/2" and larger.

REMNANT LENGTHS:

STANDARDS: Meets MSHA 30 CFR 18.65. Flame resistant. All sizes except 1 1/2" and 2" are nonconductive at 1000 volts D.C.

Electrical resistance is greater than one megohm per inch when subjected to 1000 volts D.C. Storage and use may

adversely affect electrical properties.

RMA (Class A) High oil resistance. Tube: Cover: RMA (Class A) High oil resistance.



Air and Multi-Purpose Hose

LOL Plus (Lock-On Hose)

(Specification 3284D, E, G, H, R, Y)

	Nom. I.D.	Θ	Nom. O.D.	O	Max. W.P.	©	Suction	\circ	Min. Bend Radius	(P ₂)	Wt. Per Ft.	Å	Standard	Stock (X) or Minimum	Gates
Color	(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
Black Black Black Black Black	1/4 3/8 1/2 5/8 3/4	6.4 9.5 12.7 15.9 19.1	.47 .63 .77 .94 1.06	11.9 15.9 19.6 23.9 26.9	300 300 300 300 300	2.07 2.07 2.07 2.07 2.07 2.07	27.9 27.9 27.9 27.9 27.9 15.0	711 711 711 711 711 381	3.0 3.0 5.0 6.0 7.0	76 76 127 152 178	.09 .11 .15 .20	.04 .05 .07 .09	Reel Reel Reel Reel Reel	X X X X	3201-1100 3201-1101 3201-1102 3201-1103 3201-1104
Blue Blue Blue Blue Blue	1/4 3/8 1/2 5/8 3/4	6.4 9.5 12.7 15.9 19.1	.47 .63 .77 .94 1.06	11.9 15.9 19.6 23.9 26.9	300 300 300 300 300 300	2.07 2.07 2.07 2.07 2.07 2.07	27.9 27.9 27.9 27.9 27.9 15.0	711 711 711 711 711 381	3.0 3.0 5.0 6.0 7.0	76 76 127 152 178	.09 .11 .15 .20	.04 .05 .07 .09	Reel Reel Reel Reel Reel	X X X X	3201-1105 3201-1106 3201-1107 3201-1108 3201-1109
Red Red Red Red Red	1/4 3/8 1/2 5/8 3/4	6.4 9.5 12.7 15.9 19.1	.47 .63 .77 .94 1.06	11.9 15.9 19.6 23.9 26.9	300 300 300 300 300	2.07 2.07 2.07 2.07 2.07 2.07	27.9 27.9 27.9 27.9 15.0	711 711 711 711 711 381	3.0 3.0 5.0 6.0 7.0	76 76 127 152 178	.09 .11 .15 .20 .24	.04 .05 .07 .09	Reel Reel Reel Reel Reel	X X X X	3201-1110 3201-1111 3201-1112 3201-1113 3201-1114
Green Green Green Green Green	1/4 3/8 1/2 5/8 3/4	6.4 9.5 12.7 15.9 19.1	.47 .63 .77 .94 1.06	11.9 15.9 19.6 23.9 26.9	300 300 300 300 300	2.07 2.07 2.07 2.07 2.07 2.07	27.9 27.9 27.9 27.9 27.9 15.0	711 711 711 711 711 381	3.0 3.0 5.0 6.0 7.0	76 76 127 152 178	.09 .11 .15 .20 .24	.04 .05 .07 .09	Reel Reel Reel Reel Reel	X X X 5,000 ft.	3201-1120 3201-1121 3201-1122 3201-1123 3201-1124
Gray Gray Gray Gray Gray	1/4 3/8 1/2 5/8 3/4	6.4 9.5 12.7 15.9 19.1	.47 .63 .77 .94 1.06	11.9 15.9 19.6 23.9 26.9	300 300 300 300 300	2.07 2.07 2.07 2.07 2.07	27.9 27.9 27.9 27.9 15.0	711 711 711 711 711 381	3.0 3.0 5.0 6.0 7.0	76 76 127 152 178	.09 .11 .15 .20 .24	.04 .05 .07 .09	Reel Reel Reel Reel Reel	X X X X	3201-1125 3201-1126 3201-1127 3201-1128 3201-1129
Yellow Yellow Yellow Yellow Yellow	1/4 3/8 1/2 5/8 3/4	6.4 9.5 12.7 15.9 19.1	.47 .63 .77 .94 1.06	11.9 15.9 19.6 23.9 26.9	300 300 300 300 300 300	2.07 2.07 2.07 2.07 2.07	27.9 27.9 27.9 27.9 15.0	711 711 711 711 711 381	3.0 3.0 5.0 6.0 7.0	76 76 127 152 178	.09 .11 .15 .20 .24	.04 .05 .07 .09	Reel Reel Reel Reel Reel	X X X 5,000 ft. X	3201-1115 3201-1116 3201-1117 3201-1118 3201-1119

RECOMMENDED FOR: NOTE: Lock-On hose and couplings are not recommended for pressure surge applications or critical applications, such as permanent piping in residential or commercial buildings. Not recommended for gasoline or diesel fuels.

Petroleum-base hydraulic oils, water, glycol antifreeze solutions, hot lubricating oils, and air.

TEMPERATURE: -40°F to +212°F (-40°C to +100°C) normal service. For air: 160°F (+71°C) only. For water emulsion, see Gates

Hydraulic Hose Catalog #35093.

CONSTRUCTION: Type C (Nitrile). Black.

Reinforcement: Braided, high tensile synthetic textile cord.

Type A (Neoprene). Black. Cover:

Type C2 (Modified Nitrile). Blue, Red, Yellow, Green or Gray.

75 Gates GLX° , Gates Hydraulic Lock-On Couplings. NOTE: Do not use clamps with Lock On fittings. (Reference Gates Hydraulic Hose Catalog #35093) or clamp over beaded nipple. Reference the Hose Coupling **COUPLINGS:**

PACKAGING: 1/4" through 1/2": Packaged in 300' reels. Maximum of 3 pieces per reel. Minimum length 50'.

> 5/8": Packaged in 250' reels. Maximum of 3 pieces per reel. Minimum length 50'. 3/4": Packaged in 225' reels. Maximum of 3 pieces per reel. Minimum length 50'.

BRANDING: Continuous ink brand. Example: "GATES® LOL PLUS 12LOLA+ 3/4 INCH 300 PSI WP FLAME RESISTANT

COVER MADE IN U.S.A.'

REQUIREMENTS:

SPECIAL ORDER Special production runs require minimum order quantities of 5,000 feet per size.

REMNANT LENGTHS: None.

> STANDARDS: **Tube:** RMA (Class A) High oil resistance.

Cover: RMA (Class B) Medium oil resistance. Flame resistant.



Air and Multi-Purpose Hose

Python® Plus (Lock-On Hose)

(Specification 3222B, G, R, Y, BK, GY)

	Nom. I.D.	Θ	Nom. O.D.	Ō	Max. W.P.	(Suction	0	Min. Bend Radius	P	Wt. Per Ft.	Å	Standard	Stock (X) or Minimum	Gates
Color	(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
Black	1/4	6.4	.54	13.7	300	2.07	30.0	762	3.0	76	.11	.05	Reel	X	3222-0183
Black	3/8	9.5	.68	17.3	300	2.07	30.0	762	3.0	76	.15	.07	Reel	X	3222-0184
Black	1/2	12.7	.81	20.6	300	2.07	30.0	762	5.0	127	.18	.08	Reel	Х	3222-0185
Blue	1/4	6.4	.54	13.7	300	2.07	30.0	762	3.0	76	.11	.05	Reel	X	3222-0143
Blue	3/8	9.5	.68	17.3	300	2.07	30.0	762	3.0	.76	.15	.07	Reel	X	3222-0144
Blue	1/2	12.7	.81	20.6	300	2.07	30.0	762	5.0	127	.18	.08	Reel	Х	3222-0145
Red	1/4	6.4	.54	13.7	300	2.07	30.0	762	3.0	76	.11	.05	Reel	25,000 ft.	3222-0333
Red	3/8	9.5	.68	17.3	300	2.07	30.0	762	3.0	76	.15	.07	Reel	X	3222-0334
Red	1/2	12.7	.81	20.6	300	2.07	30.0	762	5.0	127	.18	.08	Reel	X	3222-0335
Green	1/4	6.4	.54	13.7	300	2.07	30.0	762	3.0	76	.11	.05	Reel	25,000 ft.	3222-0233
Green	3/8	9.5	.68	17.3	300	2.07	30.0	762	3.0	76	.15	.07	Reel	X	3222-0234
Green	1/2	12.7	.81	20.6	300	2.07	30.0	762	5.0	127	.18	.08	Reel	X	3222-0235
Gray	1/4	6.4	.54	13.7	300	2.07	30.0	762	3.0	76	.11	.05	Reel	X	3222-0283
Gray	3/8	9.5	.68	17.3	300	2.07	30.0	762	3.0	76	.15	.07	Reel	X	3222-0284
Gray	1/2	12.7	.81	20.6	300	2.07	30.0	762	5.0	127	.18	.08	Reel	X	3222-0285
Yellow	1/4	6.4	.54	13.7	300	2.07	30.0	762	3.0	76	.11	.05	Reel	25,000 ft.	3222-0083
Yellow	3/8	9.5	.68	17.3	300	2.07	30.0	762	3.0	76	.15	.07	Reel	X	3222-0084
Yellow	1/2	12.7	.81	20.6	300	2.07	30.0	762	5.0	127	.18	.08	Reel	X	3222-0085

RECOMMENDED FOR: Air, water, oils, antifreeze solutions and applications where Lock-On fittings are used.

NOTE: Lock-On hose is not recommended for applications where vibrations or pressure surges exist. Do not use

oil for Lock-On fitting insertion purposes. Not recommended for gasoline or diesel fuels.

TEMPERATURE: -20°F to +212°F (-29°C to +100°C) normal service. For air: 160°F (+71°C) only. For water emulsion, see Gates

Hydraulic Hose Catalog #35093.

CONSTRUCTION: Tube: Type C (Nitrile). Black.

Reinforcement: Aramid tensile cord. Type A (Neoprene). Black. Cover:

Type C2 (Modified Nitrile). Blue, Red, Yellow, Green or Gray.

75 Gates GLX®, Gates Hydraulic Lock-On Couplings. NOTE: Do not use clamps with Lock On fittings. **COUPLINGS:**

(Reference Gates Hydraulic Hose Catalog #35093) or clamp over beaded nipple. Reference the Hose Coupling

PACKAGING: Minimum of 90% of hose reels will be 1-piece lengths.

1/4" through 1/2": Packaged in 500' to 700' reels. Maximum of 2 pieces per reel. All lengths in 50' increments.

BRANDING: Continuous ink brand. Example: "GATES® PYTHON® PLUS LOCK-ON 1/2 INCH (12.7mm) 300 PSI (2.07MPa)

WP NONCONDUCTIVE MADE IN USA"

SPECIAL ORDER Special production runs require minimum order quantities of 25,000 feet per size. **REQUIREMENTS:**

REMNANT LENGTHS: None.

> STANDARDS: Nonconductive at 1000 volts D.C. Electrical resistance is greater than one megohm per inch when subjected to

1000 volts D.C. Storage and use may adversely affect electrical properties. **Tube:** RMA (Class A) High oil resistance. RMA (Class B) Medium oil resistance. Cover:



Air and Multi-Purpose Hose

Premo Flex®

(Specification 3205R)

Nom. I.D.	Θ	Nom. O.D.	O	Max. W.P.	(Suction	0	Min. Bend Radius	P	Wt. Per Ft.	Å	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(ln.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
3/16	4.8	.45	11.2	250	1.72	30.0	762	2.0	51	.07	.03	Reel	25,000 ft.	3205-0010
1/4	6.4	.50	12.7	250	1.72	30.0	762	2.0	51	.09	.04	Reel	X	3205-0015
1/4	6.4	.57	14.5	315	2.17	30.0	762	2.0	51	.12	.05	Reel	X	3205-0016
5/16	7.9	.56	14.2	250	1.72	30.0	762	2.0	51	.10	.05	Reel	25,000 ft.	3205-0020
5/16	7.9	.67	17.0	315	2.17	30.0	762	2.0	51	.16	.07	Reel	25,000 ft.	3205-0021
3/8	9.5	.66	16.8	250	1.72	30.0	762	3.0	76	.14	.06	Reel	X	3205-0025
3/8	9.5	.73	18.5	315	2.17	30.0	762	3.0	76	.18	.08	Reel	X	3205-0026
1/2	12.7	.85	21.6	250	1.72	25.0	635	4.0	102	.22	.10	Reel	X	3205-0030
1/2	12.7	.88	22.4	315	2.17	25.0	635	4.0	102	.24	.11	Reel	X	3205-0031
5/8	15.9	.98	24.9	250	1.72	20.0	508	5.0	127	.27	.12	Reel	25,000 ft.	3205-0035
5/8	15.9	.98	24.9	315	2.17	20.0	508	5.0	127	.27	.12	Reel	X	3205-0036
3/4	19.1	1.15	29.2	250	1.72	20.0	508	5.0	127	.36	.16	Reel	X	3205-0040
3/4	19.1	1.15	29.2	250	1.72	20.0	508	5.0	127	.36	.16	50 ft.	25,000 ft.	3205-5040
3/4	19.1	1.19	30.2	315	2.17	20.0	508	5.0	127	.40	.18	Reel	X	3205-0041
1	25.4	1.47	37.3	250	1.72	10.0	254	8.0	203	.54	.25	Reel	X	3205-0046
1 1/4	31.8	1.75	44.5	250	1.72	10.0	254	10.0	254	.67	.30	Reel	X	3205-0049
1 1/2	38.1	2.00	50.8	250	1.72	10.0	254	12.0	305	.78	.35	Reel	X	3205-0055

Applications requiring a premium grade spiral hose with excellent flexibility and maximum resistance to air, water, petroleum oils and lubricating oils, (to 212° F). Recommended for gasoline, kerosene and fuel oil transfer only (to 120° F). Excellent weather and ozone resistance. **RECOMMENDED FOR:**

-40°F to +212°F (-40°C to +100°C) continuous service. **TEMPERATURE:**

CONSTRUCTION: Type C (Nitrile). Black.

Synthetic, high tensile textile cord. Type C2 (Modified Nitrile). Red. Reinforcement:

19 (up through 1/2" only), 3 or 4, (up through 1/2" with 20 ferrules, up through 1" with bands), 1, 8, 14, 15, 72 Gates Power Crimp® or 75 Gates GLX®. Reference the Hose Coupling Section. **COUPLINGS:**

Minimum of 90% of hose reels will be 1-piece lengths. **PACKAGING:**

3/16" through 3/4": Packaged in 500' to 700' reels. Maximum 2 pieces in 50' increments.

3/4" x 50': Packaged 200' per carton, each length coiled and tied. 1": Packaged in 300' to 400' reels. Maximum 2 pieces in 50' increments.

1 1/4": Packaged in 250' to 350' reels. Maximum 3 pieces in 25' increments. Minimum length 50'. 1 1/2": Packaged in 200' to 300' reels. Maximum 3 pieces in 25' increments. Minimum length 50'.

Continuous ink brand. Example: "GATES" PREMO FLEX® MULTI-PURPOSE 3/8 INCH (9.5mm) 250 PSI **BRANDING:**

(1.72MPa) WP NONCONDUCTIVE @1000V DC (>1 MEGOHM/IN.) MADE IN USA'

SPECIAL ORDER **REQUIREMENTS:**

Special production runs require minimum order quantities of 25,000 feet through 1 1/4" and 5,000 feet for 1 1/2".

REMNANT LENGTHS: None

> Nonconductive at 1000 volts D.C. Electrical resistance is greater than one megohm per inch when subjected to 1000 volts D.C. Storage and use may adversely affect electrical properties. Mil-H-2815G Section 3.12.2 off-STANDARDS:

gassing for breathing applications such as supplied air respirators, for sizes 3/16" through 3/8", 3/4" and 1". **Tube:** RMA (Class A) High oil resistance.

Tube: RMA (Class B) Medium oil resistance. Cover:



Air and Multi-Purpose Hose

6B Dura Master®

(Specification 3206)

Nom. I.D.	Θ	Nom. O.D.	Ō	Max. W.P.	(Suction	0	Min. Bend Radius	P	Wt. Per Ft.	Å	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(ln.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
1/4	6.4	.50	12.7	250	1.72	30.0	762	3.0	76	.09	.04	Reel	X	3206-0202
1/4	6.4	.62	15.8	315	2.17	30.0	762	3.0	76	.15	.07	Reel	X	3206-0265
5/16	7.9	.62	15.8	250	1.72	30.0	762	3.0	76	.14	.06	Reel	X	3206-0204
3/8	9.5	.69	17.5	250	1.72	30.0	762	3.0	76	.16	.07	Reel	X	3206-0270
3/8	9.5	.75	19.1	315	2.17	30.0	762	3.0	76	.20	.09	Reel	X	3206-0280
1/2	12.7	.84	21.3	250	1.72	25.0	635	5.0	127	.21	.10	Reel	X	3206-0208
1/2	12.7	.88	22.4	315	2.17	25.0	635	5.0	127	.25	.11	Reel	X	3206-0244
3/4	19.1	1.09	27.7	250	1.72	20.0	508	6.0	152	.29	.13	Reel	X	3206-0212
3/4	19.1	1.19	30.2	315	2.17	20.0	508	6.0	152	.40	.18	Reel	X	3206-0245
1	25.4	1.38	35.1	250	1.72	10.0	254	8.0	203	.42	.19	Reel	X	3206-0213
1	25.4	1.50	38.1	315	2.17	20.0	508	8.0	203	.59	.27	Reel	5,000 ft.	3206-0246
1 1/4	31.8	1.73	43.9	200	1.38	10.0	254	10.0	254	.67	.30	Reel	X	3206-0215
1 1/2	38.1	1.98	50.3	200	1.38	10.0	254	12.0	305	.79	.36	Reel	Х	3206-0216
2	50.8	2.56	65.0	200	1.38	4.0	100	16.5	419	.99	.45	100 ft.	X	3206-3968

RECOMMENDED FOR: Applications requiring a heavy duty braided hose with good resistance to air, water and heat. For SAE oils

TEMPERATURE: -22°F to +158°F (-30°C to +70°C) continuous service. For 2" size only.

-40°F to +200°F (-40°C to +93°C) continuous service.

CONSTRUCTION: **Tube:** Type B1 (Specially compounded elastomer). Black.

Braided, high tensile synthetic textile cord. Reinforcement:

Type B2 (Specially compounded elastomer). Black with red molded stripe. For size 2" only. Cover:

Type P (EPDM). Red. All sizes through 1/2" are perforated.

COUPLINGS:

19 (up through 1/2" only), 1, 3 or 4, (up through 1/2" with 20 brass ferrules, up through 1" with bands), 72 Gates Power Crimp® or 75 Gates GLX^{\circledast} . Reusable couplings are not recommended. Reference the Hose Coupling

PACKAGING: 1/4" through 1/2": Packaged in 500' to 750' reels. Maximum 3 pieces. Minimum length 50'.

3/4" and 1": Packaged in 400' to 650' reels. Maximum 3 pieces. Minimum length 50'. 1 1/4" & over: Packaged in 250' to 400' reels. Maximum 3 pieces. Minimum length 50'.

2" x 100': Packaged 100' per carton, coiled and tied.

BRANDING: Continuous ink brand. Example: "GATES® 6B DURA MASTER® MULTI-PURPOSE 2 INCH (50.8mm) 200 PSI

(1.38MPa) WP MADE IN INDIA" (2" size only)

Continuous ink brand. Example: "GATES" 6B DURA MASTER" MULTI-PURPOSE 3/8 INCH (9.5mm) 250 PSI

(1.72MPa) WP MADE IN U.S.A.'

SPECIAL ORDER Special production runs require minimum order quantities of 5,000 feet for sizes through 1 1/2" and 600 feet for

REQUIREMENTS:

REMNANT LENGTHS: None.

> **STANDARDS: Tube:** RMA (Class B) Medium oil resistance.

Cover: RMA (Class C) Limited oil resistance.



Air and Multi-Purpose Hose

Duro Flex®

(Specification 3200R/3200B)

Nom. I.D.	Θ	Nom. O.D.	O	Max. W.P.	(1)	Suction	0	Min. Bend Radius	P	Wt. Per Ft.	Å	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
1/4	6.4	.50	12.7	250	1.72	30.0	762	2.0	51	.09	.04	Reel	X	3200-0002
1/4	6.4	.57	14.5	300	2.07	30.0	762	2.0	51	.12	.05	Reel	X	3200-0003
3/8	9.5	.66	16.8	250	1.72	30.0	762	3.0	76	.14	.06	Reel	X	3200-0006
3/8	9.5	.73	18.5	300	2.07	30.0	762	3.0	76	.18	.08	Reel	X	3200-0007
1/2	12.7	.81	20.6	250	1.72	25.0	635	4.0	102	.19	.09	Reel	X	3200-0008
1/2	12.7	.84	21.3	300	2.07	25.0	635	4.0	102	.25	.11	Reel	X	3200-0009
5/8	15.9	.98	24.9	250	1.72	20.0	508	5.0	127	.27	.12	Reel	25,000 ft.	3200-0010
5/8	15.9	.98	24.9	300	2.07	20.0	508	5.0	127	.27	.12	Reel	X	3200-0011
3/4	19.1	1.15	29.2	250	1.72	20.0	508	5.0	127	.36	.16	Reel	X	3200-0012
3/4	19.1	1.15	29.2	250	1.72	20.0	508	5.0	127	.36	.16	50 ft.	25,000 ft.	3200-5012
3/4	19.1	1.15	29.2	300	2.07	20.0	508	5.0	127	.36	.16	Reel	X	3200-0013
1	25.4	1.47	37.3	250	1.72	10.0	254	8.0	203	.54	.25	Reel	X	3200-0014
1 1/4	31.8 38.1	1.73 1.98	43.9 50.3	250 250	1.72 1.72	10.0 10.0	254 254	10.0 12.0	254 305	.67 .79	.30 36	Reel Reel	X	3200-0015 3200-0016

RECOMMENDED FOR: Applications requiring maximum flexibility and good resistance to air, water and heat. For SAE oils intermittent

contact only.

TEMPERATURE: -40°F to +200°F (-40°C to +93°C) continuous service.

CONSTRUCTION: Type B1 (Specially compounded elastomer). Black.

Reinforcement: Synthetic, high tensile textile cord.

Cover: Type P (EPDM). Red. All sizes through 1/2" have perforated cover. (Black, cover available on

special order).

19 (up through 1/2" only), 1, 3 or 4, (up through 1/2" with 20 brass ferrules, up through 1" with bands), 72 Gates Power Crimp® or 75 Gates GLX^{\circledast} . Reference the Hose Coupling Section. **COUPLINGS:**

Minimum of 90% of hose reels will be 1-piece lengths. **PACKAGING:**

1/4" through 3/4": Packaged in 500' to 700' reels. Maximum 2 pieces in 50' increments.

3/4" x 50': Packaged 200' per carton, each length coiled and tied. 1": Packaged in 300' to 400' reels. Maximum 2 pieces in 50' increments. 1 1/4": Packaged in 300' reels. Maximum 2 pieces in 50' increments. 1 1/2": Packaged in 250' reels. Maximum 2 pieces in 50' increments.

Continuous ink brand. Example: "GATES* DURO FLEX* MULTI-PURPOSE 3/8 INCH (9.5mm) 250 PSI (1.72MPa) WP MADE IN USA" **BRANDING:**

Special production runs require minimum order quantities of $25,\!000$ feet. Black cover is made to order. Special production run requirements apply. Price is 5% less than red cover. SPECIAL ORDER **REQUIREMENTS:**

REMNANT LENGTHS: None.

> **Tube:** STANDARDS: RMA (Class B) Medium oil resistance.

Cover: RMA (Class C) Limited oil resistance.



Air and Multi-Purpose Hose

Adapta Flex[™] Red

(Specification 3204E/3204S)

Red Cover

Nom. I.D.	Θ	Nom. O.D.	Ō	Max. W.P.	(Suction	\bigcirc	Min. Bend Radius	P	Wt. Per Ft.	\triangle	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(ln.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
1/4 1/4 1/4	6.4 6.4 6.4	.50 .50 .62	12.7 12.7 15.8	200 250 250	1.38 1.72 1.72	30.0 30.0 30.0	762 762 762	3.0 3.0 3.0	76 76 76	.09 .09 .15	.04 .04 .07	Reel Reel Reel	X X 25,000 ft.	3204-1301 3204-1304 3204-1386
1/4 5/16 3/8	6.4 7.9 9.5	.53 .53 .66	13.5 13.5 16.8	300 200 200	2.07 1.38 1.38	30.0 30.0 30.0	762 762 762 762	3.0 3.0 3.0	76 76 76 76	.10 .09 .14	.05 .04 .06	Reel Reel Reel	X X X	3204-1307 3204-1316 3204-1319
3/8 3/8 1/2	9.5 9.5 12.7	.66 .67 .81	16.8 17.0 20.6	250 300 200	1.72 2.07 1.38	30.0 30.0 25.0	762 762 635	3.0 3.0 5.0	76 76 127	.14 .15 .19	.06 .07 .09	Reel Reel Reel	X X X	3204-1322 3204-1325 3204-1328
1/2 1/2 5/8	12.7 12.7 15.9	.81 .83 .97	20.6 21.1 24.6	250 300 200	1.72 2.07 1.38	25.0 25.0 20.0	635 635 508	5.0 5.0 6.0	127 127 152	.19 .20 .26	.09 .09 .11	Reel Reel Reel	X X X	3204-1331 3204-1334 3204-1337
5/8 5/8 3/4	15.9 15.9 19.1	.97 .97 1.11	24.6 24.6 28.2	250 250 200	1.72 1.72 1.38	20.0 20.0 15.0	508 508 381	6.0 6.0 6.0	152 152 152	.26 .26 .31	.11 .11 .14	Reel 50 ft. Reel	25,000 ft. X	3204-1340 3204-5415 3204-1346
3/4 3/4 3/4	19.1 19.1 19.1	1.11 1.15 1.15	29.2 29.2 29.2	250 250 300	1.72 1.72 2.07	20.0 20.0 15.0	508 508 381	6.0 6.0 6.0	152 152 152	.35 .35 .35	.16 .16 .16	Reel 50 ft. Reel	200 ft. (X) X	3204-1349 3204-5420 3204-1355
3/4 1 1	19.1 25.4 25.4	1.15 1.39 1.39	29.2 35.3 35.3	300 150 200	2.07 1.03 1.38	15.0 10.0 10.0	381 254 254	6.0 8.0 8.0	152 203 203	.35 .43 .45	.16 .21 .21	50 ft. Reel Reel	200 ft. (X) X X	3204-5675 3204-1358 3204-1361
1 1	25.4	1.47	37.3	300	2.07	10.0	254	8.0	203	.54	.26	Reel	X	3204-1364

NOTE: For 1 1/4" and 1 1/2" I.D. see Duro Flex®.

Adapta Flex™ Assemblies

Nom. I.D.	Θ	Nom. O.D.	Ō	Max. W.P.	(Suction	\bigcirc	Min. Bend Radius	P	Wt. Per Ea.	\triangle	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
3/8	9.5	.66	16.8	250	1.72	30.0	762	3.0	76	6.95	3.15	50 ft.	8 ea. (X)	3204-1720
3/8	9.5	66	16.8	250	1 72	30.0	762	3.0	76	6.95	3 15	50 ft -BP**	54 ea (X)	3204-1900

RECOMMENDED FOR:

Air and water applications requiring maximum flexibility in any industry, including mining, construction, agriculture, vehicle repair and in-plant operations. Outstanding resistance to heat and ozone. Suitable for light agricultural spraying, such as dilute solutions of herbicides.

TEMPERATURE: -40°F to +200°F (-40°C to +93°C) continuous service.

CONSTRUCTION: Type P (EPDM). Black. **Tube:**

Synthetic, high tensile textile cord. Reinforcement:

Type P (EPDM). Red. All sizes through 1/2" are perforated. Cover:

19 (up through 1/2" only), 1, 3 or 4, (up through 1/2" with 20 brass ferrules, up through 1" with bands), 72 Gates Power Crimp® or 75 Gates GLX®. Reference the Hose Coupling Section. **COUPLINGS:**

PACKAGING: Minimum of 90% of hose reels will be 1-piece lengths.

1/4" through 3/4": Packaged in 500' to 700' reels. Maximum 2 pieces in 50' increments. 3/8" x 50' coupled assemblies: **BP - Bulk Pack, 54 assemblies per pallet carton. 3/8" x 50' coupled assemblies: Coiled in a carton, 5 assemblies per carton.

5/8" x 50': Packaged 250' per carton, each length coiled and tied. 3/4" x 50': Packaged 200' per carton, each length coiled and tied. 1": Packaged in 300' to 400' reels. Maximum 2 pieces in 50' increments.

Continuous ink brand. Example: "GATES" ADAPTA FLEX $^{\text{\tiny M}}$ MULTI-PURPOSE 3/8 INCH (9.5mm) 250 PSI (1.72MPa) WP MADE IN USA" **BRANDING:**

SPECIAL ORDER REQUIREMENTS:

Special production runs require minimum order quantities of 25,000 feet per size.

REMNANT LENGTHS:

STANDARDS: **Tube:** RMA (Class C) Limited oil resistance. Air and Multi-Purpose Hose



39496-000 July 30, 2009 Supersedes 39496-000 July 30, 2007

Adapta FlexTM Red Cover - UPS **Shippable Reels**

(Specification 3204E)

	m. I.D.	Θ	Nom. O.D.	Ō	Max. W.P.	(Suction	0	Min. Bend Radius	P	Wt. Per Ft.	Å	Standard	Stock (X) or Minimum	Gates
(I	ln.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
	1/4	6.4	.50	12.7	200	1.38	30.0	762	3.0	76	.09	.04	Reel	X	3204-1373
	3/8	9.5	.66	16.8	200	1.38	30.0	762	3.0	76	.14	.06	Reel	X	3204-1375
1	1/2	12.7	.81	20.6	200	1.38	25.0	635	5.0	127	.19	.09	Reel	X	3204-1377
	5/8	15.9	.97	24.6	200	1.38	20.0	508	6.0	152	.26	.11	Reel	X	3204-1379
	3/4	19.1	1.11	28.2	200	1.38	15.0	381	6.0	152	.31	.14	Reel	X	3204-1381
	1	25.4	1.40	35.6	200	1.38	10.0	254	8.0	203	.45	.20	Reel	X	3204-1383

RECOMMENDED FOR:

Air and water applications requiring maximum flexibility in any industry, including mining, construction, agriculture, vehicle repair and in-plant operations. Outstanding resistance to heat and ozone. Suitable for light

agricultural spraying, such as dilute solutions of herbicides.

-40°F to +200°F (-40°C to +93°C) continuous service. **TEMPERATURE:**

CONSTRUCTION: Tube: Type P (EPDM). Black. **Reinforcement:**

Synthetic, high tensile textile cord. Type P (EPDM). Red. All sizes through 1/2" are perforated. (Blue, green and yellow covers Cover:

available on special order).

19 (up through 1/2" only), 1, 3 or 4, (up through 1/2" with 20 brass ferrules, up through 1" with bands), 72 Gates Power Crimp® or 75 Gates GLX®. Reference the Hose Coupling Section. **COUPLINGS:**

All sizes packaged on single piece reels meet UPS (United Parcel Service) size and weight requirements. PACKAGING:

1/4" and 3/8": Packaged in 375' to 425' single piece reels.

1/2": Packaged in 225' to 275' single piece reels. 5/8": Packaged in 235' to 265' single piece reels. 3/4": Packaged in 185' to 215' single piece reels.

1": Packaged in 100' to 125' single piece reels.

Continuous ink brand. Example: "GATES" ADAPTA FLEX
 MULTI-PURPOSE 3/8 INCH (9.5mm) 200 PSI (1.38MPa) WP MADE IN USA" **BRANDING:**

SPECIAL ORDER Special production runs require minimum order quantities of 25,000 feet per size. Black, blue, green and yellow **REQUIREMENTS:** covers are made to order and require 25,000 feet orders by size/color. Prices for colors as follows from list price:

Black less 5% (x.95). Blue, green and yellow contact Gates Corporation for pricing, order requirements and

availability.

REMNANT LENGTHS:

STANDARDS: Reels meet size and weight requirements of UPS (United Parcel Service).

RMA (Class C) Limited oil resistance.



Air and Multi-Purpose Hose

Adapta Flex[™] Black

(Specification 3204EB/3204SB)

Black Cover

Nom. I.D.	Θ	Nom. O.D.	O	Max. W.P.	(Suction	\bigcirc	Min. Bend Radius	(P ₂)	Wt. Per Ft.	\triangle	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(ln.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
1/4	6.4	.50	12.7	200	1.38	30.0	762	3.0	76	.09	.04	Reel	X	3204-1401
1/4	6.4	.50	12.7	250	1.72	30.0	762	3.0	76	.09	.04	Reel	25,000 ft.	3204-1404
1/4	6.4	.62	15.8	250	1.72	30.0	762	3.0	76	.15	.07	Reel	25,000 ft.	3204-1406
3/8	9.5	.66	16.8	200	1.38	30.0	762	3.0	76	.14	.06	Reel	X	3204-1407
3/8	9.5	.66	16.8	250	1.72	30.0	762	3.0	76	.14	.06	Reel	X	3204-1410
1/2	12.7	.81	20.6	200	1.38	25.0	635	5.0	127	.19	.09	Reel	X	3204-1413
1/2	12.7	.81	20.6	250	1.72	25.0	635	5.0	127	.19	.09	Reel	X	3204-1416
5/8	15.9	.97	24.6	200	1.38	20.0	508	6.0	152	.26	.12	Reel	X	3204-1419
3/4	19.1	1.11	28.2	200	1.38	15.0	381	6.0	152	.32	.15	Reel	X	3204-1422
3/4 3/4 1	19.1 19.1 25.4	1.15 1.15 1.40	29.2 29.2 35.6	250 250 150	1.72 1.72 1.03	20.0 20.0 10.0	508 508 254	6.0 6.0 8.0	152 152 203	.35 .35 .44	.16 .16 .20	Reel 50 ft. Reel	200 ft. (X) X	3204-1425 3204-5820 3204-1428
1	25.4	1.40	35.6	200	1.38	10.0	254	8.0	203	.45	.20	Reel	X	3204-1431
1 1/4	31.8	1.73	43.9	250	1.72	10.0	254	10.0	254	.68	.31	Reel	X	3204-1434
1 1/2	38.1	1.98	50.3	250	1.72	10.0	254	12.0	305	.79	.36	Reel	X	3204-1437

Adapta Flex™ Black Cover Assemblies

	Nom. I.D.	Θ	Nom. O.D.	Ō	Max. W.P.	(Suction	\bigcirc	Min. Bend Radius	P	Wt. Per Ea.	\triangle	Standard	Stock (X) or Minimum	Gates
	(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
ſ	3/8	9.5	.66	16.8	250	1.72	30.0	762	3.0	76	7.05	3.20	50 ft.	8 ea. (X)	3204-1721

RECOMMENDED FOR: Air and water applications requiring maximum flexibility in any industry, including mining, construction,

agriculture, vehicle repair and in-plant operations. Outstanding resistance to heat and ozone. Suitable for light

agricultural spraying, such as dilute solutions of herbicides.

TEMPERATURE: -40°F to +200°F (-40°C to +93°C) continuous service.

CONSTRUCTION: Type P (EPDM). Black.

Reinforcement: Synthetic, high tensile textile cord.

Type P (EPDM). Black. All sizes through 1/2 " are perforated.

19 (up through 1/2" only), 1, 3 or 4, (up through 1/2" with 20 brass ferrules, up through 1" with bands), 72 Gates Power Crimp $^{\circ}$ or 75 Gates GLX $^{\circ}$. Reference the Hose Coupling Section. **COUPLINGS:**

PACKAGING: Minimum of 90% of hose reels will be 1-piece lengths.

1/4" through 3/4": Packaged in 500' to 700' reels. Maximum 2 pieces in 50' increments.

3/8" x 50' coupled assemblies: Coiled in a carton, 5 assemblies per carton.

3/4" x 50': Packaged 200' per carton, each length coiled and tied. 1": Packaged in 300' to 400' reels. Maximum 2 pieces in 50' increments. 1 1/4": Packaged in 300' reels. Maximum 2 pieces in 50' increments.

1 1/2": Packaged in 250' reels. Maximum 2 pieces in 50' increments.

BRANDING: Continuous ink brand. Example: "GATES® ADAPTA FLEX™ MULTI-PURPOSE 3/8 INCH (9.5mm) 250 PSI

(1.72MPa) WP MADE IN USA'

SPECIAL ORDER Special production runs require minimum order quantities of 25,000 feet per size.

REQUIREMENTS: **REMNANT LENGTHS:**

> STANDARDS: **Tube:** RMA (Class C) Limited oil resistance.

RMA (Class C) Limited oil resistance.

Air and Multi-Purpose Hose



39496-000 July 30, 2009 Supersedes 39496-000 July 30, 2007

Adapta Flex™ Blue, Green & **Yellow Cover**

(Specification 3204BL, GR, YL)

	Nom. I.D.	Θ	Nom. O.D.	O	Max. W.P.	(Suction	0	Min. Bend Radius	P	Wt. Per Ft.	Å	Standard	Stock (X) or Minimum	Gates
Color	(In.)	(mm)	(ln.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
Blue	1/4	6.4	.50	12.7	250	1.72	30.0	762	3.0	76	.09	.04	Reel	25,000 ft.	3204-1496
Blue	3/8	9.5	.66	16.8	250	1.72	30.0	762	3.0	76	.14	.06	Reel	X	3204-1497
Blue	3/8	9.5	.69	17.5	300	2.07	30.0	762	3.0	76	.15	.07	Reel	25,000 ft.	3204-1501
Blue	1/2	12.7	.81	20.6	250	1.72	25.0	635	5.0	127	.19	.09	Reel	X	3204-1498
Blue	1/2	12.7	.83	21.1	300	2.07	25.0	635	5.0	127	.20	.09	Reel	25,000 ft.	3204-1503
Blue	3/4	19.1	1.15	29.2	250	1.72	20.0	508	6.0	152	.35	.16	Reel	X	3204-1500
Blue	3/4	19.1	1.15	29.2	300	2.07	15.0	381	6.0	152	.35	.16	50 ft.	200 ft. (X)	3204-0560
Blue	3/4	19.1	1.15	29.2	300	2.07	15.0	381	6.0	152	.35	.16	Reel	X	3204-1505
Green	1/4	6.4	.50	12.7	250	1.72	30.0	762	3.0	76	.09	.04	Reel	25,000 ft.	3204-1516
Green	3/8	9.5	.66	16.8	250	1.72	30.0	762	3.0	76	.14	.06	Reel	25,000 ft.	3204-1517
Green	3/8	9.5	.69	17.5	300	2.07	30.0	762	3.0	76	.15	.07	Reel	25,000 ft.	3204-1511
Green	1/2	12.7	.81	20.6	250	1.72	25.0	635	5.0	127	.19	.09	Reel	25,000 ft.	3204-1518
Green	1/2	12.7	.83	21.1	300	2.07	25.0	635	5.0	127	.20	.09	Reel	25,000 ft.	3204-1513
Green	3/4	19.1	1.15	29.2	250	1.72	20.0	508	6.0	152	.35	.16	Reel	25,000 ft.	3204-1520
Green	3/4	19.1	1.15	29.2	300	2.07	15.0	381	6.0	152	.35	.16	50 ft.	200 ft. (X)	3204-0506
Green	3/4	19.1	1.15	29.2	300	2.07	15.0	381	6.0	152	.35	.16	Reel	X	3204-1515
Yellow	1/4	6.4	.50	12.7	250	1.72	30.0	762	3.0	76	.09	.40	Reel	25,000 ft.	3204-1526
Yellow	3/8	9.5	.66	16.8	250	1.72	30.0	762	3.0	76	.14	.06	Reel	25,000 ft.	3204-1527
Yellow	3/8	9.5	.69	17.5	300	2.07	30.0	762	3.0	76	.15	.07	Reel	25,000 ft.	3204-1521
Yellow	1/2	12.7	.81	20.6	250	1.72	25.0	635	5.0	127	.19	.09	Reel	X	3204-1528
Yellow	1/2	12.7	.83	21.1	300	2.07	25.0	635	5.0	127	.20	.09	Reel	25,000 ft.	3204-1523
Yellow	3/4	19.1	1.15	29.2	250	1.72	20.0	508	6.0	152	.35	.16	Reel	25,000 ft.	3204-1530
Yellow	3/4	19.1	1.15	29.2	300	2.07	15.0	381	6.0	152	.35	.16	50 ft.	200 ft. (X)	3204-0558
Yellow	3/4	19.1	1.15	29.2	300	2.07	15.0	381	6.0	152	.35	.16	Reel	25,000 ft.	3204-1525

RECOMMENDED FOR: Air and water applications requiring maximum flexibility in any industry, including mining, construction,

agriculture, vehicle repair and in-plant operations. Outstanding resistance to heat and ozone. Suitable for light

agricultural spraying, such as dilute solutions of herbicides.

TEMPERATURE: -40°F to +200°F (-40°C to +93°C) continuous service.

Type P (EPDM). Black. CONSTRUCTION: Reinforcement:

Synthetic, high tensile textile cord.

Type P (EPDM). Blue, Green or Yellow. All sizes through 1/2" are perforated.

19 (up through 1/2" only), 1, 3 or 4, (up through 1/2" with 20 brass ferrules, up through 1" with bands), 72 Gates Power Crimp® or 75 Gates GLX^{\circledast} . Reference the Hose Coupling Section. **COUPLINGS:**

PACKAGING: Minimum of 90% of hose reels will be 1-piece lengths.

3/8" through 3/4": Packaged in 500' to 700' reels. Maximum 2 pieces in 50' increments.

3/4" x 50': Packaged 200' per carton, each length coiled and tied.

Continuous ink brand. Example: "GATES® ADAPTA FLEX™ MULTI-PURPOSE 3/8 INCH (9.5mm) 300 PSI (2.07MPa) WP MADE IN USA" **BRANDING:**

SPECIAL ORDER Special production runs require minimum order quantities of 25,000 feet per size.

REQUIREMENTS: REMNANT LENGTHS: None.

> STANDARDS: **Tube:** RMA (Class C) Limited oil resistance.



Air and Multi-Purpose Hose

Tufflex® Plus

(Specification 7746 Silicone Free)

Nom. I.D.	\bigcirc	Nom. O.D.	O	Max. W.P.	(Suction	\bigcirc	Min. Bend Radius	(P)	Wt. Per Ft.	\triangle	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
1/4	6.4	.50	12.7	300	2.07	25.0	635	.7	18	.11	.05	Reel	X	7746-1022
3/8	9.5	.60	15.2	300	2.07	25.0	635	1.0	25	.11	.05	Reel	X	7746-1023
1/2	12.7	.79	20.1	300	2.07	25.0	635	1.3	33	.13	.06	Reel	X	7746-1024
5/8	15.9	.92	23.4	300	2.07	20.0	508	1.8	46	.20	.09	Reel	X	7746-1025
3/4	19.1	1.07	27.2	300	2.07	15.0	381	2.5	64	.29	.13	Reel	X	7746-1026
1	25.4	1.44	36.6	200	1.38	15.0	381	3.5	89	.44	.20	Reel	X	7746-1027

*Up through 3/4" 300 psi (2.07 MPa) at +70°F (+21°C), 250 psi (1.72 MPa) at +150°F (+66°C). For 1" 200 psi (1.38 MPa) at +70°F (+21°C), 150 psi (1.03 MPa) at 150°F (+66°C).

RECOMMENDED FOR: Multi-purpose applications including air, water (up to 150°F), mild chemicals and spray solutions at rated working

pressures as listed. Suitable for in-line oilier service. Silicone free. Ideal for pneumatic tools, air service to paint

equipment, coolant lines, etc. Reference Gates Chemical Resistance Table for proper hose selection.

TEMPERATURE: $-15^{\circ}F$ to $+150^{\circ}F$ ($-26^{\circ}C$ to $+66^{\circ}C$) continuous service.

CONSTRUCTION: Tube: Type G1 (Modified PVC). Black. Reinforcement: Synthetic, high tensile textile cord.

Cover: Type G1 (Modified PVC). Red. All sizes are perforated.

COUPLINGS: 19 (up through 1/2" only), 1, 3 or 4, (up through 1/2" with 20 brass ferrules, up through 1" with bands), or 75

Gates GLX®. Reference the Hose Coupling Section.

PACKAGING: 1/4" through 5/8": Packaged on 500' reels. Maximum of 2 pieces per reel. 50' increments.

3/4": Packaged on 600' reels. Maximum of 2 pieces per reel. 50' increments. 1": Packaged on 400' reels. Maximum of 2 pieces per reel. 50' increments.

BRANDING: Continuous ink brand. Example: "GATES® Tufflex® Plus Multi-Purpose 1/2" (12.7mm) 300 PSI (2.07MPa) WP

Made In U.S.A.'

SPECIAL ORDER Additional colored covers are made to order and require minimum production order quantities of 25,000 feet per

REQUIREMENTS: siz

Special production runs require minimum order quantities of 25,000 feet per size.

REMNANT LENGTHS: None



Air and Multi-Purpose Hose

319MB Gold Master®

(Specification 3619G/3619GL)

Nom. I.D.	Θ	Nom. O.D.	O	Max. W.P.	(Suction	0	Min. Bend Radius	P	Wt. Per Ft.	Å	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
1/4	6.4	.63	15.9	1000	6.90	30.0	762	3.0	76	.22	.10	Reel	5,000 ft.	3619-0200
3/8	9.5	.77	19.6	1000	6.90	30.0	762	3.0	76	.31	.14	Reel	5,000 ft.	3619-0210
1/2	12.7	.92	23.4	1000	6.90	30.0	762	5.0	127	.42	.19	Reel	5,000 ft.	3619-0220
3/4	19.1	1.21	30.7	1000	6.90	25.0	635	8.0	203	.60	.27	Reel	5,000 ft.	3619-0230
1	25.4	1.46	37.1	1000	6.90	25.0	635	11.0	279	.77	.35	50 ft.	5,000 ft.	3619-0239
1 1/4	31.8	1.69	42.9	1000	6.90	20.0	508	16.0	406	.87	.40	50 ft.	5,000 ft.	3619-0600
1 1/2	38.1	1.94	49.3	1000	6.90	15.0	381	18.0	457	1.06	.48	50 ft.	600 ft.	3619-0620
2	50.8	2.46	62.5	1000	6.90	10.0	254	25.0	635	1.48	.67	50 ft.	600 ft.	3619-0630

RECOMMENDED FOR: High-pressure water and oil applications requiring good kink resistance and excellent flexibility. Air service

working pressure is 300 psi for all sizes. Also washdown service to 212°F (100°C) in packing plants where a nonmarking cover is required. Cover is resistant to weather, oil, animal fat, abrasion and heat encountered in packing

plant cleaning applications.

-40°F to +212°F (-40°C to +100°C) air service. **TEMPERATURE:**

CONSTRUCTION: Tube: Type A (Neoprene). Black. **Reinforcement:** Braided, high tensile steel wire.

Type M (Hypalon). Gold (non-marking). All sizes are perforated. Cover:

COUPLINGS: 72 Gates Power Crimp®, 14, 15, 18 (up to 300 PSI only) 74 Gates MegaCrimp®. Reference the Hose Coupling

PACKAGING: 1/4" through 3/4": Packaged in 200' to 300' reels. Maximum of 3 pieces. Minimum length 25'. One length under

100'. 1" through 2": Packaged 50' coiled in a carton.

Continuous transfer label. Example: "GATES® 319MB GOLD MASTER® MULTI-PURPOSE 3/8 INCH (9.5mm) **BRANDING:**

1000 PSI (6.90MPa) WP MADE IN U.S.A."

Special production runs require minimum order quantities of 5,000 feet for 1/4" through 1/4" and 600 feet for 1/2" and larger. SPECIAL ORDER

REQUIREMENTS:

REMNANT LENGTHS: None.

> STANDARDS: Tube: RMA (Class B) Medium oil resistance.

RMA (Class B) Medium oil resistance. Cover:



Air and Multi-Purpose Hose

63SB (Air & Vapor Duct)

(Specification 4663A)

Nom. I.D.	Θ	Nom. O.D.	Ō	Max. W.P.	(Suction	\circ	Min. Bend Radius	P	Wt. Per Ft.	Å	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
5/8	15.9	.81	20.6	10	.07	5.0	127	1.0	25	.12	.05	10 ft.	X	4663-4000
3/4	19.1	.94	23.9	10	.07	5.0	127	1.0	25	.14	.06	10 ft.	X	4663-4001
7/8	22.2	1.06	26.9	10	.07	5.0	127	1.0	25	.17	.08	10 ft.	X	4663-4002
1 1	25.4	1.19	30.2	10	.07	5.0	127	1.0	25	.20	.09	10 ft.	X	4663-4003
1 1/4	31.8	1.44	36.6	10	.07	5.0	127	1.0	25	.22	.10	10 ft.	X	4663-4004
1 3/8	34.9	1.52	38.6	10	.07	5.0	127	1.5	38	.24	.11	10 ft.	X	4663-4005
1 1/2	38.1	1.69	42.9	10	.07	5.0	127	1.5	38	.26	.12	10 ft.	X	4663-4006
1 5/8	41.3	1.81	46.0	10	.07	5.0	127	2.0	50	.28 .30	.13	10 ft.	X	4663-4007
1 3/4	44.5	1.94	49.3	10	.07	5.0	127	2.0	51		.14	10 ft.	X	4663-4008
1 7/8	47.6	2.06	52.3	10	.07	5.0	127	2.0	51	.32	.15	10 ft.	X	4663-4009
2 1/8	50.8 54.0	2.19 2.31	55.6 58.7	5 5	.04 .04	3.0 3.0	76 76	2.0 2.5	51 64	.33 .35	.15 .16	10 ft. 10 ft.	X	4663-4010 4663-4011
		_		,										
2 1/4 2 3/8	57.2 60.3	2.44 2.56	62.0 65.0	5 5	.04 .04	3.0 3.0	76 76	2.5 2.5	64 64	.37 .39	.17 .18	10 ft. 10 ft.	X	4663-4012 4663-4013
2 1/2	63.5	2.69	68.3	5	.04	3.0	76	2.5	64	.39	.10	10 ft.	l	4663-4014
2 5/8	66.7	2.81	71.4	5	.04	3.0	76	2.8	71	.43	.20	10 ft.	X	4663-4015
2 3/4	69.9	2.94	74.7	5	.04	3.0	76	2.8	71	.43	.20	10 ft.	l	4663-4016
2 3/4	76.2	3.19	81.0	5	.04	3.0	76	3.0	76	.49	.22	10 ft.	l	4663-4017
3 1/2	88.9	3.69	93.7	5	.04	3.0	76	3.5	89	.57	.26	10 ft.	X	4663-4018
3 5/8	92.1	3.81	96.8	5	.04	3.0	76	4.0	102	.59	.27	10 ft.	l	4663-4019
4	101.6	4.19	106.4	5	.04	3.0	76	4.0	102	.80	.36	10 ft.	χ̈́	4663-4020
4 1/2	114.3	4.69	119.1	5	.04	3.0	76	5.0	127	.89	.40	10 ft.	Х	4663-4021
5	127.0	5.19	131.8	5	.04	3.0	76	6.0	152	.99	.45	10 ft.	X	4663-4022
5 1/2	139.7	5.69	144.5	5	.04	3.0	76	6.0	152	1.08	.49	10 ft.	X	4663-4023

RECOMMENDED FOR:

Heating and ventilating applications, such as air intake for butane conversion units, air and heater ducts, defroster lines, air cleaner connections to carburetor, exhaust ducts, vent lines for trailer sewers and drains. For standard

duty applications.

NOTE: Not recommended for conveying liquids.

-30°F to +250°F (-34°C to +121°C) continuous service. TEMPERATURE:

CONSTRUCTION:

Type A (Neoprene). Black. Oil resistant. Single ply of synthetic fabric with two built-in helical wires. Type A (Neoprene impregnated fabric). Black. **Reinforcement:** Cover:

PACKAGING: 10' per carton.

BRANDING: Printed patch label every 2 feet with I.D. only.

SPECIAL ORDER Special production runs require minimum order quantities of one piece. Lengths can be as short as one foot, but

REQUIREMENTS: minimum billing is ten feet.

REMNANT LENGTHS: None.



163SB (Air & Vapor Duct - Heavy Duty)

(Specification 4663J)

Air and Multi-Purpose Hose

Nom. I.D.	Θ	Nom. O.D.	Ō	Max. W.P.	(Suction	0	Min. Bend Radius	P	Wt. Per Ft.	Å	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
3/4	19.1	1.00	25.4	20	.14	15.0	381	1.0	25	.20	.09	10 ft.	10 ft.	4663-1516
1	25.4	1.25	31.8	20	.14	15.0	381	1.0	25	.26	.12	10 ft.	10 ft.	4663-1518
1 1/4	31.8	1.50	38.1	20	.14	15.0	381	1.0	25	.34	.15	10 ft.	10 ft.	4663-1530
1 3/8	34.9	1.63	41.4	15	.10	15.0	381	1.5	38	.44	.20	10 ft.	10 ft.	4663-3321
1 1/2	38.1	1.75	44.5	15	.10	15.0	381	1.5	38	.48	.22	10 ft.	10 ft.	4663-1540
1 5/8	41.3	1.88	47.8	15	.10	15.0	381	1.8	46	.51	.23	10 ft.	10 ft.	4663-1543
1 3/4	44.5	2.00	50.8	15	.10	15.0	381	1.8	46	.54	.25	10 ft.	10 ft.	4663-3954
1 7/8	47.6	2.13	54.1	15	.10	15.0	381	1.8	46	.58	.26	10 ft.	10 ft.	4663-1548
2	50.8	2.25	57.2	15	.10	15.0	381	2.0	51	.60	.27	10 ft.	10 ft.	4663-1550
2 1/8	54.0	2.40	61.0	10	.07	15.0	381	2.5	64	.74	.34	10 ft.	10 ft.	4663-3461
2 1/4	57.2	2.50	63.5	10	.07	15.0	381	2.5	64	.88	.40	10 ft.	10 ft.	4663-1556
2 3/8	60.3	2.63	66.8	10	.07	15.0	381	2.5	64	.71	.32	10 ft.	10 ft.	4663-1560
2 1/2	63.5	2.75	69.9	10	.07	15.0	381	2.5	64	.74	.34	10 ft.	10 ft.	4663-1565
2 5/8	66.7	2.88	73.2	10	.07	15.0	381	3.0	76	.78	.35	10 ft.	10 ft.	4663-1615
2 3/4	69.9	3.00	76.2	10	.07	15.0	381	7.0	178	.81	.37	10 ft.	10 ft.	4663-3456
3	76.2	3.25	82.6	10	.07	7.0	178	10.0	254	.88	.40	10 ft.	10 ft.	4663-1570
3 1/8	79.4	3.35	85.1	10	.07	7.0	178	10.0	254	.84	.38	10 ft.	10 ft.	4663-1569
3 1/2	88.9	3.75	95.3	10	.07	7.0	178	10.0	254	1.01	.46	10 ft.	10 ft.	4663-1575
4	101.6	4.25	108.0	10	.07	7.0	178	12.0	305	1.15	.52	10 ft.	10 ft.	4663-1580
4 1/2	114.3	4.75	120.7	10	.07	7.0	178	12.0	305	1.25	.57	10 ft.	10 ft.	4663-1589
5	127.0	5.25	133.4	10	.07	6.0	152	12.0	305	1.38	.63	10 ft.	10 ft.	4663-1595
5 1/2	139.9	5.75	146.1	10	.07	6.0	152	12.0	305	1.51	.69	10 ft.	10 ft.	4663-3454
6	152.4	6.25	158.8	8	.06	6.0	152	15.0	381	1.64	.74	10 ft.	10 ft.	4663-1599

RECOMMENDED FOR: Heavy-duty heating and ventilating applications, such as air intake for butane conversion units, air and heater

ducts, defroster lines, air cleaner connections to carburetor, exhaust ducts, vent lines for trailer sewers and drains.

NOTE: Not recommended for conveying liquids.

TEMPERATURE: -30°F to +250°F (-34°C to +121°C) continuous service.

CONSTRUCTION: Tube: Type A (Neoprene). Black. Oil and heat resistant.

Reinforcement: Single ply of synthetic fabric with two built-in helical wires.

Cover: Type A (Neoprene). Black. Oil and heat resistant.

PACKAGING: 10' per carton.

BRANDING: Printed patch label every 2 feet with I.D. only.

SPECIAL ORDER For enlarged or straight ends, contact Gates Corporation for pricing.

REQUIREMENTS: Special production runs require minimum order quantities of one piece. Lengths can be as short as one foot, but

minimum billing is ten feet.

REMNANT LENGTHS: None.



Air and Multi-Purpose Hose

Ohmega® (Pot Room)

(Specification 3237A)

No I	m. .D.	Θ	Nom. O.D.	O	Max. W.P.	(Suction	\circ	Min. Bend Radius	P	Wt. Per Ft.	Å	Standard	Stock (X) or Minimum	Gates
(I	n.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
3	3/8	9.5	.75	19.1	300	2.07	30.0	762	3.0	76	.19	.09	Reel	Х	3237-0704
	1/2	12.7	.88	22.4	300	2.07	25.0	635	5.0	127	.24	.11	Reel	X	3237-0705
1 3	3/4	19.1	1.16	29.5	300	2.07	20.0	508	6.0	152	.36	.16	Reel	X	3237-0706

NOTE: For additional sizes see Premo Flex®.

RECOMMENDED FOR: Medium duty air and water applications where a hose with high electrical resistance is needed.

-20°F to +150°F (-29°C to +66°C) continuous service. TEMPERATURE:

CONSTRUCTION: **Tube:** Type P (EPDM). Green.

High tensile synthetic textile cord. Type P (EPDM). Red. Reinforcement:

Cover:

19 (For sizes 3/16" through 3/8" only), 1, 18 or 75 Gates GLX®. Reference the Hose Coupling Section. **COUPLINGS:**

PACKAGING: 3/8" through 3/4": Packaged in 500' to 750' reels. Maximum 3 pieces. Minimum length 50'.

Continuous ink print label. Example: "GATES® OMEGA® AIR AND WATER 3/8 INCH (9.5mm) 300 PSI (2.07MPa) WP NONCONDUCTIVE @ 1000 V DC (>1 MEGOHM/IN.) MADE IN USA" **BRANDING:**

SPECIAL ORDER **REQUIREMENTS:**

Special production runs require minimum order quantities of 25,000 feet per size.

REMNANT LENGTHS:

STANDARDS: Nonconductive at 1000 volts D.C. Electrical resistance is greater than one megohm per inch when subjected to

1000 volts D.C. Storage and use may adversely affect electrical properties.



Air and Multi-Purpose Hose

33HB (Divers' Air)

(Specification 3333)

Nom. I.D.	Θ	Nom. O.D.	O	Max. W.P.	(Suction	0	Min. Bend Radius		Wt. Per Ft.	Å	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
3/8	9.5	.75	19.1	1125	7.76	30.0	762	4.0	102	.19	.09	600-699 ft.	X	3333-0015
3/8	9.5	.75	19.1	1125	7.76	30.0	762	4.0	102	.19	.09	1000-Plus ft.	X	3333-0017
1/2	12.7	.94	23.9	1000	6.90	30.0	762	5.0	127	.29	.13	50-299 ft.	X	3333-0038
1/2	12.7	.94	23.9	1000	6.90	30.0	762	5.0	127	.29	.13	1000-Plus ft.	X	3333-0035

RECOMMENDED FOR: Handling mixtures of oxygen, helium and nitrogen gases customarily used in diving applications as air breathing

hose. The kink resistant hose is designed for extra long wear under normal operating use.

TEMPERATURE: -40°F to +120°F (-40°C to +49°C) continuous service.

CONSTRUCTION: Tube: Type C (Nitrile). Black.

Reinforcement:
Braided, high tensile synthetic textile cord.

Cover:
Type A (Neoprene). Black. All sizes are perforated.

COUPLINGS: Corrosion resistant couplings supplied and applied by diving contractors.

PACKAGING: 3/8" and 1/2": Packaged 300' and longer lengths. One continuous length on a reel.

BRANDING: Continuous ink print label. Example: "GATES" 33HB DIVERS" AIR 3/8 INCH (9.5mm) MADE IN U.S.A."

SPECIAL ORDER REQUIREMENTS:Contact Gates Corporation for special orders. Special production runs require minimum order quantities of 10,000 feet per size. Special production runs for SPECIFIC LENGTHS require minimum order quantities of 10,000 feet

per size and a 35% (x 1.35) premium to price.

REMNANT LENGTHS: None.

STANDARDS: Meets MIL-H-2815G Section 3.12.2 off-gassing for air breathing applications, especially diving.



33HB Divers' Air Hose Couplings

Ferrule

Size	Description	Gates Item No.	Stock (X) or Minimum Order Qty.
3/8	33HB-6-FRLB	7207-0597	50 ea. (X)



Stems

Size	Description	Gates Item No.	Stock (X) or Minimum Order Qty.
3/8	33HB-6-6RFJX-STB	7207-0598	50 ea. (X)
I 3/8	I 33HB-6-6ROXY-STB	7207-0599	50 ea. (X)

NOTE: These couplings are to be used with 33HB Divers' Air hose only. 33HB assemblies made with Gates Divers' air couplings are rated at 250 PSI maximum working pressure.



Food and Beverage Hose

Food & Beverage Master®

(Specification 3132C/3132H)

White Cover (3132C)

Nom. I.D.	Θ	Nom. O.D.	O	Max. W.P.	(Suction	\bigcirc	Min. Bend Radius	(P)	Wt. Per Ft.	\triangle	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(ln.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
3/4 1 1 1/2	19.1 25.4 38.1	1.22 1.48 2.07	31.0 37.6 52.6	250 250 250	1.72 1.72 1.72	30.0 30.0 30.0	762 762 762	2.0 3.0 4.5	51 76 114	.42 .52 .90	.19 .24 .41	100 ft. 100 ft. 100 ft.	X X X	3132-0222 3132-0216 3132-0217
2 2 1/2 3	50.8 63.5 76.2	2.62 3.25 3.86	66.6 82.6 98.0	250 250 250	1.72 1.72 1.72	30.0 30.0 30.0	762 762 762	6.0 12.0 18.0	152 305 457	1.19 1.81 2.46	.54 .82 1.12	100 ft. 100 ft. 100 ft.	X X X	3132-0218 3132-0219 3132-0220
4	101.6	4.88	124.0	250	1.72	30.0	762	36.0	914	3.24	1.47	100 ft.	Х	3132-0221

Gray Cover (3132H)

Nom. I.D.	Θ	Nom. O.D.	Ō	Max. W.P.	(1)	Suction	\bigcirc	Min. Bend Radius	P	Wt. Per Ft.	\triangle	Standard	Stock (X) or Minimum	Gates
(ln.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
3/4	19.1	1.22	31.0	250	1.72	30.0	762	2.0	51	.42	.19	100 ft.	400 ft.	3132-0263
1	25.4	1.48	37.6	250	1.72	30.0	762	3.0	76	.52	.24	100 ft.	400 ft.	3132-0264
1 1/2	38.1	2.07	52.6	250	1.72	30.0	762	4.5	114	.90	.41	200 ft.	400 ft.	3132-0066
1 1/2	38.1	2.07	52.6	250	1.72	30.0	762	4.5	114	.90	.41	100 ft.	400 ft.	3132-0265
2	50.8	2.62	66.6	250	1.72	30.0	762	6.0	152	1.20	.54	100 ft.	400 ft.	3132-0266
2 1/2	63.5	3.25	82.6	250	1.72	30.0	762	12.0	305	1.81	.82	200 ft.	400 ft.	3132-0067
2 1/2	63.5	3.25	82.6	250	1.72	30.0	762	12.0	305	1.81	.82	100 ft.	400 ft.	3132-0267
3	76.2	3.86	98.0	250	1.72	30.0	762	18.0	457	2.47	1.12	100 ft.	400 ft.	3132-0268
4	101.6	4.88	124.0	250	1.72	30.0	762	36.0	914	3.24	1.47	100 ft.	400 ft.	3132-0269

RECOMMENDED FOR: Transfer of milk, juice, soft drinks, pharmaceuticals, cosmetics or water-based products requiring an FDA sanitary

hose. Food & Beverage Master is also suitable for many dry bulk products via suction, pneumatic or gravity

where a sanitary hose is required.

TEMPERATURE: -40°F to +230°F (-40°C to +110°C) continuous service.

CONSTRUCTION: Tube: Type S (Sanitron[™]). White.

Reinforcement: Synthetic, high tensile textile with static conductive filament; resilient monofilament helix

providing crush and kink resistance.

Cover: Type P (EPDM). White or gray with burgundy spiral stripe.

COUPLINGS: 1 or stainless steel, 8 or stainless steel, 34, 71. Reference the Hose Coupling Section.

PACKAGING: 100' coiled and wrapped in polyethylene.

BRANDING: Continuous transfer label. Example: "GATES" Food & Beverage Master" Meets FDA, 3A and USDA 250 PSI WP

(1.72MPa) Made In U.S.A."

SPECIAL ORDER Special production runs require minimum order quantities of 400 feet per size. If a special transfer label is

REQUIREMENTS: required, contact Gates Corporation for minimum quantity.

Specific cut lengths available through the Cut Length Program. Contact Customer Service for details.

REMNANT LENGTHS: Remnant lengths are sometimes available in popular sizes at a discount. Contact Gates Corporation for pricing,

order requirements and availability.

STANDARDS: Meets FDA requirements, 3A-Class 3 and USDA.



Food and Beverage Hose

Cellar Master®

(Specification 3132C)

Nom. I.D.	Θ	Nom. O.D.	O	Max. W.P.	(Suction	0	Min. Bend Radius	P	Wt. Per Ft.	Å	Standard	Stock (X) or Minimum	Gates
(ln.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
1	25.4	1.48	37.6	250	1.72	30.0	762	3.0	76	.52	.24	100 ft.	200 ft.	3132-0180
1 1/2	38.1	2.07	52.6	250	1.72	30.0	762	4.5	114	.90	.41	100 ft.	200 ft.	3132-0181
2	50.8	2.62	66.6	250	1.72	30.0	762	6.0	152	1.20	.54	100 ft.	200 ft.	3132-0182
2 1/2	63.5	3.25	82.6	250	1.72	30.0	762	12.0	305	1.81	.82	100 ft.	200 ft.	3132-0186
3	76.2	3.86	98.0	250	1.72	30.0	762	18.0	457	2.46	1.12	100 ft.	200 ft.	3132-0183
4	101.6	4.88	124.0	250	1.72	30.0	762	36.0	914	3.24	1.47	100 ft.	200 ft.	3132-0184

RECOMMENDED FOR: Wine or water based products requiring an FDA sanitary hose.

TEMPERATURE: -40°F to +230°F (-40°C to +110°C) continuous service.

CONSTRUCTION: Tube: Type S (SanitronTM). White.

Reinforcement: Synthetic, high tensile textile with resilient monofilament helix providing crush and kink

resistance.

Cover: Type P (EPDM). White with burgundy spiral stripe.

COUPLINGS: 1 or stainless steel, 8 or stainless steel, 34, 71. Reference the Hose Coupling Section.

PACKAGING: 100' length coiled and wrapped in polyethylene.

BRANDING: Continuous transfer label. Example: "GATES® Cellar Master® Meets FDA, 3A and USDA 250 PSI (1.72MPa) WP

Made In U.S.A.'

SPECIAL ORDER Special production runs require minimum order quantities of 400 feet per size. If a special transfer label is

REQUIREMENTS: required, contact Gates Corporation for minimum quantity.

Specific cut lengths available through the Cut Length Program. Contact Customer Service for details.

REMNANT LENGTHS: Remnant lengths are sometimes available in popular sizes at a discount. Contact Gates Corporation for pricing,

order requirements and availability.

STANDARDS: Meets FDA requirements, 3A-Class 3 and USDA.



Food and Beverage Hose

Cellar Master® Light

(Specification 3132LW)

Nom. I.D.	Θ	Nom. O.D.	O	Max. W.P.	(Suction	0	Min. Bend Radius	P	Wt. Per Ft.	Å	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
1 1/2	38.1	2.00	50.8	150	1.03	30.0	762	6.0	152	.77	.35	100 ft.	200 ft.	3132-0171
2	50.5	2.50	63.5	150	1.03	30.0	762	12.0	305	.96	.44	100 ft.	X	3132-0172
2 1/2	63.5	3.11	79.0	150	1.03	30.0	762	22.0	559	1.53	.69	100 ft.	200 ft.	3132-0173
3	76.2	3.75	95.3	150	1.03	30.0	762	20.0	508	2.13	.97	100 ft.	200 ft.	3132-0174
4	101.6	4.76	120.9	150	1.03	30.0	762	28.0	711	2.82	1.28	100 ft.	200 ft.	3132-0175

^{*}Working Pressure and Suction at +72°F (+22°C). Suction rating reduced at elevated temperatures.

RECOMMENDED FOR: Wine or water based products requiring an FDA sanitary hose.

TEMPERATURE: -40°F to +212°F (-40°C to +100°C) continuous service.

CONSTRUCTION: Tube: Type S (Sanitron[™]). White.

Reinforcement: Synthetic, high tensile textile with resilient monofilament helix providing crush and kink

resistance.

Cover: Type P (EPDM). Gray with maroon spiral stripe.

COUPLINGS: 1 or stainless steel, 8 or stainless steel, 34, 71. Reference the Hose Coupling Section.

PACKAGING: 100' length coiled and wrapped in polyethylene.

BRANDING: Continuous transfer label. Example: "GATES" Cellar Master" Light Meets FDA, 3A and USDA 150 PSI

(1.03MPa) WP Made In U.S.A.'

SPECIAL ORDER Special production runs require minimum order quantities of 400 feet per size. If a special transfer label is

REQUIREMENTS: required, contact Gates Corporation for minimum quantity.

REMNANT LENGTHS: Remnant lengths are sometimes available in popular sizes at a discount. Contact Gates Corporation for pricing,

order requirements and availability.

STANDARDS: Meets FDA requirements, 3A-Class 3 and USDA.



Food and Beverage Hose

Food Master® Lite™

(Specification 3133)

Nom. I.D.	Θ	Nom. O.D.	O	Max. W.P.	(Suction	\bigcirc	Min. Bend Radius	P	Wt. Per Ft.	Å	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
3/4	19.1	1.33	33.8	150	1.03	30.0	762	2.0	51	.65	.30	100 ft.	X	3133-0001
1	25.4	1.58	40.1	150	1.03	30.0	762	3.0	76	.79	.36	100 ft.	X	3133-0002
1 1/2	38.1	2.10	53.3	150	1.03	30.0	762	4.5	114	1.14	.52	100 ft.	X	3133-0003
2	50.8	2.60	66.0	150	1.03	30.0	762	6.0	152	1.50	.68	100 ft.	X	3133-0004
2 1/2	63.5	3.13	79.5	150	1.03	30.0	762	12.0	305	1.98	.90	100 ft.	X	3133-0005
3	76.2	3.63	92.2	150	1.03	30.0	762	18.0	457	2.35	1.07	100 ft.	X	3133-0006
4	101.6	4.65	118.1	150	1.03	30.0	762	24.0	610	3.12	1.42	100 ft.	Х	3133-0007
6	152.4	6.74	171.2	150	1.03	30.0	762	36.0	914	5.60	2.54	50 ft.	X	3133-0008

RECOMMENDED FOR: Tank truck, barge, ship, or storage tank transfer of a variety of food products such as animal fat, vegetable oil and

other edible oils at temperatures up to 230°F requiring FDA sanitary hose. Also suitable for ice cream and other

dairy products requiring 3A-Class 3 standards.

TEMPERATURE: -40°F to +230°F (-40°C to +110°C) continuous service.

CONSTRUCTION: Tube: Type C2 (Modified Nitrile). Sanitary FDA and 3A-Class 3. White.

Reinforcement: Synthetic, high tensile textile with steel wire helix.

Cover: Type C2 (Modified Nitrile). White corrugated with burgundy spiral stripe.

COUPLINGS: 1 or stainless steel, 8 or stainless steel, 34, 71. Reference the Hose Coupling Section.

PACKAGING: All lengths coiled and wrapped in polyethylene.

BRANDING: Continuous transfer label. Example: "GATES® Food Master® Lite™ Meets FDA, 3A and USDA 150 PSI (1.03MPa)

WP Made In U.S.A."

SPECIAL ORDER Special production runs require minimum order quantities of 400 feet for sizes through 4" and 200 feet for sizes above 4". If a special transfer label is required, contact Gates Corporation for minimum quantity.

Specific cut lengths available through the Cut Length Program. Contact Customer Service for details.

REMNANT LENGTHS: Remnant lengths are sometimes available in popular sizes at a discount. Contact Gates Corporation for pricing,

order requirements and availability.

STANDARDS: Tube meets FDA requirements, 3A-Class 3 and USDA.



Food and Beverage Hose

Sani-PureTM

(Specification 3131)

Nom. I.D.	Θ	Nom. O.D.	O	Max. W.P.	(Suction	0	Min. Bend Radius	P	Wt. Per Ft.	Å	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(ln.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
1 1/2	38.1	2.07	52.6	150	1.03	_	_	18.0	457	.97	.44	100 ft.	200 ft.	3131-0001
2	50.8	2.57	65.3	150	1.03	_	_	24.0	610	1.25	.57	100 ft.	X	3131-0002
2 1/2	63.5	3.08	78.2	150	1.03	_	_	30.0	762	1.65	.75	100 ft.	200 ft.	3131-0003
3	76.2	3.58	90.9	150	1.03	_	_	36.0	914	1.90	.86	100 ft.	200 ft.	3131-0004
4	101.6	4.61	117.1	150	1.03	_	_	48.0	1219	2.77	1.26	100 ft.	200 ft.	3131-0005
6	152.4	6.64	168.7	150	1.03	_	_	72.0	1829	4.10	1.86	50 ft.	200 ft.	3131-0006

RECOMMENDED FOR:

Tank truck, barge, ship, or storage tank transfer (discharge only) of a variety of food products such as animal fat, vegetable oil and other edible oils at temperatures up to 230° F requiring FDA sanitary hose. Also suitable for ice cream and other dairy products requiring 3A-Class 3 standards.

TEMPERATURE: -40°F to +230°F (-40°C to +110°C) continuous service.

CONSTRUCTION: Type C2 (Modified Nitrile). Sanitary FDA and 3A-Class 3. White. **Tube:**

Reinforcement:

Synthetic, high tensile textile.

Type C2 (Modified Nitrile). White with burgundy spiral stripe. Cover:

COUPLINGS: 1 or stainless steel, 8 or stainless steel, 34, 71. Reference the Hose Coupling Section.

PACKAGING: All lengths coiled and wrapped in polyethylene.

Continuous transfer label. Example: "GATES® Sani-Pure™ Meets FDA, 3A and USDA 150 PSI (1.03MPa) WP **BRANDING:**

SPECIAL ORDER Gray cover is made to order and requires minimum production order quantities of 400 feet for sizes through 4"

REQUIREMENTS: and 200 feet for sizes above 4". For price, add 10% (x1.10) to price.

Special production runs require minimum order quantities of 400 feet for sizes through 4" and 200 feet for sizes above 4". If a special transfer label is required, contact Gates Corporation for minimum quantity.

REMNANT LENGTHS: Remnant lengths are sometimes available in popular sizes at a discount. Contact Gates Corporation for pricing,

order requirements and availability.

STANDARDS: Tube meets FDA requirements, 3A-Class 3 and USDA.



Food and Beverage Hose

RECOMMENDED FOR:

Aquarius® Potable Water

(Specification 3132P)

Nom. I.D.	Θ	Nom. O.D.	Ō	Max. W.P.	(Suction	0	Min. Bend Radius	P	Wt. Per Ft.	Å	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
1	25.4	1.53	38.9	300	2.07	15.0	381	10.0	254	.61	.28	200 ft.	400 ft.	3132-0803
2	51.0	2.70	68.6	300	2.07	10.0	254	14.0	356	1.46	.66	200 ft.	400 ft.	3132-0815
3	76.0	3.70	94.0	200	1.38	10.0	254	21.0	533	2.15	.95	200 ft.	400 ft.	3132-0823
4	102.0	4.70	119.0	150	1.03	10.0	254	28.0	711	2.70	1.23	200 ft.	400 ft.	3132-0832

Transfer of potable water, non-potable water or liquids not containing oils or chemicals from a supply ship to an offshore drilling rig or platform and for transfer applications on offshore or onshore drilling rigs or platforms; applications which require a lightweight, flexible hose with a tight bend radius and a high rated working pressure

in long continuous lengths.

TEMPERATURE: -40°F to +150°F (-40°C to +66°C) continuous service.

CONSTRUCTION:

Reinforcement:

Type D2 (food Grade Natural Rubber). White. Multiple plies of synthetic cord. Type P (EPDM). Tan with green spiral stripe. Abrasion and weather resistant. Cover:

COUPLINGS: 14, 15, 71 or 8. Reference the Hose Coupling Section.

PACKAGING: 200' length coiled and wrapped in polyethylene.

BRANDING: Continuous transfer label. Example: "GATES® Aquarius® Potable Water meets FDA stds. 200 PSI (1.38MPa) WP

Made In U.S.A.

SPECIAL ORDER Special production runs require minimum order quantities of 400 feet per size. If a special transfer label is REQUIREMENTS:

required, contact Gates Corporation for minimum quantity.

REMNANT LENGTHS:

STANDARDS: Tube meets FDA requirements.



Food and Beverage Hose

690SB (Bulk Commodity)

(Specification 4693B)

Nom. I.D.	Θ	Nom. O.D.	O	Max. W.P.	(Suction	0	Min. Bend Radius	P	Wt. Per Ft.	Å	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
1 1/2	38.1	2.23	56.6	150	1.03	30.0	762	10.0	254	1.41	.64	100 ft.	X	4693-0205
2	50.8	2.75	69.9	150	1.03	30.0	762	12.0	305	1.88	.85	100 ft.	X	4693-0210
2 1/2	63.5	3.23	82.0	125	.86	30.0	762	15.0	381	2.25	1.02	100 ft.	X	4693-0220
3	76.2	3.75	95.3	100	.69	30.0	762	18.0	457	2.73	1.24	100 ft.	X	4693-0225
4	101.6	4.71	119.6	75	.52	30.0	762	24.0	610	3.51	1.59	100 ft.	X	4693-0235
5	127.0	5.75	146.0	55	.38	30.0	762	30.0	762	4.30	1.95	50 ft.	X	4693-0251
6	152 4	6.91	175.5	50	34	30.0	762	36.0	914	7.08	3 21	50 ft	Χ	4693-0260

Transfer of bulk food products via suction, pneumatic or gravity systems where FDA sanitary tube is required. RECOMMENDED FOR:

Examples: Flour, sugar, syrup and edible grains. (Not recommended for vinegar, mustard or other compounds containing acetic acid.)

TEMPERATURE: -40°F to +150°F (-40°C to +66°C) continuous service.

CONSTRUCTION: Type D2 (Natural Rubber). Sanitary FDA. White. 3/16" thick. Tube:

Synthetic, high tensile textile with steel wire helix. Reinforcement:

Type D3 (Natural Rubber). Gray corrugated with burgundy spiral stripe. **COUPLINGS:**

Can be used only at 50% of rated working pressure. Reference the Hose Coupling Section. 5, 6*, 7*, 8, 49, or 71. Reference the Hose Coupling Section.

PACKAGING: All lengths coiled and wrapped in polyethylene.

BRANDING: Continuous transfer label. Example: "GATES® 690SB Food-Beverage Transfer Meets FDA 100 PSI. (.69MPa)

3/16 Inch Tube Made in U.S.A.

SPECIAL ORDER Special production runs require minimum order quantities of 400 feet for sizes through 4" and 200 feet for sizes

REQUIREMENTS:

Specific cut lengths available through the Cut Length Program. Contact Customer Service for details.

REMNANT LENGTHS: Remnant lengths are sometimes available in popular sizes at a discount. Contact Gates Corporation for pricing,

order requirements and availability.

STANDARDS: Tube meets FDA requirements.



Food and Beverage Hose

692SB (Bulk Commodity)

(Specification 4693R)

Nom. I.D.	Θ	Nom. O.D.	Ō	Max. W.P.	(Suction	\bigcirc	Min. Bend Radius	R.	Wt. Per Ft.	\triangle	Standard	Stock (X) or Minimum	Gates
(ln.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
1 1/2	38.1	2.07	52.6	150	1.03	30.0	762	9.0	229	1.13	.51	100 ft.	400 ft.	4693-0105
2	50.8	2.60	66.0	150	1.03	30.0	762	12.0	305	1.46	.66	100 ft.	X	4693-0110
2 1/2	63.5	2.85	72.4	125	.86	30.0	762	15.0	381	1.77	.80	100 ft.	400 ft.	4693-0116
3	76.2	3.52	89.4	125	.86	30.0	762	18.0	457	2.20	1.00	100 ft.	X	4693-0125
4	101.6	4.55	115.6	75	.52	30.0	762	24.0	610	2.96	1.34	100 ft.	X	4693-0135
6	152.4	6.74	171.2	50	.34	25.0	635	36.0	914	5.61	2.54	50 ft.	200 ft.	4693-0160

Animal fat, vegetable oil and other edible oils at temperatures up to 180°F requiring FDA sanitary hose. Also for soybeans, vinegar, mustard, cider, salad dressings and other acetic acid applications. **RECOMMENDED FOR:**

-40°F to +180°F (-40°C to +82°C) continuous service. TEMPERATURE:

CONSTRUCTION: Type C (Nitrile). Sanitary FDA. White. 1/8" thick.

Reinforcement:

Synthetic, high tensile textile with steel wire helix. Type P (EPDM). Tan corrugated with burgundy spiral stripe.

*Can be used only at 50% of rated working pressure. Reference the Hose Coupling Section. **COUPLINGS:**

5*, 6*, 7*, 8, 49, or 71. Reference the Hose Coupling Section.

PACKAGING: All lengths coiled and wrapped in polyethylene.

BRANDING: Continuous transfer label. Example: "GATES® 692SB Edible Fats-Oils Transfer Meets FDA 125 PSI (.86MPa)

Made In U.S.A.'

Special production runs require minimum order quantities of 400 feet for sizes through 4" and 200 feet for sizes above 4". SPECIAL ORDER

REQUIREMENTS:

REMNANT LENGTHS: Remnant lengths are sometimes available in popular sizes at a discount. Contact Gates Corporation for pricing,

order requirements and availability.

STANDARDS: Tube meets FDA requirements, 3A Standards and USDA.



Food and Beverage Hose

REQUIREMENTS:

610W (Bulk Commodity)

(Specification 3132D)

Nom. I.D.	Θ	Nom. O.D.	O	Max. W.P.	(Suction	0	Min. Bend Radius	P	Wt. Per Ft.	Å	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
4	101.6	4.56	115.8	40	.28	_	_	48.0	1219	2.22	1.01	100 ft.	X	3132-0782
5	127.0	5.56	141.2	30	.21	_	_	60.0	1524	2.73	1.24	100 ft.	X	3132-0793
6	152.4	6.56	166.6	25	.17	_	_	72.0	1829	3.25	1.47	100 ft.	X	3132-0797

RECOMMENDED FOR: Pneumatic transfer of flour and other dry foods requiring hose with a sanitary FDA tube.

TEMPERATURE: -40°F to +150°F (-40°C to +66°C) continuous service.

CONSTRUCTION: Type D2 (Natural Rubber). Sanitary FDA. White. 3/16" thick.

Reinforcement:

Synthetic, high tensile textile with static conductor. Type D3 (Natural Rubber). Gray with burgundy spiral stripe.

COUPLINGS: 5, 7, 49 or 71. Reference the Hose Coupling Section. PACKAGING:

100' length coiled and wrapped in polyethylene. **BRANDING:** Continuous transfer label. Example: "GATES® 610W Dry Food Transfer Meets FDA 40 PSI (.28MPa) WP Made

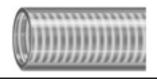
Special production runs require minimum order quantities of 400 feet for sizes through 4" and 200 feet for sizes above 4". If a special transfer label is required, contact Gates Corporation for minimum quantity. SPECIAL ORDER

Specific cut lengths available through the Cut Length Program. Contact Customer Service for details.

REMNANT LENGTHS: Remnant lengths are sometimes available in popular sizes at a discount. Contact Gates Corporation for pricing,

order requirements and availability.

STANDARDS: Tube meets FDA requirements.



Food and Beverage Hose

Master-Flex® 200CL

(Specification 7744)

Nom. I.D.	Θ	Nom. O.D.	O	Max. W.P.	(Suction	\bigcirc	Min. Bend Radius	P	Wt. Per Ft.	Å	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
1	25.4	1.29	32.8	100	.69	28.0	711	3.0	76	.30	.14	100 ft.	X	7744-4101
1 1/4	31.8	1.56	39.6	90	.62	28.0	711	4.0	102	.38	.17	100 ft.	X	7744-4102
1 1/2	38.1	1.84	46.7	90	.62	28.0	711	5.0	127	.48	.22	100 ft.	X	7744-4103
2	50.8	2.39	60.7	70	.48	28.0	711	6.0	152	.71	.32	100 ft.	X	7744-4104
2 1/2	63.5	2.92	74.2	65	.45	28.0	711	8.0	203	.97	.44	100 ft.	X	7744-4105
3	76.2	3.46	87.9	60	.41	28.0	711	9.0	229	1.27	.58	100 ft.	X	7744-4106
4	101.6	4.56	115.8	50	.34	28.0	711	12.0	305	2.01	.91	100 ft.	X	7744-4107

^{*}Working Pressure and Suction at +72°F (+22°C).

RECOMMENDED FOR: Transfer of bulk food products via suction, pneumatic or gravity systems where sanitary hose is required.

TEMPERATURE: -10°F to $+130^{\circ}\text{F}$ (-23°C to +55°C) continuous service.

CONSTRUCTION: Tube: Type G (PVC). Sanitary FDA. Clear. Smooth.

Reinforcement: Rigid thermoplastic reinforcement. Clear. Type G (PVC). Sanitary FDA. Clear. Smooth.

COUPLINGS: 1, 6, 7 or 49. Reference the Hose Coupling Section. **PACKAGING:** All lengths coiled and wrapped in polyethylene.

BRANDING: Unlabeled.

SPECIAL ORDER Nor REQUIREMENTS:

REMNANT LENGTHS: None

STANDARDS: Meets FDA requirements, 3A Standards and USDA.



Food and Beverage Hose

Master-Flex® 201CR

(Specification 7744)

Nom. I.D.	Θ	Nom. O.D.	O	Max. W.P.	(Suction	\bigcirc	Min. Bend Radius	P	Wt. Per Ft.	Å	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
1	25.4	1.26	32.0	40	.28	28.0	711	2.0	51	.14	.06	100 ft.	X	7744-4301
1 1/4	31.8	1.61	40.9	50	.34	28.0	711	3.0	76	.31	.14	100 ft.	X	7744-4302
1 1/2	38.1	1.82	46.2	50	.34	28.0	711	3.0	76	.37	.17	100 ft.	X	7744-4303
2	50.8	2.44	62.0	40	.28	28.0	711	4.0	102	.57	.26	100 ft.	X	7744-4304
2 1/2	63.5	2.98	75.7	40	.28	28.0	711	5.0	127	.77	.35	100 ft.	X	7744-4305
3	76.2	3.54	89.9	35	.24	28.0	711	6.0	152	1.04	.47	100 ft.	X	7744-4306
4	101.6	4.65	118.1	35	.24	28.0	711	8.0	203	1.65	.75	100 ft.	X	7744-4307

^{*}Working Pressure and Suction at +72°F (+22°C).

RECOMMENDED FOR: Transfer of bulk food products via suction, pneumatic or gravity systems where sanitary hose is required.

TEMPERATURE: -10°F to +130°F (-23°C to +55°C) continuous service.

CONSTRUCTION:

Reinforcement: Cover:

Type G (PVC). Sanitary FDA. Clear. Smooth. Rigid thermoplastic helix. Clear. Type G (PVC). Sanitary FDA. Clear. Corrugated.

COUPLINGS: 1, 6, 7 or 49. Reference the Hose Coupling Section. PACKAGING: All lengths coiled and wrapped in polyethylene.

BRANDING: Unlabeled. SPECIAL ORDER REQUIREMENTS:

REMNANT LENGTHS:

STANDARDS: Meets FDA requirements and USDA.



Food and Beverage Hose

Master-Flex® 202SW

(Specification 7744)

Nom. I.D.	Θ	Nom. O.D.	O	Max. W.P.	(Suction	0	Min. Bend Radius	P	Wt. Per Ft.	Å	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
2	50.8	2.37	60.2	40	.28	28.0	711	4.0	102	.58	.26	100 ft.	X	7744-4420
2 1/2	63.5	3.01	76.5	40	.28	28.0	711	4.0	102	.79	.36	100 ft.	X	7744-4425
3	76.2	3.05	77.5	35	.24	28.0	711	6.0	152	1.06	.48	100 ft.	X	7744-4430
4	101.6	4.54	115.3	35	.24	28.0	711	8.0	203	1.68	.76	100 ft.	X	7744-4440

^{*}Working Pressure and Suction at +72°F (+22°C).

RECOMMENDED FOR: Transfer of bulk food products via suction, pneumatic or gravity systems where sanitary hose is required. Used in

pneumatic conveying systems for powders, pellets or granular materials where a static conductive hose is needed.

TEMPERATURE: -10°F to +130°F (-23°C to +55°C) continuous service.

CONSTRUCTION: Tube:

Type G (PVC). Sanitary FDA. Clear. Smooth. Rigid thermoplastic helix. Clear. Embedded static wire to prevent a build up of static electricity. Type G (PVC). Sanitary FDA. Clear. Corrugated. **Reinforcement:** Cover:

COUPLINGS: 1, 6, 7 or 49. Reference the Hose Coupling Section. PACKAGING: All lengths coiled and wrapped in polyethylene.

BRANDING: Unlabeled. SPECIAL ORDER REQUIREMENTS: REMNANT LENGTHS:

STANDARDS: Meets FDA requirements and USDA.



Food and Beverage Hose

Tufflex® Food

(Specification 7744)

Nom. I.D.	Θ	Nom. O.D.	O	Max. W.P.	(Suction	0	Min. Bend Radius	P	Wt. Per Ft.	Å	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
1/4	6.4	.47	11.9	250	1.72	_	_	_	_	.07	.03	300 ft.	X	7744-4501
3/8	9.5	.63	16.0	200	1.38	_	_	_	_	.11	.05	300 ft.	X	7744-4502
1/2	12.7	.75	19.1	200	1.38	_	_	_	_	.13	.06	300 ft.	X	7744-4503
5/8	15.9	.88	22.4	200	1.38	_	_	_	_	.15	.07	300 ft.	X	7744-4504
3/4	19.1	1.03	26.2	150	1.03	_	_	_	_	.20	.09	300 ft.	X	7744-4505
1	25.4	1.31	33.3	125	.86	_	_	_	_	.32	.15	100 ft.	X	7744-4506
1 1/4	31.8	1.75	44.5	100	.69		_	_	_	.63	.29	100 ft.	1,000 ft.	7744-4507
1 1/2	38.1	2.00	50.8	75	.52		_	_	_	.74	.34	100 ft.	1,000 ft.	7744-4508
2	50.8	2.50	63.5	75	.52	_	_	_	_	.95	.43	100 ft.	1,000 ft.	7744-4509

^{*}Working Pressure and Suction at +72°F (+22°C).

RECOMMENDED FOR: Transferring compressed liquid and air in food and beverage applications. Approved for use in USDA meat and poultry plants. Non-toxic, FDA formula approved for food processing. Also suitable for potable water transfer.

TEMPERATURE: -10°F to +130°F (-23°C to +55°C) continuous service.

Type G (PVC). Non-toxic. Clear. CONSTRUCTION: **Tube:**

Reinforcement:

Synthetic reinforcement. Type G (PVC). Non-toxic. Clear. Smooth. Cover:

COUPLINGS: Stainless Steel Food Grade.

PACKAGING: All lengths coiled and wrapped in polyethylene.

BRANDING: "Made In Japan"

SPECIAL ORDER Special production runs require minimum order quantities of 1,000 feet per size. No deviations allowed to above

REQUIREMENTS: REMNANT LENGTHS:

STANDARDS: Meets FDA requirements and USDA.



Marine Hose

75W (Standard Wall Coolant)

(Specification 4175EC)

Nom. I.D.	Θ	Nom. O.D.	Ō	Max. W.P.	(Suction	0	Min. Bend Radius	P	Wt. Per Ft.	Å	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(ln.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(ln.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
3/4 7/8	19.1 22.2	1.17 1.25	29.7 31.8	80 75	.55 .52	5.0 7.0	127 178	6.0 7.0	152 178	.37 .39	.17 .18	50 ft. 50 ft.	X	4175-0855 4175-0856
1	25.4	1.38	35.1	140	.97	7.0	178	8.0	203	.42	.19	50 ft.	X	4175-0857
1 1/8	28.6	1.50	38.1	125	.86	6.0	152	8.0	203	.47	.21	50 ft.	X	4175-0859
1 1/4 1 3/8	31.8 34.9	1.63 1.75	41.4 44.5	100 100	.69 .69	5.0 4.0	127 102	12.0 12.0	305 305	.51 .55	.23 .25	50 ft. 50 ft.	X 400 ft.	4175-0861 4175-0863
1 1/2 1 5/8	38.1 41.3	1.88 2.00	47.8 50.8	100 90	.69 .62	3.0 2.0	76 51	12.0 15.0	305 381	.51 .63	.23 .29	50 ft. 50 ft.	X X	4175-0865 4175-0867
1 3/4	44.5	2.13	54.1	75	.52	1.0	25	15.0	381	.67	.30	50 ft.	X	4175-0869
1 7/8	47.6 50.8	2.25 2.39	57.2 60.7	75 60	.52 .41	_	_	_	_	.72 .76	.33 .35	50 ft. 50 ft.	X X	4175-0871 4175-0872
2 1/8	54.0	2.51	63.8	60	.41	_	_	_	_	.79	.36	50 ft.	400 ft.	4175-0873
2 1/4 2 3/8	57.2 60.3	2.64 2.76	67.1 70.1	60 60	.41 .41					.84 .88	.38	50 ft. 50 ft.	X X	4175-0874 4175-0875
2 1/2	63.5	2.89	73.4	60	.41	_	_	_	_	.92	.42	50 ft.	x	4175-0876
2 5/8	66.7	3.02	76.7	60	.41	_	_	_	_	.96	.44	50 ft.	400 ft.	4175-0877
2 3/4 2 7/8	69.9 73.0	3.14 3.26	79.8 82.8	60 60	.41 .41	_	_			1.00 1.04	.45 .47	50 ft. 50 ft.	X 400 ft.	4175-0878 4175-0879
3	76.2	3.39	86.1	50	.34	_	_	_	_	1.10	.50	50 ft.	Х	4175-0880
3 1/2	88.9 101.6	3.89 4.39	98.8 111.5	20 12	.14 .08	_	_	_	_	1.26 1.43	.57 .65	50 ft. 50 ft.	X X	4175-0883 4175-0886
4 1/2	114.3	4.89	124.2	12	.08	_	_	_	_	1.60	.73	50 ft.	X	4175-0889

RECOMMENDED FOR: Open end water discharge applications and coolant connections on marine and stationary engines.

TEMPERATURE: -40°F to +257°F (-40°C to +125°C) continuous service.

CONSTRUCTION: Type P (EPDM). Black.

Reinforcement:

Multiple plies of synthetic fabric.

Type P (EPDM). Black with white spiral stripe. Heat and ozone resistant.

COUPLINGS: 5, 6 or 7. Reference the Hose Coupling Section. PACKAGING: 50' length coiled and wrapped in polyethylene.

50' carton: 7/8" through 1" sizes only.

Continuous transfer label. Example: "GATES® 75W 2 1/2 60 PSI WP Made In U.S.A." **BRANDING:**

Special production runs require minimum order quantities of 400 feet for sizes through 4" and 200 feet for sizes above 4". If a special transfer label is required, contact Gates Corporation for minimum quantity. SPECIAL ORDER **REQUIREMENTS:**

REMNANT LENGTHS: Remnant lengths are sometimes available in popular sizes at a discount. Contact Gates Corporation for pricing,

order requirements and availability.

STANDARDS: Meets SAE 20R1, Class D-2, tube and cover, standard wall.

RMA (Class C) Limited oil resistance.



Marine Hose

76W (Heavy Wall Coolant)

(Specification 4176HD)

Nom. I.D.	Θ	Nom. O.D.	O	Max. W.P.	(Suction	0	Min. Bend Radius	P	Wt. Per Ft.	Å	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
7/8 1 1 1/8	22.2 25.4 28.6	1.38 1.50 1.63	35.1 38.1 41.4	175 175 175	1.21 1.21 1.21	15.0 10.0 10.0	381 254 254	7.0 8.0 8.0	178 203 203	.58 .59 .64	.26 .27 .29	50 ft. 50 ft. 50 ft.	X X X	4176-0856 4176-0857 4176-0859
1 1/4 1 3/8 1 1/2	31.8 34.9 38.1	1.74 1.88 2.00	44.5 47.8 50.8	125 110 112	.86 .76 .77	10.0 10.0 10.0	254 254 254	12.0 12.0 12.0	305 305 305	.70 .76 .81	.32 .35 .37	50 ft. 50 ft. 50 ft.	X X X	4176-0861 4176-0863 4176-0865
1 5/8 1 3/4 1 7/8	41.3 44.5 47.6	2.13 2.25 2.38	54.1 57.2 60.5	106 100 94	.73 .69 .65	7.0 5.0 4.0	178 127 102	14.0 15.0 —	356 381 —	.87 .93 .98	.40 .42 .45	50 ft. 50 ft. 50 ft.	X X 400 ft.	4176-0867 4176-0869 4176-0871
2 2 1/4 2 3/8	50.8 57.2 60.3	2.50 2.74 2.88	63.5 69.9 73.2	88 88 81	.61 .61 .56	3.0 1.0 —	76 25 —	_ 		1.04 1.15 1.21	.47 .52 .55	50 ft. 50 ft. 50 ft.	X X 400 ft.	4176-0872 4176-0874 4176-0875
2 1/2 2 5/8 2 3/4	63.5 66.7 69.9	3.00 3.13 3.25	76.2 79.5 82.6	75 69 63	.52 .48 .43	_				1.27 1.32 1.37	.58 .60 .62	50 ft. 50 ft. 50 ft.	X 400 ft. X	4176-0876 4176-0877 4176-0878
2 7/8 3 3 1/2	73.0 76.2 88.9	3.38 3.50 4.00	85.9 88.9 101.6	63 63 50	.43 .43 .34	_ _ _	_ _ _	_ _ _		1.43 1.49 1.71	.65 .68 .78	50 ft. 50 ft. 50 ft.	400 ft. X X	4176-0879 4176-0880 4176-0883
4	101.6	4.50	114.3	38	.26	_	_	_	_	1.95	.89	50 ft.	Х	4176-0886

RECOMMENDED FOR: Water discharge at higher pressures than are possible with 75W and for heavy duty use on coolant connections on

marine and stationary engines.

TEMPERATURE: -40°F to +257°F (-40°C to +125°C) continuous service.

CONSTRUCTION: Tube: Type P (EPDM). Black.

Reinforcement:

Multiple plies of synthetic fabric.

Type P (EPDM). Black. Heat and ozone resistant. Cover:

COUPLINGS: 1, 5, 6 or 7. Reference the Hose Coupling Section.

PACKAGING: 50' length coiled and wrapped in polyethylene.

50' carton: 7/8" size only.

Continuous transfer label. Example: "GATES® 76W 2 1/2 75 PSI WP Made In U.S.A." **BRANDING:**

SPECIAL ORDER Special production runs require minimum order quantities of 400 feet per size. If a special transfer label is

REQUIREMENTS: required, contact Gates Corporation for minimum quantity.

REMNANT LENGTHS: Remnant lengths are sometimes available in popular sizes at a discount. Contact Gates Corporation for pricing,

order requirements and availability.

STANDARDS: Meets SAE 20R1, Class D-2, tube and cover, heavy wall.

RMA (Class C) Limited oil resistance.



Marine Hose

Engine Coolant (Oil Resistant - Softwall)

(Specification 4169A)

Nom. I.D.	Θ	Nom. O.D.	Ō	Max. W.P.	(Suction	0	Min. Bend Radius	P	Wt. Per Ft.	Å	Standard	Stock (X) or Minimum	Gates
(ln.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
3/4	19.1	1.17	29.7	150	1.03	_	_	6.0	152	.34	.15	3 ft.	Χ	4169-0210
7/8	22.2	1.30	33.0	150	1.03	_	_	7.0	178	.38	.17	3 ft.	X	4169-0220
	25.4	1.42	36.1	135	.93	_		8.0	203	.43	.20	3 ft.	X	4169-0224
1 1/8	28.6	1.55	39.4	135	.93	_	_	8.0	203	.48	.22	3 ft.	X	4169-0240
1 1/4	31.8	1.67	42.4	135	.93	_	_	10.0	254	.51	.23	3 ft.	X	4169-0246
1 3/8	34.9	1.80	45.7	100	.69	_		12.0	305	.56	.25	3 ft.	X	4169-0260
1 1/2	38.1	1.92	48.8	100	.69	_	_	12.0	305	.60	.27	3 ft.	Χ	4169-0270
1 5/8	41.3	2.05	52.1	85	.59	_	_	15.0	381	.63	.29	3 ft.	X	4169-0280
1 3/4	44.5	2.17	55.1	75	.52	_		15.0	381	.68	.31	3 ft.	X	4169-0288
1 7/8	47.6	2.30	58.4	75	.52	_	_	_	_	.73	.33	3 ft.	X	4169-0300
2	50.8	2.42	61.5	60	.41	_	_	_	_	.77	.35	3 ft.	X	4169-0484
2 1/8	54.0	2.55	64.8	60	.41	_	_	_	_	.82	.37	3 ft.	X	4169-0320
2 1/4	57.2	2.67	67.8	60	.41	_	_	_	_	.85	.39	3 ft.	Χ	4169-0491
2 3/8	60.3	2.80	71.1	60	.41	_	_	_	_	.89	.40	3 ft.	Χ	4169-0340
2 1/2	63.5	2.92	74.2	60	.41	_	_	_	_	.94	.43	3 ft.	Χ	4169-0345
2 5/8	66.7	3.05	77.5	60	.41	_	_	_	_	.98	.45	3 ft.	200 ft.	4169-0360
2 3/4	69.9	3.17	80.5	60	.41	_	_	_	_	1.03	.47	3 ft.	Χ	4169-0362
2 7/8	73.0	3.30	83.8	55	.38	_	_	_	_	1.07	.49	3 ft.	200 ft.	4169-0376
3	76.2	3.42	86.9	50	.34	_	_	_	_	1.10	.50	3 ft.	Χ	4169-0383
3 1/4	82.6	3.67	93.2	35	.24	_	_	_	_	1.19	.54	3 ft.	200 ft.	4169-0402
3 1/2	88.9	3.92	99.6	10	.07	_	_	_	_	1.28	.58	3 ft.	Χ	4169-0420
4	101.6	4.42	112.3	10	.07	_		_	_	1.46	.66	3 ft.	X	4169-0425
4 1/2	114.3	4.92	125.0	10	.07	_	_	_	_	1.62	.73	3 ft.	200 ft.	4169-0433

RECOMMENDED FOR: Open end water discharge applications and coolant connections on marine and stationary engines where oil

resistance is required.

TEMPERATURE: -40°F to $+212^{\circ}\text{F}$ (-40°C to $+100^{\circ}\text{C}$) continuous service.

CONSTRUCTION: Tube: Type C (Nitrile). Black. Oil and heat resistant.

Reinforcement: Two plies of synthetic fabric. **Cover:** Type A (Neoprene). Black.

COUPLINGS: 1, 5, 6 or 7. Reference the Hose Coupling Section.

PACKAGING: 3' per carton.

BRANDING: Continuous transfer label. Example: "GATES® 4169A 3/4 150 PSI WP MADE IN USA"

SPECIAL ORDER Special production runs require minimum order quantities of 200 feet.

REQUIREMENTS:

REMNANT LENGTHS: None.

STANDARDS: Meets requirements of SAE 20R1, Class B Tube, Class C Cover.

Tube: RMA (Class B) Medium oil resistance.
Cover: RMA (Class C) Limited oil resistance.



Marine Hose

Engine Coolant (Wire Inserted - Hardwall)

(Specification 4685WG)

Nom. I.D.	Θ	Nom. O.D.	O	Max. W.P.	(Suction	0	Min. Bend Radius	P	Wt. Per Ea.	Å	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
1	25.4	1.46	37.1	100	.69	25.0	635	2.0	51	2.50	1.13	5 ft.	X	4685-2016
1 1/8	28.6	1.58	40.1	100	.69	25.0	635	2.5	64	2.75	1.25	5 ft.	X	4685-2018
1 1/4	31.8	1.71	43.4	100	.69	25.0	635	2.5	64	3.00	1.36	5 ft.	X	4685-2020
1 3/8	34.9	1.83	46.5	85	.59	25.0	635	3.0	76	3.25	1.47	5 ft.	X	4685-2022
1 1/2	38.1	1.96	49.8	85	.59	20.0	508	3.5	89	3.50	1.59	5 ft.	X	4685-2024
1 5/8	41.3	2.08	52.8	75	.52	20.0	508	3.5	89	3.75	1.70	5 ft.	X	4685-2026
1 3/4	44.5	2.21	56.1	75	.52	20.0	508	4.0	102	4.00	1.81	5 ft.	X	4685-2028
1 7/8	47.6	2.33	59.2	60	.41	20.0	508	4.5	114	4.25	1.93	5 ft.	X	4685-2030
2	50.8	2.46	62.5	60	.41	20.0	508	5.0	127	4.75	2.16	5 ft.	X	4685-2032
2 1/8	54.0	2.58	65.5	55	.38	20.0	508	5.5	140	5.05	2.29	5 ft.	X	4685-2034
2 1/4	57.2	2.71	68.8	55	.38	20.0	508	6.0	152	5.30	2.40	5 ft.	X	4685-2036
2 3/8	60.3	2.83	71.9	50	.34	20.0	508	6.5	165	5.55	2.52	5 ft.	X	4685-2038
2 1/2	63.5	2.96	75.2	50	.34	20.0	508	6.5	165	5.80	2.63	5 ft.	X	4685-2040
2 5/8	66.7	3.08	78.2	40	.28	15.0	381	7.0	178	6.05	2.74	5 ft.	X	4685-2042
2 3/4	69.9	3.21	81.5	40	.28	15.0	381	7.5	191	6.30	2.86	5 ft.	X	4685-2044
2 7/8	73.0	3.33	84.6	40	.28	15.0	381	9.0	229	6.60	2.99	5 ft.	X	4685-2046
3	76.2	3.43	87.1	40	.28	15.0	381	9.0	229	6.85	3.11	5 ft.	X	4685-2048
3 1/2	88.9	3.93	99.8	35	.24	15.0	381	12.0	305	7.90	3.58	5 ft.	X	4685-2056
4	101.6	4.43	112.5	30	.21	10.0	254	20.0	508	8.95	4.06	5 ft.	X	4685-2064
5	127.0	5.43	137.9	15	.10	5.0	127	24.0	610	13.45	6.10	5 ft.	X	4685-2080
6	152.4	6.43	163.3	15	.10	5.0	127	—	—	16.00	7.26	5 ft.	X	4685-2096

RECOMMENDED FOR: Open end water discharge applications and coolant on marine and stationary engines where tight bends or suction

capability are required.

TEMPERATURE: -40°F to +257°F (-40°C to +125°C) continuous service.

CONSTRUCTION: Type P (EPDM). Black.

Multiple plies of synthetic fabric and two built-in helical steel wires. Type P (EPDM). Black with green spiral stripe. Reinforcement:

COUPLINGS: 1, 5, 6 or 7. Reference the Hose Coupling Section.

PACKAGING: 5' per carton.

Continuous transfer label. Example: "GATES® 24916 GREEN STRIPE® WIGS COOLANT & AIR 1" I.D. **BRANDING:**

(25.4mm) MADE IN USA'

SPECIAL ORDER Special production runs require minimum order quantities of 200 feet. REQUIREMENTS:

REMNANT LENGTHS:

STANDARDS: Meets requirements of SAE 20R2 (20R5 Burst).

Meets D-1, D-2 and D-3 (except D-2 oil swell). Meets D-1, D-2 and D-3. Tube:

Cover:



Marine Hose

Engine Coolant (Silicone)

(Specification 4171)

Nom. I.D.	Θ	Nom. O.D.	Ō	Max. W.P.	(Suction	0	Min. Bend Radius	P	Wt. Per Ft.	Å	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(ln.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
3/8	9.5	.74	18.8	110	.76	_	_	_	_	.19	.09	10 ft.	X	4171-0195
1/2	12.7	.87	22.1	110	.76	_	_	_	_	.23	.10	10 ft.	X	4171-0197
5/8	15.9	.99	25.2	110	.76	_	_	_	_	.27	.12	10 ft.	X	4171-0204
3/4	19.1	1.12	28.5	110	.76	_	_	_	_	.31	.14	10 ft.	X	4171-0206
7/8	22.2	1.24	31.5	110	.76	_	_	_	_	.35	.16	10 ft.	X	4171-0210
1	25.4	1.37	34.8	90	.62	_	_	_	_	.40	.18	10 ft.	X	4171-0213
1 1/8	28.6	1.50	38.1	90	.62	_	_	_	_	.44	.20	10 ft.	X	4171-0217
1 1/4	31.8	1.63	41.4	85	.59	_	_	_	_	.48	.22	10 ft.	X	4171-0265
1 3/8	34.9	1.75	44.5	85	.59	_	_	_	_	.52	.24	10 ft.	X	4171-0260
1 1/2	38.1	1.88	47.8	85	.59	_	_	_	_	.57	.26	10 ft.	X	4171-0270
1 5/8	41.3	2.00	50.8	80	.55	_	_	_	_	.61	.28	10 ft.	X	4171-0275
1 3/4	44.5	2.13	54.1	80	.55	_		_	_	.65	.29	10 ft.	X	4171-0280
2	50.8	2.38	60.5	75	.52	_	_	_	_	.73	.33	10 ft.	X	4171-0285
2 1/8	54.0	2.51	63.8	75	.52	_	_	_	_	.77	.35	10 ft.	X	4171-0224
2 1/4	57.2	2.63	66.8	75	.52	_	_		_	.81	.37	10 ft.	X	4171-0223
2 3/8	60.3	2.75	69.9	65	.45	_	_	_	_	.85	.39	10 ft.	X	4171-0229
2 1/2	63.5	2.88	73.2	65	.45	_	_	_	_	.89	.40	10 ft.	X	4171-0234
2 3/4	69.9	3.13	79.5	50	.34	_			_	.97	.44	10 ft.	X	4171-0238
3	76.2	3.38	85.9	50	.34	-	_	_	_	1.05	.48	10 ft.	X	4171-0246
3 1/4	82.6	3.63	92.2	40	.28	_	_	_	_	1.14	.52	10 ft.	X	4171-0249
3 1/2	88.9	3.88	98.6	35	.24	_			_	1.23	.56	10 ft.	X	4171-0241
3 3/4	95.3	4.13	104.9	35	.24	-	_	_	_	1.32	.60	10 ft.	200 ft.	4171-0835
4	101.6	4.38	111.3	35	.24	-	_	_	_	1.40	.64	10 ft.	X	4171-0290
4 1/2	114.3	4.88	124.0	25	.17	_	_	_	_	1.56	.71	10 ft.	X	4171-0295

RECOMMENDED FOR: Open end water discharge and coolant connections on marine and stationary engines where extremely high and

low temperature resistance is required.

TEMPERATURE: -65°F to +347°F (-54°C to +175°C) continuous service.

CONSTRUCTION:

Type MQ (Silicone). Orange. Multiple plies of synthetic fabric. Type MQ (Silicone). Green. **Reinforcement:**

COUPLINGS: 1, 5, 6 or 7. Reference the Hose Coupling Section.

10' per carton. PACKAGING: **BRANDING:** Unlabeled.

SPECIAL ORDER Special production runs require minimum order quantities of 200 feet.

REQUIREMENTS:

REMNANT LENGTHS: None.

> STANDARDS: Meets requirements of SAE 20R1, Class A standard wall.



Marine Hose

Heater Hose

(Specification 4230T)

Nom. I.D.	Θ	Nom. O.D.	O	Max. W.P.	(Suction	0	Min. Bend Radius	P	Wt. Per Ft.	Å	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
5/16	7.9	.62	15.8	75	.52	25.0	635	2.0	51	.14	.06	Reel	X	4230-0193
3/8	9.5	.69	17.5	75	.52	25.0	635	2.5	64	.16	.07	Carton	X	4230-0129
1/2	12.7	.81	20.6	75	.52	25.0	635	3.0	76	.19	.09	Reel	X	4230-0060
5/8	15.9	.94	23.9	75	.52	25.0	635	4.0	102	.23	.10	Reel	X	4230-0135
3/4	19.1	1.06	26.9	75	.52	25.0	635	5.0	127	.26	.12	Carton	X	4230-0134
1	25.4	1.34	34.0	75	.52	25.0	635	7.0	178	.37	.17	Carton	X	4230-0150

RECOMMENDED FOR: Standard heater lines and small diameter coolant connections.

-40°F to +257°F (-40°C to +125°C) continuous service. **TEMPERATURE:**

CONSTRUCTION: Type P (EPDM). Black. Tube:

Synthetic, high tensile textile cord. Type P (EPDM). Black. Reinforcement:

Cover:

COUPLINGS: 1, 5, 6 or 7. Reference the Hose Coupling Section.

5/16": Packaged in 600' to 800' reels. Maximum 4 pieces. Minimum length 25'. PACKAGING:

3/8": Packaged 500' per carton. Maximum 2 pieces. Minimum length 25' 1/2": Packaged in 600' to 800' reels. Maximum 4 pieces. Minimum length 25'. 5/8": Packaged 300' per reel. Maximum 2 pieces. Minimum length 25'. 3/4": Packaged 200' per carton. Maximum 2 pieces. Minimum length 25'. 1": Packaged 600' per carton. Maximum 2 pieces. Minimum length 25'.

BRANDING: Continuous ink brand. Example: "GATES® EB 4230T 1 INCH (25.4mm) MADE IN U.S.A."

SPECIAL ORDER Special production runs require minimum order quantities of 25,000 feet.

REQUIREMENTS:

REMNANT LENGTHS:

STANDARDS: Meets requirements of SAE 20R3 Class D-2 (except durometer and compression set).



Marine Hose

Wet Exhaust (Softwall)

(Specification 3137ME)

Nom. I.D.	Θ	Nom. O.D.	O	Max. W.P.	(Suction	\circ	Min. Bend Radius	P	Wt. Per Ea.	Å	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(ln.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
1 1/8	28.6	1.40	35.6	100	.69	_	_	_	_	5.59	2.54	12 1/2 ft.	X	3137-1207
1 1/4 1 3/8	31.8 34.9	1.53 1.69	38.9 42.9	100 100	.69 .69		_	_		6.07 6.58	2.75 2.98	12 1/2 ft. 12 1/2 ft.	X	3137-1209 3137-1213
		1.78		100	.69							12 1/2 It. 12 1/2 ft.	X	
1 1/2 1 5/8	38.1 41.3	1.76	45.2 48.5	100	.69					7.12 7.63	3.23 3.46	12 1/2 II. 12 1/2 ft.	l	3137-1215 3137-1217
1 3/4	44.5	2.03	51.6	100	.69		_	_		8.15	3.70	12 1/2 ft.	χ	3137-1217
1 7/8	47.6	2.19	55.6	100	.69	_		_	_	8.63	3.91	12 1/2 ft.	Х	3137-1221
2	50.8	2.32	58.9	100	.69	_	_	_	_	9.18	4.16	12 1/2 ft.	X	3137-1223
2 1/8	54.0	2.45	62.2	100	.69	_	_		_	9.69	4.40	12 1/2 ft.	X	3137-1225
2 1/4	57.2	2.57	65.3	100	.69	_	_	_	_	10.19	4.58	12 1/2 ft.	X	3137-1227
2 3/8	60.3 63.5	2.69 2.82	68.3 71.6	100 100	.69 .69	_	_	_	_	10.70	4.85 5.10	12 1/2 ft. 12 1/2 ft.	X	3137-1229
2 1/2						_				11.24				3137-1231
2 5/8 2 3/4	66.7 69.9	2.95 3.09	74.9 78.5	100 100	.69 .69	_	_	_	_	11.79 12.29	5.35 5.58	12 1/2 ft. 12 1/2 ft.	X	3137-1233 3137-1235
2 7/8	73.0	3.09	82.0	100	.69		_			12.29	5.81	12 1/2 II. 12 1/2 ft.	l â	3137-1235
3	76.2	3.36	85.3	100	.69	_		_	_	14.45	6.55	12 1/2 ft.	X	3137-1239
3 1/2	88.9	3.86	98.0	100	.69	_	_	_	_	16.63	7.54	12 1/2 ft.	l χ	3137-1245
4	101.6	4.36	110.7	100	.69	_	_	_	_	18.57	8.42	12 1/2 ft.	X	3137-1249
4 1/2	114.3	4.86	123.4	100	.69	_	_	_	_	21.14	9.59	12 1/2 ft.	X	3137-1252
5	127.0	5.37	136.4	100	.69	_	_	_	_	23.35	10.59	12 1/2 ft.	X	3137-1253
6	152.4	6.38	162.1	100	.69	_	_	_	_	27.14	12.58	12 1/2 ft.	X	3137-1254

RECOMMENDED FOR: Heavy-duty fabric reinforced. Designed for use where wire support is not required. Meets marine water and wet

exhaust hose requirements. May be used for engine water circulation, discharge lines, heat exchangers and straight

wet exhaust connections. For water applications hose is rate at 100 PSI.

TEMPERATURE: -40°F to +257°F (-40°C to +125°C) continuous service.

CONSTRUCTION: Tube: Type P (EPDM). Black.

Reinforcement: Two plies of synthetic fabric.

Cover: Type P (EPDM). Black with blue spiral stripe.

PACKAGING: All lengths packaged in poly wrap.

BRANDING: Continuous transfer label. Example: "GATES" MARINE WET EXHAUST SOFTWALL 100 PSI WP MADE IN

U.S.A."

SPECIAL ORDER Special production runs require minimum order quantities of 200 feet.

REQUIREMENTS: REMNANT LENGTHS: No

STANDARDS: Meets requirements of SAE J2006 R1.



Marine Hose

Wet Exhaust (Hardwall)

(Specification 4686ME)

Nom. I.D.	Θ	Nom. O.D.	Ō	Max. W.P.	(Suction	0	Min. Bend Radius	P	Wt. Per Ea.	Å	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
1 1/8	28.6	1.50	38.1	100	.69	25.0	635	2.5	64	7.40	3.36	12 1/2 ft.	X	4686-0602
1 1/4 1 3/8	31.8 34.9	1.63 1.75	41.4 44.5	100 100	.69 .69	25.0 25.0	635 635	2.5 3.0	64 76	8.03 8.66	3.64 3.93	12 1/2 ft. 12 1/2 ft.	X	4686-0604 4686-0606
		_												
1 1/2 1 5/8	38.1 41.3	1.88 2.00	47.8 50.8	100 100	.69 .69	20.0 20.0	508 508	3.5 3.5	89 89	9.31 9.81	4.22 4.45	12 1/2 ft. 12 1/2 ft.	X	4686-0608 4686-0610
1 3/4	44.5	2.00	53.9	100	.69	20.0	508	4.0	102	10.57	4.43	12 1/2 II. 12 1/2 ft.	Ŷ	4686-0612
1 7/8	47.6	2.24	56.9	100	.69	20.0	508	4.5	114	11.23	5.09	12 1/2 ft.	Х	4686-0614
2	50.8	2.36	59.9	100	.69	20.0	508	5.0	127	11.90	5.40	12 1/2 ft.	X	4686-0616
2 1/8	54.0	2.49	63.3	100	.69	20.0	508	5.5	140	12.56	5.70	12 1/2 ft.	X	4686-0618
2 1/4	57.2	2.63	66.8	100	.69	20.0	508	6.0	152	13.20	5.99	12 1/2 ft.	X	4686-0620
2 3/8	60.3	2.75	69.9	100	.69	20.0	508	6.5	165	14.62	6.63	12 1/2 ft.	Ι Λ	4686-0622
2 1/2	63.5	2.90	73.7	100	.69	20.0	508	6.5	165	15.33	6.95	12 1/2 ft.	X	4686-0624
2 5/8	66.7	3.02	76.7	100	.69	15.0	381	7.0	178	16.00	7.26	12 1/2 ft.	X	4686-0626
2 3/4 2 7/8	69.9 73.0	3.22 3.42	81.8 86.9	100 100	.69 .69	15.0 15.0	381 381	7.5 8.0	191 203	16.69 17.35	7.57 7.87	12 1/2 ft. 12 1/2 ft.	X	4686-0628 4686-0630
3	76.2	3.54	89.9	100	.69	15.0	381	9.0	229		8.80	12 1/2 ft.	X	
3 1/2	88.9	4.04	102.6	100	.69	15.0	381	12.0	305	19.41 22.31	10.12	12 1/2 II. 12 1/2 ft.	Ŷ	4686-0632 4686-0638
4	101.6	4.54	115.3	100	.69	10.0	254	20.0	508	27.60	12.52	12 1/2 ft.	Ι χ̂	4686-0640
4 1/2	114.3	5.04	128.0	100	.69	10.0	254	22.0	559	30.89	14.01	12 1/2 ft.	X	4686-0642
5	127.0	5.54	140.7	100	.69	5.0	127	24.0	610	34.04	15.44	12 1/2 ft.	X	4686-0643
5 1/2	139.7	6.04	153.4	100	.69	5.0	127	_	_	39.29	17.82	12 1/2 ft.	Χ	4686-0645
6	152.4	6.68	169.7	100	.69	5.0	127	_		40.37	18.31	12 1/2 ft.	Х	4686-0646

RECOMMENDED FOR: Heavy-duty fabric-reinforced hose with a helical steel wire reinforcement to meet marine water and wet exhaust

hose requirements. May be used for engine water circulation, discharge lines, heat exchangers and wet exhaust

connections. For water applications hose is rate at 100 PSI. -40°F to +257°F (-40°C to +125°C) continuous service.

CONSTRUCTION:

Type P (EPDM). Black. Two plys of synthetic fabric and two built-in helical steel wires. Type P (EPDM). Black with blue spiral stripe. Reinforcement:

PACKAGING: All lengths packaged in poly wrap.

BRANDING: Continuous transfer label. Example: "GATES" MARINE WET EXHAUST HARDWALL 100 PSI WP SAE

J2006R2 MADE IN U.S.A."

SPECIAL ORDER Special production runs require minimum order quantities of 200 feet. **REQUIREMENTS:**

REMNANT LENGTHS:

TEMPERATURE:

STANDARDS: Meets requirements of SAE J2006 R2.



Marine Hose

4684CF (Wet Exhaust -**Corrugated**)

(Specification 4684CF)

Nom. I.D.	Θ	Nom. O.D.	Ō	Max. W.P.	(Suction	0	Min. Bend Radius	R ₂	Wt. Per Ft.	Å	Standard	Stock (X) or Minimum	Gates
(ln.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
1	25.4	1.44	36.6	100	.69	25.0	635	3.0	76	.51	.23	10 ft.	X	4684-1540
1 1/8	28.6	1.56	39.6	100	.69	25.0	635	4.0	102	.56	.25	10 ft.	X	4684-1545
1 1/4	31.8	1.69	42.9	100	.69	25.0	635	4.0	102	.61	.28	10 ft.	X	4684-1551
1 3/8	34.9	1.81	46.0	85	.59	25.0	635	4.0	102	.66	.30	10 ft.	X	4684-1556
1 1/2	38.1	1.94	49.3	85	.59	25.0	635	4.0	102	.70	.32	10 ft.	X	4684-1561
1 5/8	41.3	2.06	52.3	75	.52	20.0	508	5.0	127	.75	.34	10 ft.	X	4684-1601
1 3/4	44.5	2.19	55.6	75	.52	20.0	508	5.0	127	.80	.36	10 ft.	X	4684-1611
1 7/8	47.6	2.31	58.7	60	.41	20.0	508	5.0	127	.83	.38	10 ft.	X	4684-1651
2	50.8	2.44	62.0	60	.41	20.0	508	5.0	127	.88	.40	10 ft.	X	4684-1660
2 1/8	54.0	2.56	65.0	55	.38	20.0	508	6.0	152	.93	.42	10 ft.	X	4684-1670
2 1/4	57.2	2.69	68.3	55	.38	20.0	508	6.0	152	.98	.45	10 ft.	X	4684-1680
2 3/8	60.3	2.81	71.4	50	.34	20.0	508	7.0	178	1.03	.47	10 ft.	X	4684-1690
2 1/2	63.5	2.94	74.7	50	.34	20.0	508	7.0	178	1.08	.49	10 ft.	X	4684-1700
2 5/8	66.7	3.06	77.7	40	.28	15.0	381	9.0	229	1.12	.51	10 ft.	X	4684-1711
2 3/4	69.9	3.19	81.0	40	.28	15.0	381	10.0	254	1.17	.53	10 ft.	X	4684-1720
2 7/8	73.0	3.31	84.1	40	.28	15.0	381	11.0	279	1.21	.55	10 ft.	X	4684-1730
3	76.2	3.44	87.4	40	.28	15.0	381	12.0	305	1.26	.57	10 ft.	X	4684-1740
3 1/2	88.9	4.06	103.1	35	.24	15.0	381	17.0	432	1.45	.66	10 ft.	Λ	4684-1750
4	101.6	4.44	112.8	30	.21	10.0	254	24.0	610	1.64	.74	10 ft.	X	4684-1760
4 1/2	114.3	4.94	125.5	25	.17	5.0	127	27.0	914	1.84	.84	10 ft.	200 ft.	4684-1764
5	127.0	5.44	138.2	15	.10	5.0	127	30.0	1016	2.03	.92	10 ft.	200 ft.	4684-1766
6	152.4	6.46	164.1	15	.10	5.0	127	36.0	_	2.42	1.10	10 ft.	200 ft.	4684-1722

RECOMMENDED FOR: Marine wet exhaust and general purpose applications. Suitable for coolant lines where tight bends are required.

TEMPERATURE: -40°F to +212°F (-40°C to +100°C) continuous service.

CONSTRUCTION: Type C (Nitrile). Black. Oil and heat resistant.

Reinforcement:

Synthetic fabric with built-in wire.

Type A (Neoprene). Black with red spiral stripe. Oil and heat resistant. Cover:

1", 1 1/4", 1 3/8", 1 1/2", 1 5/8", 1 7/8": Packaged 5 each 10' coils in a carton. PACKAGING:

3 1/2" through 6": Packaged in straight lengths in woven fiber.

All other sizes: Packaged 10' per carton.

BRANDING: Continuous transfer label every 10 ft. Example: "GATES® 4684CF Engine Coolant-Marine Wet Exhaust 2 Inch

Made In U.S.A.'

SPECIAL ORDER For enlarged or straight ends, contact Gates Corporation for pricing.

REQUIREMENTS: Special production runs require minimum order quantities of 200 feet per size. Lengths can be as short as one

foot, but minimum billing is for ten feet.

REMNANT LENGTHS: None.

STANDARDS:

Meets requirements of SAE 20R2, SAE 20R5, SAE J2006. **Tube:** RMA (Class B) Medium oil resistance. **Cover:** RMA (Class C) Limited oil resistance.



Marine Hose

C5M Fuel Line

(Specification 3658F)

Nom. I.D.	Θ	Nom. O.D.	O	Max. W.P.	(Suction	0	Min. Bend Radius		Wt. Per Ft.	Å	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
1/4	6.4	.58	14.7	500	3.45	20.0	508	1.3	33	.22	.10	Reel	Х	3658-1965
5/16	7.9	.67	17.0	500	3.45	20.0	508	1.3	33	.26	.12	Reel	X	3658-1969
13/32	10.3	.77	19.6	500	3.45	20.0	508	1.8	46	.29	.13	Reel	X	3658-1973
1/2	12.7	.92	23.4	500	3.45	20.0	508	2.3	58	.40	.18	Reel	X	3658-1977
5/8	15.9	1.08	27.4	500	3.45	20.0	508	2.8	71	.51	.23	Reel	X	3658-1981
7/8	22.2	1.23	31.2	500	3.45	20.0	508	3.5	89	.51	.23	Reel	X	3658-1985

RECOMMENDED FOR: All commercial and recreational vessel fuel line applications. Suitable for marine diesel, gasoline, gasohol fuels

and hot oil applications

TEMPERATURE: -4°F to +212°F (-20°C to +100°C) continuous service.

CONSTRUCTION: Type C (Nitrile). Black. Oil and heat resistant.

Braided, high tensile steel wire. Type C2 (Modified Nitrile). Blue. Reinforcement: Cover:

72 Gates Power Crimp®. For Stainless Steel PC and Brass Reusable couplings reference Gates Hydraulic catalog **COUPLINGS:**

PACKAGING: 1/4" and 5/16": Packaged in 385' reels. Maximum 4 pieces. Minimum length 10'.

13/32": Packaged in 330' reels. Maximum 3 pieces. Minimum length 10'. 1/2": Packaged in 275' reels. Maximum 3 pieces. Minimum length 10'. 5/8": Packaged in 220' reels. Maximum 3 pieces. Minimum length 10'. 7/8": Packaged in 165' reels. Maximum 3 pieces. Minimum length 10'.

Continuous transfer label. Example: "GATES" 8 C5M SAEJ1527 USCG TYPE A1 ISO 7840-A1 HOSE 500 PSI (3.45MPa) FLAME RESISTANT USMSHA 2G-IC-11C/18" **BRANDING:**

SPECIAL ORDER Special production runs require minimum order quantities of 5,000 feet. **REQUIREMENTS:**

REMNANT LENGTHS:

STANDARDS: Hose is NMMA type accepted.

Meets requirements of SAE J1942 and SAE J1527, USCG Type A, Class 1, Style R3, SAE J30R2, MSHA and

ABS. Tube: RMA (Class A) High oil resistance. RMA (Class C) Limited oil resistance. Cover:



Marine Hose

Fuel Line (USCG Type A1)

(Specification 4219M)

25 Foot Lengths

Nom. I.D.	Θ	Nom. O.D.	Ō	Max. W.P.	(Suction	\bigcirc	Min. Bend Radius	(Ry	Wt. Per Ea.	\triangle	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
1/4	6.4	.64	16.3	40	.28	28.0	711	2.5	64	4.73	1.94	25 ft.	X	4219-4145
5/16	7.9	.70	17.8	40	.28	28.0	711	3.0	76	5.08	2.20	25 ft.	X	4219-4565
3/8	9.5	.//	19.6	40	.28	28.0	/11	3.0	/6	6.10	2.50	25 ft.	X	4219-4385
1/2	12.7	.89	22.6	40	.28	28.0	711	5.0	127	7.37	3.03	25 ft.	X	4219-4125
5/8	15.9	1.01	25.7	40	28	28.0	711	6.0	152	8 61	3 53	25 ft	X	4219-4585

50 Foot Lengths

Nom. I.D.	Θ	Nom. O.D.	Ō	Max. W.P.	(Suction	0	Min. Bend Radius	(P ₂)	Wt. Per Ea.	Å	Standard	Stock (X) or Minimum	Gates
(ln.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
1/4	6.4	.64	16.3	40	.28	28.0	711	2.5	64	8.56	3.88	50 ft.	Х	4219-4146
5/16	7.9	.70	17.8	40	.28	28.0	711	3.0	76	10.15	4.41	50 ft.	X	4219-4566
3/8	9.5	.77	19.6	40	.28	28.0	711	3.0	76	11.04	5.01	50 ft.	X	4219-4567
1/2	12.7	.89	22.6	40	.28	28.0	711	5.0	127	13.33	6.05	50 ft.	X	4219-4126
5/8	15.9	1.01	25.7	40	.28	28.0	711	6.0	152	15.57	7.06	50 ft.	l X	4219-4586

Reel Lengths

	Nom. I.D.	Θ	Nom. O.D.	Ō	Max. W.P.	(Suction	\bigcirc	Min. Bend Radius	P	Wt. Per Ea.	$ rac{\circ}{\Box}$	Standard	Stock (X) or Minimum	Gates
	(ln.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
Ī	1/4	6.4	.64	16.3	40	.28	28.0	711	2.5	64	45.36	19.41	250 ft.	Х	4219-4140
	5/16	7.9	.70	17.8	40	.28	28.0	711	3.0	76	53.57	22.04	250 ft.	X	4219-4560
	3/8	9.5	.77	19.6	40	.28	28.0	711	3.0	76	60.99	25.03	250 ft.	Χ	4219-4380
	1/2	12.7	.89	22.6	40	.28	28.0	711	5.0	127	66.65	30.23	250 ft.	Χ	4219-4120
	5/8	15.9	1.01	25.7	40	.28	28.0	711	6.0	152	86.10	35.30	250 ft.	Χ	4219-4580

RECOMMENDED FOR: Flexible connections between rigid fuel distribution lines and engine. Excellent for vent lines and emission control

systems. Suitable for marine diesel and gasohol blends of ethanol, methanol and ethers up to 10%.

TEMPERATURE: -40°F to +212°F (-40°C to +100°C) continuous service.

CONSTRUCTION: Tube: Type C (Nitrile). Black. Oil and heat resistant.

Reinforcement: Braided, high tensile synthetic cord.

Cover: Type A (Neoprene). Black.

PACKAGING: 1/4" through 5/8": Packaged 25' per carton.

1/4" through 5/8": Packaged 50' per carton.

1/4" through 5/8": Packaged in 250'. Maximum of 3 pieces. Minimum length 15'.

BRANDING: Continuous ink brand. Example: "GATES® 4219M FUEL LINE USCG TYPE A1 SAE J1527 NMMA TYPE

ACCEPTED MADE IN U.S.A."

SPECIAL ORDER REQUIREMENTS:

 $Special\ production\ runs\ require\ minimum\ order\ quantities\ of\ 5,000\ feet.\ Maximum\ length\ is\ 10\ feet.$

REMNANT LENGTHS: Non

STANDARDS: Hose is NMMA type accepted.

Meets requirements of SAE J1527, USCG Type A1, Class 1, Style R1.

Tube: RMA (Class A) High oil resistance.



Marine Hose

Fuel Line (USCG Type B)

(Specification 4219N)

50 Foot Lengths

Nom. I.D.	Θ	Nom. O.D.	O	Max. W.P.	(Suction	\bigcirc	Min. Bend Radius	(P)	Wt. Per Ea.	\triangle	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
1/4	6.4	.50	12.7	40	.28	28.0	711	2.5	64	4.48	2.03	50 ft.	25,000 ft.	4219-4046
5/16	7 9	58	147	40	28	28.0	711	3.0	76	5 59	2.54	50 ft	25 000 ft	4219-4066

250 Foot Reels

Nom. I.D.	Θ	Nom. O.D.	Ō	Max. W.P.	(Suction	\bigcirc	Min. Bend Radius	(P ₂)	Wt. Per Ea.	$\stackrel{\circ}{\Box}$	Standard	Stock (X) or Minimum	Gates
(ln.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
1/4 5/16	6.4 7.9	.50 .58	12.7 14.7	40 40	.28 .28	28.0 28.0	711 711	2.5 3.0	64 76	22.40 27.95	10.16 12.68	250 ft. 250 ft.	X	4219-4040 4219-4060

RECOMMENDED FOR: Flexible connections between rigid fuel distribution lines and engine where the hose is in an open environment on

pleasure craft. Excellent for vent lines. Suitable for marine diesel and gasohol blends of ethanol, methanol and

ethers up to 10%.

NOTE: Not recommended for concealed applications. Not approved for use on commercial or for-hire craft.

TEMPERATURE: -40°F to +250°F (-40°C to +121°C) continuous service.

CONSTRUCTION: **Tube:**

Type C (Nitrile). Black. Synthetic, high tensile textile cord. Reinforcement:

Type M (Hypalon). Black. Cover:

1/4" and 5/16": 50' per carton. **PACKAGING:**

1/4": Packaged in 250' reels. Maximum of 2 pieces. Minimum length 15'.

5/16": Packaged in 250' single piece reels.

Continuous ink brand. Example: "GATES" $4219N\ 1/2$ INCH MARINE FUEL LINE USCG TYPE B1 SAE J1527 NMMA TYPE ACCEPTED MADE IN U.S.A. **BRANDING:**

SPECIAL ORDER

REQUIREMENTS:

Special production runs require minimum order quantities of 25,000 feet.

REMNANT LENGTHS:

STANDARDS: Hose is NMMA type accepted.

Meets requirements of SAE J1527, USCG Type B, Class 1, Style R1.

RMA (Class A) High oil resistance.



Marine Hose

4219G (Fuel Line & Tank Vent)

(Specification 4219G)

Nom. I.D.	Θ	Nom. O.D.	O	Max. W.P.	(Suction	0	Min. Bend Radius	P	Wt. Per Ft.	Å	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
3/16	4.8	.41	10.4	50	.34	24.0	610	3.0	76	.07	.03	Reel	X	4219-0093
1/4	6.4	.50	12.7	50	.34	24.0	610	3.0	76	.09	.04	Reel	X	4219-0103
5/16	7.9	.56	14.2	50	.34	24.0	610	3.0	76	.10	.05	Reel	X	4219-0107
3/8	9.5	.62	15.8	50	.34	24.0	610	4.0	102	.12	.05	Reel	X	4219-0109
1/2	12.7	.78	19.8	35	.24	10.0	254	5.0	127	.16	.07	Reel	X	4219-0102
5/8	15.9	.94	23.9	35	.24	10.0	254	6.0	152	.23	.10	Reel	X	4219-0097

RECOMMENDED FOR: Fuel line applications to provide flexible connections between rigid fuel distribution lines and the engine. Also for

use in evaporative emission control systems and as a vent line. NOTE: Not recommended for fuel injection systems.

TEMPERATURE: -40°F to +257°F (-40°C to +125°C) continuous service.

CONSTRUCTION: Type C (Nitrile). Black. Oil, gasoline and gasohol resistant.

Reinforcement: Synthetic, high tensile textile. Type C2 (NBR/PVC). Black. Fuel, oil, ozone and high temperature resistant.

PACKAGING: 3/16" through 5/8": Packaged in 450' to 650' reels. Maximum 5 pieces. One piece 25' to 49'. All other pieces 49'

BRANDING: Continuous ink label. Example: "GATES® 4219G Fuel Line PCV/EEC 3/8 Inch (9.5mm) SAE 30R7 Made In

SPECIAL ORDER Special production runs require minimum order quantities of 25,000 feet.

REQUIREMENTS:

STANDARDS:

REMNANT LENGTHS: Exceeds requirements of SAE 30R6 & SAE 30R7.

Hose is NMMA type accepted. **Tube:** RMA (Class A) High oil resistance.



Fuel Fill (USCG Type A1 and

(Specification 4689M)

12 1/2 Foot Lengths

Marine Hose

Nom. I.D.	Θ	Nom. O.D.	<u>IO</u>	Max. W.P.	(Suction	\bigcirc	Min. Bend Radius	(P)	Wt. Per Ea.	\triangle	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
1 1/2 1 5/8 1 7/8	38.1 41.3 47.6	1.90 2.03 2.28	48.3 51.6 57.9	18 18 18	.12 .12 .12	20.0 20.0 20.0	508 508 508	7.0 8.0 9.0	178 203 229	9.44 10.06 11.34	4.28 4.56 5.14	12 1/2 ft. 12 1/2 ft. 12 1/2 ft.	200 ft. 200 ft. 200 ft.	4689-5000 4689-5001 4689-5002
2 3/8	50.8 60.3	2.40 2.78	61.0 70.6	18 18	.12	20.0 20.0	508 508	9.5 10.0	241 254	12.03 14.02	5.46 6.36	12 1/2 ft. 12 1/2 ft.	200 ft. 200 ft.	4689-5003 4689-5004

50 Foot Lengths

Nom. I.D.	Θ	Nom. O.D.	O	Max. W.P.	(Suction	\bigcirc	Min. Bend Radius	P	Wt. Per Ea.	$ rac{\circ}{}$	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
1	25.4	1.40	35.6	35	.24	20.0	508	4.0	102	27.01	12.25	50 ft.	Х	4689-5005
1 1/2	38.1	1.90	48.3	18	.12	20.0	508	7.0	178	37.74	17.12	50 ft.	X	4689-5012
1 5/8	41.3	2.03	51.6	18	.12	20.0	508	8.0	203	40.25	18.26	50 ft.	X	4689-5007
1 7/8	47.6	2.28	57.9	18	.12	20.0	508	9.0	229	45.37	20.58	50 ft.	X	4689-5008
2	50.8	2.40	61.0	18	.12	20.0	508	9.5	241	48.13	21.83	50 ft.	X	4689-5009
2 3/8	60.3	2.78	70.6	18	.12	20.0	508	10.0	254	56.08	25.44	50 ft.	X	4689-5010

Designed to transfer fuel from the filler neck to the fuel tank. This top-quality hose is flame and fire resistant and its low permeation rate exceeds USCG standards. Suitable for marine diesel fuel, gasoline and gasohol blends of ethanol, methanol and ethers up to 15%. RECOMMENDED FOR:

TEMPERATURE: -40°F to +212°F (-40°C to +100°C) continuous service.

CONSTRUCTION: Type C (Nitrile). Black.

Synthetic, high tensile textile cord with steel wire helix. Type A (Neoprene). Black with red spiral stripe. Reinforcement:

Cover:

PACKAGING: 12 1/2' and 50' lengths: Packaged one length per carton.

Continuous transfer label. Example: "GATES® MARINE FUEL FILL MEETS USCG & J1527 TYPE A1 MADE **BRANDING:**

IN U.S.A.

SPECIAL ORDER Special production runs require minimum order quantities of 200 feet.

REQUIREMENTS:

REMNANT LENGTHS:

STANDARDS: Hose is NMMA type accepted. Meets requirements of SAE J1527, USCG Type A1 and B1.

RMA (Class A) High oil resistance.



Marine Hose

4663K (Fuel Fill - Corrugated)

(Specification 4663K)

Nom. I.D.	Θ	Nom. O.D.	O	Max. W.P.	(Suction	0	Min. Bend Radius		Wt. Per Ft.	Å	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
1 3/8	34.9	1.63	41.4	20	.14	30.0	762	5.0	127	.38	.17	10 ft.	X	4663-2828
1 1/2	38.1	1.77	45.0	20	.14	30.0	762	5.0	127	.41	.19	10 ft.	X	4663-2830
1 5/8	41.3	1.90	48.3	20	.14	30.0	762	5.5	140	.44	.20	10 ft.	200 ft.	4663-3624
1 3/4	44.5	2.02	51.3	20	.14	30.0	762	6.0	152	.47	.21	10 ft.	200 ft.	4663-3976
1 7/8	47.6	2.14	54.4	20	.14	30.0	762	6.0	152	.50	.23	10 ft.	200 ft.	4663-2933
2	50.8	2.25	57.2	20	.14	30.0	762	7.0	178	.53	.24	10 ft.	X	4663-2930
2 1/4	57.2	2.50	63.5	20	.14	30.0	762	8.0	203	.54	.25	10 ft.	X	4663-2932
2 1/2	63.5	2.75	69.9	20	.14	30.0	762	12.0	305	.65	.30	10 ft.	200 ft.	4663-2929
3	76.2	3.27	83.1	20	.14	30.0	762	_	_	.84	.38	10 ft.	200 ft.	4663-3625

RECOMMENDED FOR: Fuel tank filler applications to provide a flexible connector between fuel tank and fill pipe. Suitable for fill

applications on automobiles, trucks, buses and other similar applications where exceptionally flexible hose is required.

TEMPERATURE: -40°F to +212°F (-40°C to +100°C) continuous service.

CONSTRUCTION: Tube: Type C (Nitrile). Black. Oil and heat resistant.

Reinforcement:

Single ply of synthetic fabric and two built-in helical steel wires.

Type A (Neoprene). Black with white spiral stripe. Fabric reinforcement coated with Neoprene. Cover:

PACKAGING: 10' per carton.

Continuous transfer label. Example: "GATES® 4663K Fuel Fill Hose Made In U.S.A." **BRANDING:**

SPECIAL ORDER Special production runs require minimum order quantities of 200 feet. Maximum length is 10 feet.

REQUIREMENTS:

REMNANT LENGTHS: None.

> STANDARDS: Hose is NMMA type accepted. Meets requirements of SAE 30R5.

RMA (Class B) Medium oil resistance. RMA (Class C) Limited oil resistance. Cover:



Marine Hose

Vacuum Tubing

(Specification 4040A)

Nom. I.D.	Θ	Nom. O.D.	O	Max. W.P.	(1)	Suction	\bigcirc	Min. Bend Radius	P	Wt. Per Ea.	\triangle	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
7/64	2.8	1/8	3.2	_	_	30.0	762	1.5	38	1.00	.45	50 ft.	X	4040-4101
5/32	4.0	3/16	4.8	_	_	30.0	762	1.5	38	1.50	.68	50 ft.	X	4040-4104
7/32	5.6	1/4	6.4	_	_	30.0	762	2.0	51	2.50	1.13	50 ft.	X	4040-4107
1/4	6.4	5/16	7.9	_	_	30.0	762	2.0	51	3.00	1.36	50 ft.	X	4040-4110
5/16	7.9	3/8	9.5	_	_	30.0	762	2.5	64	1.75	.79	25 ft.	X	4040-4112
3/8	9.5	7/16	11.1	_	_	30.0	762	3.0	76	2.50	1.13	25 ft.	X	4040-4113

RECOMMENDED FOR: Ideal for windshield washers and vacuum-operated accessories.

TEMPERATURE: -40°F to +257°F (-40°C to +125°C) continuous service. **CONSTRUCTION:** Tube: Type P (EPDM). Black. Heat resistant.

7/64" through 3/8": Packaged 50' per reel. PACKAGING: 5/16" and 3/8": Packaged 25' per reel.

BRANDING: None.

SPECIAL ORDER None. REQUIREMENTS:

REMNANT LENGTHS: None.

STANDARDS: Tested to SAE J1037.



Material Handling Hose

609W (Dry Cement Delivery)

(Specification 3129F, 3129H, 3129L)

1/8" Tube Thickness (3129L)

Nom. I.D.	Θ	Nom. O.D.	O	Max. W.P.	(Suction	\bigcirc	Min. Bend Radius	(Ry	Wt. Per Ft.	\triangle	Standard	Stock (X) or Minimum	Gates
(ln.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
3	76.2	3.47	88.1	40	.28	_	_	36.0	914	1.30	.59	100 ft.	X	3129-0660
4	101.6	4.47	113.5	40	.28	_	_	48.0	1219	1.69	.77	100 ft.	X	3129-0670
4 1/2	114.3	4.97	126.2	35	.24	_	_	54.0	1372	1.89	.86	100 ft.	X	3129-0675
5	127.0	5.47	138.9	30	.21	_	_	60.0	1524	2.09	.95	100 ft.	X	3129-0680
6	152.4	6.47	164.3	25	.17	_	_	72.0	1829	2.48	1.13	100 ft.	X	3129-0690
6 5/8	168.3	7.10	180.3	20	.14	l —	l —	72.0	1829	2.73	1.24	100 ft.	200 ft.	3129-0700

3/16" Tube Thickness (3129H)

Nom. I.D.	Θ	Nom. O.D.	Ō	Max. W.P.	(Suction	0	Min. Bend Radius	P	Wt. Per Ft.	\triangle	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
4	101.6	4 61	117 1	60	41	_	_	48.0	1219	2 21	1.00	100 ft	Χ	3129-0790

1/4" Tube Thickness (3129F)

Nom. I.D.	\bigcirc	Nom. O.D.	$\overline{\mathbb{O}}$	Max. W.P.	(Suction	\bigcirc	Min. Bend Radius	(P)	Wt. Per Ft.	\triangle	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
4	101.6	4.73	120.1	60	.41	_	_	48.0	1219	2.69	1.22	100 ft.	Χ	3129-0570

RECOMMENDED FOR: Pneumatic transfer of bulk cement and other dry bulk materials.

TEMPERATURE: -40°F to +150°F (-40°C to +66°C) continuous service.

CONSTRUCTION: Tube: Type D3 (Natural Rubber). Black. Static conductive.

Reinforcement: Synthetic, high tensile textile.

Cover: Type D (SBR). Black with gray spiral stripe.

COUPLINGS: 5, 7, 49 or 78. Reference the Hose Coupling Section. **PACKAGING:** 100' length coiled and wrapped in polyethylene.

BRANDING: Continuous transfer label. Example: "GATES® 609W Dry Cement Delivery - Static Conductive Tube 40 PSI

(.28MPa) WP Made In U.S.A."

SPECIAL ORDER Specific cut lengths available through the Cut Length Program. Contact Customer Service for details.

REQUIREMENTS:

REMNANT LENGTHS: Remnant lengths are sometimes available in popular sizes at a discount. Contact Gates Corporation for pricing,



Material Handling Hose

688SB (Bulk Commodity)

(Specification 4691L)

Nom. I.D.	Θ	Nom. O.D.	O	Max. W.P.	(1)	Suction	\bigcirc	Min. Bend Radius	P	Wt. Per Ft.	\triangle	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
2	50.8	2.77	70.4	60	.41	30.0	762	16.0	406	1.65	.75	100 ft.	X	4691-0305
2	50.8	2.77	70.4	60	.41	30.0	762	16.0	406	1.65	.75	200 ft.	400 ft.	4691-0306
3	76.2	3.81	96.8	60	.41	30.0	762	24.0	610	2.54	1.15	100 ft.	X	4691-0325
4	101.6	4.77	121.2	45	.31	30.0	762	32.0	813	3.21	1.46	100 ft.	X	4691-0340
4	101.6	4.77	121.2	45	.31	30.0	762	32.0	813	3.21	1.46	200 ft.	400 ft.	4691-4342
4 1/2	114.3	5.27	133.9	40	.28	30.0	762	36.0	914	3.57	1.62	50 ft.	X	4691-0355
5	127.0	5.77	146.6	40	.28	30.0	762	40.0	1016	3.93	1.78	50 ft.	X	4691-0360
6	152.4	6.76	171.7	40	.28	30.0	762	48.0	1219	4.65	2.11	50 ft.	X	4691-0346
6	152.4	6.76	171.7	40	.28	30.0	762	48.0	1219	4.65	2.11	200 ft.	400 ft.	4691-0349

RECOMMENDED FOR: Transfer of bulk materials via suction, gravity or pneumatic systems where abrasion resistance is the primary

requirement. Examples: Dry cement, sand, gravel, feed, seed and slurries.

TEMPERATURE: -40°F to +150°F (-40°C to +66°C) continuous service.

CONSTRUCTION: Tube: Type D3 (Natural Rubber). Black. Static conductive. 3/16" thick.

Reinforcement: Synthetic, high tensile textile with steel wire helix.

Cover: Type D (SBR). Black corrugated with gray spiral stripe.

COUPLINGS: 5, 6, 7, 49 or 78. Reference the Hose Coupling Section.

PACKAGING: All lengths coiled and wrapped in polyethylene.

BRANDING: Continuous transfer label. Example: "GATES® 688SB Wet-Dry Bulk Commodity 60 PSI (.41MPa) WP Made In

U.S.A."

SPECIAL ORDER Special production runs require minimum order quantities of 400 feet for sizes through 4" and 200 feet for sizes above 4". If a special transfer label is required, contact Gates Corporation for minimum quantity.

above 4". If a special transfer label is required, contact Gates Corporation for minimum quantity.

Specific cut lengths available through the Cut Length Program. Contact Customer Service for details.

REMNANT LENGTHS: Remnant lengths are sometimes available in popular sizes at a discount. Contact Gates Corporation for pricing,



Material Handling Hose

Hot Air Blower

(Specification 4691HA/4691HC)

Nom. I.D.	Θ	Nom. O.D.	Ō	Max. W.P.	(Suction	0	Min. Bend Radius	P	Wt. Per Ft.	Å	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
1 1/2	38.1	2.08	52.8	130	.90	30.0	762	8.0	203	.89	.40	100 ft.	X	4691-0501
2	50.8	2.58	65.5	125	.86	30.0	762	9.0	229	1.13	.51	100 ft.	X	4691-0502
2 1/2	63.5	3.08	78.2	110	.76	30.0	762	14.0	356	1.43	.65	100 ft.	X	4691-0503
3	76.2	3.64	92.5	100	.69	30.0	762	18.0	457	1.89	.86	100 ft.	X	4691-0504
3 1/2	88.9	4.14	105.2	85	.59	30.0	762	21.0	533	2.17	.98	100 ft.	X	4691-0505
4	101.6	4.64	117.9	75	.52	30.0	762	24.0	610	2.44	1.11	100 ft.	X	4691-0506
5	127.0	5.74	145.8	55	.38	30.0	762	30.0	762	3.82	1.73	100 ft.	Х	4691-0507
6	152.4	6.74	171.2	40	.28	30.0	762	36.0	914	4.52	2.05	100 ft.	X	4691-0508

RECOMMENDED FOR: Conveying hot air up to 350°F from blower or compressor to storage tank used in the transfer of dry bulk commodities. Can also be used for transferring mild chemicals at ambient temperatures.

TEMPERATURE: -40°F to +350°F (-40°C to +177°C) for hot air service. NOTE: -40°F to +125°F (-40°C to +52°C) for mild

chemical transfer. For chemicals above 125°F or suitability for use with a specific chemical, contact Denver

Product Application at (303) 744-5070.

CONSTRUCTION: Tube: Type P (EPDM). Black.

Reinforcement: Synthetic, high tensile textile with steel wire helix. **Cover:** Type P (EPDM). Black with yellow spiral stripe.

COUPLINGS: 5, 7 or 49. Block 49 (Cam and Groove) should not be used for compressed air service and are not recommended

for high temperature service. Reference the Hose Coupling Section.

PACKAGING: 100' length coiled and wrapped in polyethylene.

BRANDING: Continuous transfer label. Example: "GATES" HOT AIR BLOWER 130 PSI (.90MPa) WP Made In U.S.A."

SPECIAL ORDER Special production runs require minimum order quantities of 400 feet for sizes through 4" and 200 feet for sizes above 4". If a special transfer label is required, contact Gates Corporation for minimum quantity.

EQUIREMENTS: above 4th. If a special transfer label is required, contact Gates Corporation for minimum quantity. Specific cut lengths available through the Cut Length Program. Contact Customer Service for details.

REMNANT LENGTHS: Remnant lengths are sometimes available in popular sizes at a discount. Contact Gates Corporation for pricing,



Material Handling Hose

770SB

(Specification 4691V)

Nom. I.D.	Θ	Nom. O.D.	O	Max. W.P.	(Suction	0	Min. Bend Radius		Wt. Per Ft.	Å	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
1	25.4	1.39	35.3	50	.34	20.0	508	5.0	127	.49	.22	100 ft.	400 ft.	4691-0400
1 1/4	31.8	1.64	41.7	50	.34	20.0	508	5.0	127	.59	.27	100 ft.	X	4691-0405
1 1/2	38.1	1.89	48.0	50	.34	20.0	508	6.0	152	.68	.31	100 ft.	X	4691-0410
2	50.8	2.39	60.7	50	.34	20.0	508	8.0	203	.75	.34	100 ft.	X	4691-0420
2 1/2	63.5	2.89	73.4	50	.34	20.0	508	9.0	229	.91	.41	100 ft.	X	4691-0430
3	76.2	3.39	86.1	50	.34	20.0	508	10.0	254	1.19	.54	100 ft.	X	4691-0435
4	101.6	4.39	111.5	50	.34	20.0	508	15.0	381	1.49	.68	100 ft.	X	4691-0440
5	127.0	5.53	140.5	50	.34	20.0	508	20.0	508	2.73	1.24	50 ft.	X	4691-0450
6	152.4	6.53	165.9	50	.34	20.0	508	24.0	610	3.24	1.47	50 ft.	X	4691-0455

RECOMMENDED FOR: Light duty vacuum service in industrial and maintenance applications conveying air, dust, fine particles, leaves,

TEMPERATURE: -40°F to +150°F (-40°C to +66°C) continuous service.

CONSTRUCTION: Type D3 (Natural Rubber). Black. Static conductive.

Synthetic, high tensile textile with steel wire helix. Type D (SBR). Black corrugated with gray spiral stripe. Reinforcement:

COUPLINGS: 5, 6, 7 or 78. Reference the Hose Coupling Section. PACKAGING: All lengths coiled and wrapped in polyethylene.

BRANDING: Continuous transfer label. Example: "GATES® 770SB LT WT Vacuum Service Only Made In U.S.A."

SPECIAL ORDER Special production runs require minimum order quantities of 400 feet for sizes through 4" and 200 feet for sizes

REQUIREMENTS: above 4". If a special transfer label is required, contact Gates Corporation for minimum quantity. Specific cut lengths available through the Cut Length Program. Contact Customer Service for details.

REMNANT LENGTHS:

Remnant lengths are sometimes available in popular sizes at a discount. Contact Gates Corporation for pricing,



Material Handling Hose

429W (Sand Blast)

(Specification 4129A)

Nom. I.D.	Θ	Nom. O.D.	O	Max. W.P.	(Suction	\circ	Min. Bend Radius	P	Wt. Per Ft.	Å	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
1/2 3/4 1	12.7 19.1 25.4	1.23 1.50 1.87	31.2 38.1 47.5	150 150 150	1.03 1.03 1.03	25.0 15.0 5.0	635 381 127	5.0 8.0 12.0	127 203 305	.55 .70 1.01	.25 .32 .46	50 ft. 50 ft. 50 ft.	X X X	4129-0085 4129-0086 4129-0100
1 1 1/4 1 1/2	25.4 31.8 38.1	1.63 2.16 2.37	41.4 54.9 60.2	150 150 135	1.03 1.03 .93	5.0 5.0 5.0	127 127 127	12.0 12.0 18.0	305 305 457	.70 1.22 1.37	.32 .55 .62	50 ft. 50 ft. 50 ft.	X X X	4129-0256 4129-0105 4129-0150
2	50.8	2.94	74.7	120	.83	5.0	127	20.0	508	1.82	.83	50 ft.	Х	4129-0200

RECOMMENDED FOR: Sand, shot blasting work and wherever abrasive materials are carried at high velocity.

-40°F to +150°F (-40°C to +66°C) continuous service. **TEMPERATURE:**

CONSTRUCTION: Tube: Reinforcement: Type D3 (Natural Rubber). Black. Static conductive.

Synthetic, high tensile textile. Type D (SBR). Black with yellow spiral stripe. All sizes are perforated. Cover:

COUPLINGS: 36. Reference the Hose Coupling Section. PACKAGING: 50' length coiled and wrapped in polyethylene.

BRANDING: Continuous transfer label. Example: "GATES® 429W Sandblast 150 PSI (1.03MPa) WP Made In India"

SPECIAL ORDER All sizes are wrapped construction, 50 foot maximum length.

Special production runs require minimum order quantities of 600 feet per size. If a special transfer label is **REQUIREMENTS:**

required, contact Gates Corporation for minimum quantity.

Specific cut lengths available through the Cut Length Program. Contact Customer Service for details.

REMNANT LENGTHS: None.



Material Handling Hose

Master-Flex® 300 EPDM

(Specification 7744)

Nom. I.D.	Θ	Nom. O.D.	O	Max. W.P.	(Suction	\bigcirc	Min. Bend Radius	P	Wt. Per Ft.	Å	Standard	Stock (X) or Minimum	Gates
(ln.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
1	25.4	1.34	34.0	80	.55	28.0	711	4.0	102	.23	.10	100 ft.	Х	7744-5201
1 1/4	31.8	1.61	40.9	70	.48	28.0	711	5.0	127	.30	.14	100 ft.	X	7744-5202
1 1/2	38.1	1.96	49.8	60	.41	28.0	711	6.0	152	.49	.22	100 ft.	X	7744-5203
2	50.8	2.49	63.2	60	.41	28.0	711	9.0	229	.69	.31	100 ft.	Х	7744-5204
2 1/2	63.5	3.00	76.2	50	.34	28.0	711	11.0	279	.91	.41	100 ft.	X	7744-5205
3	76.2	3.60	91.4	50	.34	28.0	711	12.0	305	1.03	.47	100 ft.	X	7744-5206
4	101.6	4.69	119.1	45	.31	28.0	711	17.0	432	1.81	.82	100 ft.	Х	7744-5207
6	152.4	6.86	174.2	35	.24	28.0	711	27.0	686	3.84	1.74	100 ft.	X	7744-5208

^{*}Working Pressure and Suction at +72°F (+22°C).

RECOMMENDED FOR: Suction and discharge applications where lightweight, flexible hose is needed for transferring mild diluted

chemicals and agricultural spray solutions. Good for septic service and transferring light abrasives. Reference

Gates Chemical Resistance Table.

TEMPERATURE: -30°F to +140°F (-34°C to +60°C) continuous service.

CONSTRUCTION: Tube: Type P (EPDM). Black. Reinforcement: Polyethylene helix. Green.

Cover: Type G (PVC). Black with green helix. Corrugated.

COUPLINGS: 1, 6, 7, 49 or 78. Reference the Hose Coupling Section.

PACKAGING: All lengths coiled and wrapped in polyethylene.

BRANDING: Unlabeled.

SPECIAL ORDER None.

REQUIREMENTS:

REMNANT LENGTHS: None.

STANDARDS: Tube: RMA (Class B) Medium oil resistance.



Material Handling Hose

Master-Flex® 400

(Specification 7744)

Nom. I.D.	Θ	Nom. O.D.	O	Max. W.P.	(Suction	0	Min. Bend Radius		Wt. Per Ft.	Å	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
1 1/2	38.1	1.88	47.8	40	.28	28.0	711	3.0	76	.38	.17	100 ft.	X	7744-6102
2	50.8	2.41	61.2	35	.24	28.0	711	4.0	102	.54	.25	100 ft.	X	7744-6103
2 1/2	63.5	2.98	75.7	35	.24	28.0	711	5.0	127	.77	.35	100 ft.	X	7744-6104
3	76.2	3.87	98.3	30	.21	28.0	711	6.0	152	1.05	.48	100 ft.	X	7744-6105
4	101.6	4.65	118.1	30	.21	28.0	711	8.0	203	1.68	.76	100 ft.	X	7744-6106
5	127.0	5.77	146.6	30	.21	28.0	711	9.0	229	2.40	1.09	100 ft.	1,000 ft.	7744-6107
6	152.4	6.86	174.2	25	.17	28.0	711	12.0	305	3.18	1.44	100 ft.	Х	7744-6108
8	203.2	9.10	231.1	25	.17	28.0	711	16.0	406	5.73	2.60	50 ft.	X	7744-6209

^{*}Working Pressure and Suction at +72°F (+22°C).

RECOMMENDED FOR: Transfer of bulk materials via suction, pneumatic or gravity systems where abrasion resistance is the primary requirement and a static conductive hose is needed. Can also be used for vacuum or ducting service.

-30°F to +140°F (-34°C to +60°C) continuous service. TEMPERATURE:

CONSTRUCTION: Type C (Nitrile) blend. Static conductive.

Type D (SBR). Rigid PVC helix. Black. **Reinforcement:**

Type G (PVC). Black with gray helix. Corrugated. Cover:

COUPLINGS: 1, 6, 7, 49 or 78. Reference the Hose Coupling Section.

PACKAGING: All lengths coiled and wrapped in polyethylene.

BRANDING: Unlabeled.

SPECIAL ORDER Special production runs require minimum order quantities of 1,000 feet per size. No deviations allowed to above

REQUIREMENTS: product.

REMNANT LENGTHS: None.

> STANDARDS: Tube: RMA (Class B) Medium oil resistance.



Mining Hose

1000 MP/Mine Spray

(Specification 3619M)

Nom. I.D.	Θ	Nom. O.D.	Ō	Max. W.P.	©	Suction	0	Min. Bend Radius	P	Wt. Per Ft.	Å	Standard	Stock (X) or Minimum	Gates
(ln.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
1/2 1/2 1/2	12.7 12.7 12.7	.84 .84	21.3 21.3 21.3	1000 1000 1000	6.90 6.90 6.90	30.0 30.0 30.0	762 762 762	5.0 5.0 5.0	127 127 127	.29 .29 .29	.13 .13 .13	50 ft. 100 ft. Bulk 50 ft.	X X 5,000 ft.	3619-0699 3619-0716 3619-0761
3/4 3/4 3/4	19.1 19.1 19.1	1.10 1.10 1.10	27.9 27.9 27.9 27.9	1000 1000 1000 1000	6.90 6.90 6.90	25.0 25.0 25.0 25.0	635 635 635	8.0 8.0 8.0	203 203 203 203	.43 .43 .43	.20 .20 .20	50 ft. 100 ft. Bulk 50 ft.	X X X 3,000 ft.	3619-0700 3619-0721 3619-0762
3/4	19.1 25.4 25.4	1.10 1.42 1.42	27.9 36.1 36.1	1000 1000 1000	6.90 6.90 6.90	25.0 25.0 25.0	635 635 635	8.0 11.0 11.0	203 279 279	.43 .66 .66	.20 .30 .30	Bulk 100 ft. 50 ft. Bulk 50 ft.	3,000 ft. X 3,000 ft.	3619-0789 3619-0701 3619-0763
1 1 1 1/4	25.4 25.4 31.8	1.42 1.42 1.69	36.1 36.1 42.9	1000 1000 1000	6.90 6.90 6.90	25.0 25.0 20.0	635 635 508	11.0 11.0 16.0	279 279 406	.66 .66 .81	.30 .30 .37	100 ft. Bulk 100 ft. 50 ft.	3,000 ft. X	3619-0786 3619-0790 3619-0702
1 1/4 1 1/4 1 1/4	31.8 31.8 31.8	1.69 1.69 1.69	42.9 42.9 42.9	1000 1000 1000	6.90 6.90 6.90	20.0 20.0 20.0	508 508 508	16.0 16.0 16.0	406 406 406	.81 .81 .81	.37 .37 .37	Bulk 50 ft. 100 ft. Bulk 100 ft.	3,000 ft. X 3,000 ft.	3619-0764 3619-0787 3619-0791
1 1/2 1 1/2 1 1/2	38.1 38.1 38.1	1.92 1.92 1.92	48.8 48.8 48.8	1000 1000 1000	6.90 6.90 6.90	15.0 15.0 15.0	381 381 381	18.0 18.0 18.0	457 457 457	.98 .98 .98	.45 .45 .45	50 ft. Bulk 50 ft. 100 ft.	3,000 ft. X	3619-0708 3619-0765 3619-0788
1 1/2 2 2	38.1 50.8 50.8	1.92 2.45 2.45	48.8 62.0 62.0	1000 1000 1000	6.90 6.90 6.90	15.0 10.0 10.0	381 254 254	18.0 25.0 25.0	457 635 635	.98 1.36 1.36	.45 .62 .62	Bulk 100 ft. 100 ft. 50 ft.	3,000 ft. X X	3619-0792 3619-0745 3619-0760
2	50.8	2.45	62.0	1000	6.90	10.0	254	25.0	635	1.36	.62	Bulk 50 ft.	3,000 ft.	3619-0766

RECOMMENDED FOR:

High-pressure water service in underground mining applications and hot water washdown service. Air service

working pressure is 300 PSI for all sizes.

TEMPERATURE:

 -40° F to $+212^{\circ}$ F (-40° C to $+100^{\circ}$ C) service range.

CONSTRUCTION:

Type P (EPDM). Black. Braided, high tensile steel wire.

Reinforcement: Cover:

Tube:

Type C2 (Modified Nitrile). Yellow (non-marking). All sizes are perforated.

COUPLINGS:

72 Gates Power Crimp®, 74 Gates MegaCrimp® (1/2" through 1 1/4"), 14, 15, or 19 (up to 300 PSI only).

Reference the Hose Coupling Section.

PACKAGING:

1/2" through 2": 50' and 100' lengths, one length coiled in a carton. 1/2" x 50': Packaged 1200' per bulk carton, each length coiled and tied. 3/4" x 100': Packaged 1000' per bulk carton, each length coiled and tied. 3/4" x 50': Packaged 1000' per bulk carton, each length coiled and tied. 1" x 100': Packaged 700' per bulk carton, each length coiled and tied. 1" x 50': Packaged 700' per bulk carton, each length coiled and tied. 1 1/4" x 100': Packaged 600' per bulk carton, each length coiled and tied. 1 1/4" x 50': Packaged 600' per bulk carton, each length coiled and tied. 1 1/2" x 100': Packaged 400' per bulk carton, each length coiled and tied.

1 1/2" x 50': Packaged 400' per bulk carton, each length coiled and tied. 2" x 50': Packaged 200' per bulk carton, each length coiled and tied.

BRANDING:

Continuous transfer label. Example: "GATES® 1000 MP/Mine Spray 1 1/2 INCH (38.1mm) 1000 PSI (6.90MPa)

WP 300 PSI (2.07MPa) MAX Air Service MSHA IC-11C MADE IN INDIA"

SPECIAL ORDER REQUIREMENTS: Special production runs require minimum order quantities of 5,000 feet for 1/2" and 3,000 feet for 3/4" through 2". Contact Gates Corporation for lead times.

REMNANT LENGTHS: None.

> STANDARDS: Cover: Meets MSHA 30 CFR 18.65. Flame resistant,



Mining Hose

Longwall Mine Emulsion

(Specification 3619MC/3619MY)

Black Cover (3619MC)

Nom. I.D.	Θ	Nom. O.D.	Ō	Max. W.P.	(Suction	0	Min. Bend Radius	P	Wt. Per Ft.	Å	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
2 1/2	63.5	3.34	84.8	1000	6.90	10.0	254	20.0	508	2.90	1.32	50 ft.	X	3619-0809
2 1/2	63.5	3.34	84.8	1000	6.90	10.0	254	20.0	508	2.90	1.32	100 ft.	X	3619-0811
3	76.2	3.91	99.3	1000	6.90	10.0	254	20.0	508	4.05	1.84	50 ft.	X	3619-0810
3	76.2	3.91	99.3	1000	6.90	10.0	254	20.0	508	4.05	1.84	100 ft.	X	3619-3531

Yellow Cover (3619MY)

Nom. I.D.	Θ	Nom. O.D.	O	Max. W.P.	(Suction	\bigcirc	Min. Bend Radius	P	Wt. Per Ft.	\triangle	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(ln.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
3	76.2	3.91	99.3	1000	6.90	10.0	254	20.0	508	4.05	1.84	50 ft.	Х	3619-0051
3	76.2	3.91	99.3	1000	6.90	10.0	254	20.0	508	4.05	1.84	100 ft.	X	3619-3530

RECOMMENDED FOR:

Flexible connections in high pressure water distribution and emulsion systems used in a variety of industries. The thick cover meets MSHA's self-extinguishing requirements, and is designed for the rough mining environment.

TEMPERATURE:

-40°F to +212°F (-40°C to +100°C) normal service.

CONSTRUCTION:

Type A (Neoprene). Black.

Reinforcement: Cover:

Braided, high tensile steel wire.

Type C2 (Specially compounded elastomer). Black. Self-extinguishing to meet MSHA

requirements.

Type C4 (Modified Nitrile). Yellow (non-marking). Self-extinguishing to meet MSHA

requirements.

COUPLINGS: 14, 15 or reusable male couplings (Wildman). Reference the Hose Coupling Section.

PACKAGING:

All lengths coiled in a carton.

BRANDING:

Continuous ink brand. Example: "GATES® LONGWALL MINE EMULSION 3 INCH (76.2mm) 1000 PSI

(6.90MPa) W.P. MSHA 2G-IC-11C MADE IN INDIA"

Continuous ink brand. Example: "GATES® LONGWALL MINE EMULSION 3 INCH (76.2mm) 1000 PSI

(6.90MPa) W.P. MSHA IC-11C MADE IN INDIA" (yellow cover only)

Special production runs require minimum order quantities of 600 feet per size.

SPECIAL ORDER

REQUIREMENTS:

REMNANT LENGTHS:

STANDARDS: **Tube:**

None.

RMA (Class B) Medium oil resistance. Meets MSHA 30 CFR 18.65. Flame resistant. Cover:



Mining Hose

Scorpion[™]

(Specification 3618MT)

Nom. I.D.	Θ	Nom. O.D.	O	Max. W.P.	(Suction	0	Min. Bend Radius	P	Wt. Per Ft.	Å	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
1 1/2	38.1	2.02	51.3	600	4.13	_	_	12.0	305	1.13	.51	50 ft.	Х	3618-0311
2	50.8	2.62	66.6	600	4.13	_	_	16.0	406	1.51	.68	50 ft.	X	3618-0312
2 1/2	63.5	3.12	79.3	600	4.13	_	_	18.0	457	1.89	.86	50 ft.	X	3618-0313
3	76.2	3.64	92.5	600	4.13	_	_	20.0	508	2.46	1.12	50 ft.	Х	3618-0314
4	101.6	4.79	121.7	600	4.13	_	_	25.0	635	4.10	1.86	50 ft.	X	3618-0315

RECOMMENDED FOR: High pressure and high temperature air hose used on industrial, construction, pneumatic mining and drilling

applications requiring a wire braided hose with a high degree of hot air resistance.

TEMPERATURE: -40° F to $+275^{\circ}$ F (-40° C to $+135^{\circ}$ C).

CONSTRUCTION: Type J (CPE). Black.

Reinforcement: Braided, high tensile steel wire.

Type J (CPE). Black. All sizes perforated.

COUPLINGS: 14, 15, 18, Dixon Boss Clamps all sizes.

PACKAGING: 50' per carton +/- 10'. Maximum of 2 pieces. Minimum length 10'.

BRANDING: Continuous transfer label. Example: "GATES® SCORPION™ HI-TEMP AIR DRILL 600PSI (4.13 MPa) WP

MADE IN USA"

SPECIAL ORDER Special production runs require minimum order quantities of 600 feet per size. If a special transfer label is

REQUIREMENTS: required, contact Gates Corporation for minimum quantity.

REMNANT LENGTHS: None.

> STANDARDS: **Tube:** RMA (Class B) Medium oil resistance.



Mining Hose

Scorpion[™] X-Treme

(Specification 3618HT)

Nom. I.D.	Θ	Nom. O.D.	O	Max. W.P.	(Suction	0	Min. Bend Radius	P	Wt. Per Ft.	Å	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
1 1/2	38.1	2.02	51.3	600	4.13	_	_	12.0	305	1.07	.49	50 ft.	X	3618-0306
2	50.8	2.62	66.6	600	4.13	_	_	16.0	406	1.46	.66	50 ft.	X	3618-0307
2 1/2	63.5	3.12	79.3	600	4.13	_	_	18.0	457	1.81	.82	50 ft.	X	3618-0308
3	76.2	3.77	95.8	600	4.13	_	_	20.0	508	2.83	1.28	50 ft.	Х	3618-0309
4	101.6	4.79	121.7	600	4.13	_	_	25.6	650	3.96	1.80	50 ft.	X	3618-0310

RECOMMENDED FOR: High pressure and high temperature air hose used on industrial, construction, pneumatic mining and drilling

applications requiring a wire braided hose with extremely high temperature hot air and hot oil resistance.

TEMPERATURE: -40° F to $+300^{\circ}$ F (-40° C to $+149^{\circ}$ C).

CONSTRUCTION: Type B1 (Specially compounded elastomer). Black.

Reinforcement: Braided, high tensile steel wire.

Type J (CPE). Black. All sizes perforated.

COUPLINGS: 14, 15, 18, Dixon Boss Clamps all sizes.

PACKAGING: 50' per carton +/- 10'. Maximum of 2 pieces. Minimum length 10'.

BRANDING: Continuous transfer label. Example: "GATES® SCORPION™ X-TREME HI-TEMP AIR DRILL 600PSI (4.13

MPa) WP MADE IN USA"

SPECIAL ORDER Special production runs require minimum order quantities of 600 feet per size. If a special transfer label is REQUIREMENTS:

required, contact Gates Corporation for minimum quantity.

REMNANT LENGTHS:



Mining Hose

18MB Air Drill

(Specification 3618/3618GL)

Nom. I.D.	Θ	Nom. O.D.	O	Max. W.P.	(Suction	0	Min. Bend Radius		Wt. Per Ft.	Å	Standard	Stock (X) or Minimum	Gates
(ln.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
3/4	19.1	1.28	32.5	500	3.45	25.0	635	6.0	152	.60	.27	50 ft.	X	3618-0011
1	25.4	1.55	39.4	500	3.45	25.0	635	8.0	203	.80	.36	50 ft.	X	3618-0021
1 1/4	31.8	1.80	45.7	500	3.45	15.0	381	10.0	254	.95	.43	50 ft.	5,000 ft.	3618-0031
1 1/2	38.1	2.21	56.1	500	3.45	15.0	381	12.0	305	1.26	.57	50 ft.	X	3618-0041
2	50.8	2.77	70.4	600	4.14	15.0	381	14.0	356	1.99	.90	50 ft.	X	3618-0051
2 1/2	63.5	3.46	87.9	500	3.45	10.0	254	30.0	762	3.04	1.38	50 ft.	X	3618-0201
2 1/2	63.5	3.46	87.9	500	3.45	10.0	254	30.0	762	3.04	1.38	60 ft.	X	3618-0205
3	76.2	3.97	100.8	500	3.45	10.0	254	36.0	914	3.69	1.67	50 ft.	X	3618-0215
4	101.6	5.06	128.5	500	3.45	10.0	254	47.6	1219	5.77	2.62	50 ft.	X	3618-0225

RECOMMENDED FOR: Extra heavy duty, high pressure use on industrial, construction and pneumatic mining applications requiring wire

braided hose with an oil resistant tube and abrasion resistant cover.

TEMPERATURE: -30°F to +212°F (-34°C to +100°C) continuous service.

CONSTRUCTION: Type A (Neoprene). Black.

Reinforcement:

Type C2 (Modified Nitrile). Gray with yellow stripe. All sizes are perforated. For 3/4" through Cover:

1 1/4" sizes only.

Type D3 (Natural Rubber). Gray with yellow stripe. All sizes are perforated. For 1 1/2" through 4" sizes only.

COUPLINGS: 14, 15 or 18. Reference the Hose Coupling Section.

3/4" through 1 1/2": Packaged 49' - 50' length coiled in carton. PACKAGING:

2" though 4": Packaged 48' - 50' length coiled in carton.

2 1/2" x 60': Packaged 60' length coiled in carton.

Continuous transfer label. Example: "GATES® 18MB PREMIUM AIR DRILL 500 PSI (3.45MPa) WP MADE IN **BRANDING:**

Special production runs require minimum order quantities of $5{,}000$ feet for 3/4" through $1\ 1/4$ " and 600 feet for $1\ 1/2$ " and larger. SPECIAL ORDER

REQUIREMENTS:

REMNANT LENGTHS: None.

> STANDARDS: **Tube:** RMA (Class B) Medium oil resistance.



Mining Hose

500 MP Air Drill

(Specification 3618/3618Y)

Black Cover (3618)

Nom. I.D.	Θ	Nom. O.D.	O	Max. W.P.	(Suction	\bigcirc	Min. Bend Radius	(R ₂)	Wt. Per Ft.	\triangle	Standard	Stock (X) or Minimum	Gates
(ln.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
3/4	19.1	1.11	28.2	500	3.45	25.0	635	6.0	152	.41	.19	100 ft.	X	3618-0801
1	25.4	1.45	36.6	500	3.45	25.0	635	8.0	203	.66	.30	100 ft.	X	3618-0802
1 1/4	31.8	1.74	44.2	500	3.45	15.0	381	10.0	254	.86	.39	100 ft.	X	3618-0803
1 1/2	38.1	1.99	50.6	500	3.45	15.0	381	12.0	305	.98	.45	100 ft.	X	3618-0804
2	50.8	2.50	63.5	500	3.45	15.0	381	14.0	356	1.40	.64	100 ft.	X	3618-0805
2 1/2	63.5	3.14	79.8	500	3.45	10.0	254	30.0	762	2.16	.98	100 ft.	X	3618-0806
3	76.2	3.67	93.2	500	3.45	10.0	254	36.0	914	2.73	1.24	100 ft.	Χ	3618-0807

NOTE: For 4" I.D. see 18MB.

Yellow Cover (3618Y)

Nom. I.D.	Θ	Nom. O.D.	Ō	Max. W.P.	(Suction	\bigcirc	Min. Bend Radius	(R ₂)	Wt. Per Ft.	\triangle	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
3/4 1 1 1/4	19.1 25.4 31.8	1.11 1.45 1.74	28.2 36.6 44.2	500 500 500	3.45 3.45 3.45	25.0 25.0 15.0	635 635 381	6.0 8.0 10.0	152 203 254	.41 .65 .85	.19 .30 .39	100 ft. 100 ft. 100 ft.	X X X	3618-0808 3618-0809 3618-0810
1 1/2 2 2 1/2	38.1 50.8 63.5	1.99 2.50 3.14	50.6 63.5 79.8	500 500 500	3.45 3.45 3.45	15.0 15.0 10.0	381 381 254	12.0 14.0 30.0	305 356 762	.96 1.43 2.19	.45 .65 .99	100 ft. 100 ft. 100 ft.	X X X	3618-0811 3618-0812 3618-0813
3	76.2	3.67	93.2	500	3.45	10.0	254	36.0	914	2.78	1.26	100 ft.	Х	3618-0814

NOTE: For 4" I.D. see 18MB.

RECOMMENDED FOR: Heavy-duty, high pressure use on industrial, construction and pneumatic mining applications requiring wire braided

hose with an oil resistant tube and abrasion resistant cover.

TEMPERATURE: -22°F to +180°F (-30°C to +82°C) continuous service.

CONSTRUCTION: Tube: Type C (Nitrile). Black.

Reinforcement:
Cover: Braided, high tensile steel wire.
Type C2 (Modified Nitrile). Yellow with black spiral stripe. All sizes are perforated.

Type D3 (Natural Rubber). Black with yellow spiral stripe.

COUPLINGS: 14, 15 or 18. Reference the Hose Coupling Section.

PACKAGING: 100' length coiled in a carton.

BRANDING: Continuous transfer. Example: "GATES" 500 MP/Air Drill 3/4 INCH (19.1mm) 500 PSI (3.45MPa) WP MADE

IN INDIA'

Continuous transfer. Example: "GATES® 500 MP/Air Drill 3/4 INCH (19.1mm) 500 PSI (3.45MPa) WP MSHA

IC-11C MADE IN INDIA" (yellow cover only).

SPECIAL ORDER Special production runs require minimum order quantities of 3,000 feet for 3/4" through 1 1/2" and 2,500 feet for REQUIREMENTS: 2" and larger.

REMNANT LENGTHS: None.

STANDARDS: Tube: RMA (Class B) Medium oil resis

Tube: RMA (Class B) Medium oil resistance. **Cover:** Meets MSHA 30 CFR 18.65. Flame resistant. Yellow cover only.





Products

GATES CERTIFIED ROUGHNECK DISTRIBUTORS

Gates Rotary Drilling, Vibrator, Cementing, Sour Service, Choke and Kill, Motion Compensator and Decoker oilfield hoses shown in this section have couplings attached by a Gates Certified Roughneck Distributor from hose already in their stock. The advantage is that hose from the Roughneck Distributor's stock can be cut to the customer's specified length. Couplings are then swaged-on, tested to API 7K standards and then shipped all in a matter of just hours! This greatly reduces the lead time required to supply product meeting your specific needs. The resulting hose assembly far exceeds Gates standards for coupling pull and burst pressure tests for added safety. Contact your nearest Roughneck Distributor for price and availability.

Du-Tex, Inc. 134 44th Street Corpus Christi, Texas 78405 www.dutex.com Ph. 361-887-9807 F. 361-887-0812 Mike Ray dutex@msn.com

Power Product Technologies Inc. 6200 North Washington Bldg. 1, Unit 1 Denver, Colorado 80216 www.ppt-hose-tech.com Ph. 303-286-7724 F. 303-286-7311 **Adam Stewart** astewart@ppt-hose-tech.com

Robsco, Inc. 4749 Eastpark Drive Houston, Texas 77028 www.robsco.com Ph. 713-672-1777 F. 713-672-1956 **Scott Collins** scott@robsco.com Frank Navarro frank@robsco.com

Gates A.E. Hydraulics Pte Ltd 40 Gul Circle **Jurong Industrial Estate** Singapore 629575 www.aehydraulic.com Ph. (65) 6861 7322 F. (65) 6861 7631 YK Chua vkchua@aehydraulic.com

Gates Fleximak Ltd. Mod. 215 731b Street P.O. Box 61046 Jebel Ali, Dubai **United Arab Emirates** www.gatesfleximak.com Ph. 971 4 8813900 F. 971 4 8813902 **Tony Rogowsky** info@gatesfleximak.com

Gates de Mexico, S.A. de C.V. Lerma Hose Plant Blvd. Aeropuerto Miguel Aleman No. 164 52000 Lerma Edo. De Mexico, Mexico www.gates.com.mx Ph. 52 (55) 2000-2777 F. 52 (55) 2000-2727 Antonio Santibanez as1108@gates.com

GS Hydro Norge A/S Stavanger Branch Fabrikkveien 26 4033 Stavanger Norway www.gshydro.com Ph. (47) 51 95 96 40 F. (47) 51 95 96 41 Espen Myhre espen.myhre@gshydro.no

392 King Street Aberdeen AB24 3BU **United Kingdom** www.hydrasun.com Ph. 44 (0) 1224 618618 F. 44 (0) 1224 618612 Bill Anderson bill.anderson@hydrasun.com

Hydrasun Limited



Oilfield Hose



39496-000 July 30, 2009 Supersedes 39496-000 July 30, 2007

Black Gold®

Rotary/Vibrator Drilling - Grade D or Motion Compensator 5,000 psi W.P. - 10,000 Test - 12,500 Minimum Burst

(Specification 4774PE)

Nom. I.D.	Nom. O.D.	Min. Bend Radius (Inches)	Wt. per Ft. of hose (Lbs)	Coupling Threads API (T) (In.)	Swage Cplg. Wts. Each (Lbs)	Maximum length of hose (Feet)	Safety Clamp & Chain Part No.
2-1/2	4.14	36	9.8	3"	33	90	7361-0825
3	4.61	48	10.8	4"	44.5	90	7361-0830
3-1/2	5.25	54	12.8	4"	47	90	7361-0835
4	5.61	54	13.4	5"	55	90	7361-0840

RECOMMENDED FOR:

Flexible connection between standpipe and swivel (Rotary Drilling) or between pump and standpipe (Rotary Vibrator) for pumping mud at extra high pressure in oil drilling and exploration work. Meets the high demands of directional drilling and down linking with negative pressure pulses and elevated temperatures. Motion Compensator hose is used for stabilization of rotary drilling and pumping equipment against vertical wave action on offshore drill platforms. The Motion Compensator hose is not recommended for phosphate ester

TEMPERATURE:

-4°F to +180°F (-20°C to +82°C) continuous service.

CONSTRUCTION:

Type C_3 (Modified Nitrile). 3/16" thick. Black. Specially compounded for handling abra-

sive, corrosive and oily drilling mud.

Reinforcement:

Multiple layers of polyester cord over tube. Multiple layers of "close wound", high tensile steel cables, with one layer of adhesion fabric placed between cable layers. Multiple layers

of reinforcement under cover.

Cover:

Tube:

Type C₄ (Modified Nitrile). Black. Specially compounded UltraBrasion cover is resistant

to abrasion, corrosion, cutting, gouging, oil and weather.

COUPLINGS:

Swaged - API male line pipe threads standard. Gates recommends butt-welded couplings. Couplings can be supplied with your choice of end fittings. Please contact your nearest Roughneck Distributor for more detailed information. (Refer to Roughneck Distributor list at the beginning of this section).

NOTE: FIELD WELDING OF FITTINGS TO COUPLING IS NOT RECOMMENDED.

FITTINGS:



Female Sub









PACKAGING:

Male Sub./Nut Each length packaged in a heavy-duty wooden crate.

One continuous longitudinal yellow transfer label (with serial number and code date embossed). Example: "GATES® BLACK GOLD® ROTARY VIBRATOR 3 INCH MAX WP 5000 PSI API SPEC 7K **BRANDING:**

TESTED TO 10000 PSI GRADE D FSL 1 TEMP RANGE 1 ISO 14693 LICENSE 7K-0003 MADE IN

U.S.A."

CERTIFICATION/

STANDARDS:

API (American Petroleum Institute) Spec 7K.

Coupling/Mat'l Traceability (Additional Cost)

Letter of Conformance (Additional Cost)

Test Certificates

3rd Party Witness Test (Additional Cost)

ABS/CDS Type Approval

OPTIONAL:

Accessories such as SAFETY CLAMPS, HOSE LIFT EYE & COLLAR CLAMP and STAINLESS STEEL



Oilfield Hose

Black Gold®

Rotary/Vibrator Drilling - Grade E 7,500 psi W.P. – 15,000 Test – 18,750 Minimum Burst

(Specification 4773PE)

Nom. I.D.	Nom. O.D.	Min. Bend Radius (Inches)	Wt. per Ft. of hose (Lbs)	Swage Cplg. Wts. Each (Lbs)	Maximum length of hose (Feet)	Safety Clamp & Chain Part No.
2-1/2	5.16	48	20.2	62	90	7361-0835
3	5.66	48	22.6	70	90	7361-0840
3-1/2	6.04	54	24.1	75	90	7361-0845
4	6.48	60	25.8	90	90	7361-0850

Flexible connection between standpipe and swivel (Rotary Drilling) or between pump and standpipe (Rotary **RECOMMENDED FOR:**

Vibrator) for pumping mud at extra high pressure in oil drilling and exploration work. Meets the high demands of directional drilling and down linking with negative pressure pulses and elevated temperatures.

TEMPERATURE: -4°F to +180°F (-20°C to +82°C) continuous service.

CONSTRUCTION: Tube: Type C₃ (Modified Nitrile). 3/16" thick. Black. Specially compounded for handling

abrasive, corrosive and oily drilling mud.

Reinforcement: Multiple layers of polyester cord over tube. Multiple layers of "close wound", high tensile

plated steel cables, with one layer of adhesion fabric placed between cable layers. Multiple

layers of reinforcement under cover.

Cover: Type C₄ (Modified Nitrile). Black. Specially compounded UltraBrasion cover is resistant

to abrasion, corrosion, cutting, gouging, oil and weather

COUPLINGS: Swaged - API 7K hose assemblies with working pressures exceeding 5,000 psi, the end fitting will be butt-

welded onto the hose coupling. Couplings can be supplied with your choice of end fitting. Please contact your nearest Roughneck Distributor for more detailed information. (Refer to Roughneck Distributor list at the

beginning of this section).
NOTE: FIELD WELDING OF FITTINGS TO COUPLING IS NOT RECOMMENDED.

FITTINGS:













Female Sub PACKAGING: Each length packaged in a heavy-duty wooden crate.

BRANDING:

One continuous longitudinal yellow transfer label (with serial number and code date embossed). Example: "GATES® BLACK GOLD® ROTARY VIBRATOR 3INCH MAX WP 7500 PSI API SPEC 7K TESTED TO 15000 PSI GRADE E FSL 1 TEMP RANGE 1 ISO 14693 LICENSE 7K-0003 MADE IN

U.S.A.'

CERTIFICATION/ STANDARDS:

API (American Petroleum Institute) Spec 7K.

Coupling/Mat'l Traceability (Additional Cost)

Letter of Conformance (Additional Cost)

Test Certificates

3rd Party Witness Test (Additional Cost)

ABS/CDS Type Approval

OPTIONAL: Accessories such as SAFETY CLAMPS, HOSE LIFT EYE & COLLAR CLAMP and STAINLESS STEEL





Black Gold®

Cementing (Nitrile Tube)

Oilfield Hose

5,000 psi W.P. – 10,000 Test – 12,500 Minimum Burst

(Specification 4774PE)

Nom. I.D.	Nom. O.D.	Min. Bend Radius (Inches)	Wt. per Ft. of hose (Lbs)	Coupling Threads API	Swage Cplg. Wts. Each	Maximum length of hose (Feet)	Safety Clamp & Chain Part No.
2-1/2	4.14	36	9.8	(T) (In.) 3"	(Lbs) 33	90	7361-0825
3	4.61	48	10.8	4"	44.5	90	7361-0830
3-1/2	5.25	54	12.8	4"	47	90	7361-0835
4	5.61	54	13.4	5"	55	90	7361-0840

RECOMMENDED FOR: Used as a flexible connection between the cementing pump manifold and cementing head for conveyance of

cement slurries at high pressure.

Cover:

TEMPERATURE: -4°F to +180°F (-20°C to +82°C) continuous service.

CONSTRUCTION: Tube: Type C₃ (Modified Nitrile). 3/16" thick. Black. Specially compounded for handling

abrasion and corrosion.

Reinforcement: Multiple layers of "close wound", high tensile steel cables with one layer of adhesion

fabric placed between cable layers. Multiple layers of reinforcement under cover. Type C₄ (Modified Nitrile). Black. Specially compounded UltraBrasion cover is resistant

to abrasion, corrosion, cutting, gouging, oil and weather.

Swaged - API male line pipe threads standard. Gates recommends butt-welded couplings. Couplings can be **COUPLINGS:**

supplied with your choice of end fitting. Please contact your nearest Roughneck Distributor for more detailed information. (Refer to Roughneck Distributor list at the beginning of this section).

NOTE: FIELD WELDING OF FITTINGS TO COUPLING IS NOT RECOMMENDED.

Hammer Unions FITTINGS:



Male Sub./Nut





Female Sub

PACKAGING: Each length packaged in a heavy-duty wooden crate.

BRANDING:

One continuous longitudinal yellow transfer label (with serial number and code date embossed). Example: "GATES" BLACK GOLD® CEMENTING 4 INCH MAX WP 5000 PSI TESTED TO 10000 PSI FSL 0 TEMP RANGE 1 ISO 14693 LICENSE 7K-0003 MADE IN U.S.A."

CERTIFICATION/

STANDARDS: API (American Petroleum Institute) Spec 7K.

Coupling/Mat'l Traceability (Additional Cost)

ISO 14693

Letter of Conformance (Additional Cost)

Test Certificates

3rd Party Witness Test (Additional Cost)

ABS/CDS Type Approval

OPTIONAL: Accessories such as SAFETY CLAMPS, HOSE LIFT EYE & COLLAR CLAMP and STAINLESS STEEL



Oilfield Hose

Black Gold®

Cementing (Nitrile Tube)

10,000 psi W.P. – 15,000 Test. – 22,500 Minimum Burst

(Specification 4773PE)

Nom. I.D.	Nom. O.D.	Min. Bend Radius (Inches)	Wt. per Ft. of hose (Lbs)	Swage Cplg. Wts. Each (Lbs)	Maximum length of hose (Feet)	Safety Clamp & Chain Part No.
2-1/2	5.16	48	20.2	62	90	7361-0835
3	5.66	48	22.6	70	90	7361-0840
3-1/2	6.04	54	24.1	75	90	7361-0845

RECOMMENDED FOR: Used as a flexible connection between the cementing pump manifold and cementing head for conveyance of

cement slurries at high pressure.

-4°F to +180°F (-20°C to +82°C) continuous service. **TEMPERATURE:**

CONSTRUCTION: Tube: Type C₃ (Modified Nitrile). 3/16" thick. Black. Specially compounded for handling

abrasion and corrosion.

Reinforcement: Multiple layers of "close wound" high tensile plated steel cables, with one layer of adhe-

Type C₄ (Modified Nitrile). Black. Specially compounded UltraBrasion cover is resistant to abrasion, corrosion, cutting, gouging, oil and weather. Cover:

Swaged - API 7K hose assemblies with working pressures exceeding 5,000 psi, the end fitting will be butt-**COUPLINGS:**

welded onto the hose coupling. Couplings can be supplied with your choice of end fitting. Please contact your nearest Roughneck Distributor for more detailed information. (Refer to Roughneck Distributor list at the

beginning of this section).

NOTE: FIELD WELDING OF FITTINGS TO COUPLING IS NOT RECOMMENDED.

FITTINGS:













Female Sub

Male Sub./Nut

PACKAGING: Each length packaged in a heavy-duty wooden crate.

BRANDING:

One continuous longitudinal yellow transfer label (with serial number and code date embossed). Example: "GATES® BLACK GOLD® CEMENTING 4 INCH MAX WP 10000 PSI TESTED TO 15000 PSI FSL 0 TEMP RANGE 1 ISO 14693 LICENSE 7K-0003 MADE IN U.S.A."

CERTIFICATION/

STANDARDS: API (American Petroleum Institute) Spec 7K.

Coupling/Mat'l Traceability (Additional Cost)

Letter of Conformance (Additional Cost)

Test Certificates

3rd Party Witness Test (Additional Cost)

ABS/CĎS Type Approval

OPTIONAL: Accessories such as SAFETY CLAMPS, HOSE LIFT EYE & COLLAR CLAMP and STAINLESS STEEL

Oilfield Hose



39496-000 July 30, 2009 Supersedes 39496-000 July 30, 2007

Black Gold®

Cementing (Fluoroelastomer Tube) 15,000 psi W.P. - 22,500 Test - 33,750 Minimum Burst

(Specification 4758L)

Nom. I.D.	Nom. O.D.	Min. Bend Radius (Inches)	Wt. per Ft. of hose (Lbs)	Swage Cplg. Wts. Each (Lbs)	Maximum length of hose (Feet)	Safety Clamp & Chain Part No.
2-1/2	5.66	60	29.4	130	90	7361-0840
3	6.16	60	33.2	172	90	7361-0845

RECOMMENDED FOR: Used as a flexible connection between the cementing pump manifold and cementing head for conveyance of cement slurries at high pressure.

-4°F to +212°F (-20°C to +100°C) continuous service. **TEMPERATURE:**

CONSTRUCTION: Type V (Fluoroelastomer). Black. Excellent resistance to abrasion and corrosion.

Multiple layers of "close wound", high tensile plated steel cables to withstand flexing and Reinforcement: high pressures encountered in offshore operations. Multiple layers of reinforcement under

Cover: Type C₄ (Modified Nitrile). Black. Specially compounded UltraBrasion cover is resistant

to abrasion, corrosion, cutting, gouging, oil and weather.

COUPLINGS: Special Built-In supplied with your choice of end fittings. Please contact your nearest Roughneck Distributor

for more detailed information. (Refer to Roughneck Distributor list at the beginning of this section).

NOTE: FIELD WELDING OF FITTINGS TO COUPLING IS NOT RECOMMENDED.

FITTINGS: Hammer Unions

Female Sub







PACKAGING: Each length packaged in a heavy-duty wooden crate.

BRANDING:

One continuous longitudinal yellow transfer label (with serial number and code date embossed). Example: "GATES BLACK GOLD CEMENTING 2-1/2 INCH MAX WP 15000 PSI TESTED TO 22500

PSI MADE IN U.S.A."

CERTIFICATION/

Coupling/Mat'l Traceability (Additional Cost) STANDARDS:

Letter of Conformance (Additional Cost)

Test Certificates

3rd Party Witness Test (Additional Cost)

OPTIONAL: Accessories such as SAFETY CLAMPS, HOSE LIFT EYE & COLLAR CLAMP and STAINLESS STEEL



Oilfield Hose

Black Gold®

Cementing (Nitrile Tube) 5,000 psi W.P. - 10,000 Test - 12,500 Minimum Burst

(Specification 4651ZL)

Nom.	Nom.	Min. Bend Ra-	Wt. per Ft. of	Crimped Cplg. Wts. (Lbs.)		Maximum length of hose (Feet)	Safety Clamp &
I.D.	O.D.	dius (Inches)	hose (Lbs)	1502 Hammer Union Assy.			Chain Part No.
2	2.80	36	4.63	Female Sub/Seal 7341-1569 (7.8 Lbs.)	Male Sub/Nut 7341-1571 (17.7 Lbs.)	200	7361-6550

RECOMMENDED FOR: Used as a flexible connection between the cementing pump manifold and cementing head for conveyance of

cement slurries at high pressure.

TEMPERATURE: -4°F to +250°F (-20°C to +121°C) continuous service.

CONSTRUCTION: Tube: Type C (Nitrile). Black. Specially compounded for handling abrasion and corrosion.

Reinforcement:

Multiple layers of spiraled high tensile steel wire.

Type A (Neoprene). Black. Oil and abrasion resistant.

COUPLINGS:

Crimped – Gates GSHTM with integral 2" Fig. 1502 hammer union couplings with male sub/nut and female sub/seal. Couplings can be supplied with your choice of end fittings. Please contact your nearest Roughneck Distributor for more detailed information. (Refer to Roughneck Distributor list at the beginning of this sec-

tion). NOTE: FIELD WELDING OF FITTINGS TO COUPLING IS NOT RECOMMENDED.

FITTINGS: GSH with Integral 2" Fig. 1502 Hammer Unions



PACKAGING: Each length packaged in a carton.

BRANDING:

One continuous longitudinal yellow transfer label (with serial number and code date embossed). Example: "GATES® BLACK GOLD® CEMENTING NOT FOR SOUR SERVICE 2 INCH MAX WP 5000 PSI TESTED TO 10000 PSI FSL 0 TEMP RANGE III ISO 14693 LICENSE 7K-0003 MADE IN U.S.A."

CERTIFICATION/ API (American Petroleum Institute) Spec 7K.

STANDARDS: Coupling/Mat'l Traceability (Additional Cost)

Letter of Conformance (Additional Cost)

Test Certificates

3rd Party Witness Test (Additional Cost) ABS/CDS Type Approval

OPTIONAL: Accessories such as SAFETY CLAMPS are available.

Oilfield Hose



39496-000 July 30, 2009 Supersedes 39496-000 July 30, 2007

Black Gold®

Cementing (Nitrile Tube)

10,000 psi W.P. - 15,000 Test - 22,500 Minimum Burst

(Specification 4651ZA)

Nom. I.D.	Nom. O.D.	Min. Bend Ra- dius (Inches)	Wt. per Ft. of hose (Lbs)	Crimped Cplg. Wts. (Lbs.) 1502 Hammer Union Assy.		Maximum length of hose (Feet)	Safety Clamp & Chain Part No.
2	2.80	48	4.66	Female Sub/Seal 7341-1569 (7.8 Lbs.)	Male Sub/Nut 7341-1571 (17.7 Lbs.)	200	7361-6550

RECOMMENDED FOR: Used as a flexible connection between the cementing pump manifold and cementing head for conveyance of

cement slurries at high pressure.

TEMPERATURE: -4°F to +250°F (-20°C to +121°C) continuous service.

CONSTRUCTION: Tube: Type C (Nitrile). Black. Specially compounded for handling abrasion and corrosion.

Multiple layers of spiraled high tensile steel wire.

Type L (MegaTuff®). Black. Oil and abrasion resistant. Reinforcement: Cover:

COUPLINGS: Crimped - Gates GSHTM with integral 2" Fig. 1502 hammer union couplings with male sub/nut and female

sub/seal. Couplings can be supplied with your choice of end fittings. Please contact your nearest Roughneck Distributor for more detailed information. (Refer to Roughneck Distributor list at the beginning of this sec-

tion). NOTE: FIELD WELDING OF FITTINGS TO COUPLING IS NOT RECOMMENDED.

FITTINGS: GSH with Integral 2" Fig. 1502 Hammer Unions



PACKAGING: Each length packaged in a carton.

BRANDING:

One continuous longitudinal yellow transfer label (with serial number and code date embossed). Example: "GATES® BLACK GOLD® CEMENTING NOT FOR SOUR SERVICE 2 INCH MAX WP 10000 PSI TESTED TO 15000 PSI FSL 0 TEMP RANGE III ISO 14693 LICENSE 7K-0003 MADE IN U.S.A."

CERTIFICATION/ API (American Petroleum Institute) Spec 7K.

STANDARDS: Coupling/Mat'l Traceability (Additional Cost)

ISO 14693

Letter of Conformance (Additional Cost)

Test Certificates

3rd Party Witness Test (Additional Cost)

ABS/CDS Type Approval

OPTIONAL: Accessories such as SAFETY CLAMPS are available.



Black Gold®

Oilfield Hose **Sour Service**

5,000 psi W.P. – 10,000 Test – 12,500 Minimum Burst

(Specification 4774F)

Nom. I.D.	Nom. O.D.	Min. Bend Radius (Inches)	Wt. per Ft. of hose (Lbs)	Coupling Threads API	Swage Cplg. Wts. Each	Maximum length of hose (Feet)	Safety Clamp & Chain Part No.
				(T) (In.)	(Lbs)		
2-1/2	4.15	36	10.1	3"	33	90	7361-0825
3	4.61	48	11.1	4"	44.5	90	7361-0830
3-1/2	5.25	54	13.2	4"	47	90	7361-0835
4	5.58	54	13.9	5"	55	90	7361-0840

RECOMMENDED FOR: Flexible connection between standpipe and swivel (Rotary Drilling) or between pump and standpipe (Rotary

Vibrator)

TEMPERATURE: -4°F to +200°F (-20°C to +93°C) continuous service.

CONSTRUCTION: Tube: Type V (Fluoroelastomer). Black. Resists abrasion, corrosion, oil, and up to 20% H₂S.

NOTE: Hose is manufactured to handle up to 20% Hydrogen Sulfide (H₂S) for 1 hour at

93°C (200°F) at rated working pressure.

Reinforcement: Multiple layers of "close wound", high tensile steel cables, with one layer of adhesion fabric placed between cable layers. Multiple layers of reinforcement under cover.

Type C₄ (Modified Nitrile). Black. Specially compounded UltraBrasion cover is resistant to abrasion, corrosion, cutting, gouging, oil and weather.

Swaged - meets NACE MR0175. API male line pipe threads standard. Gates recommends butt-welded **COUPLINGS:**

couplings. Couplings can be supplied with your choice of end fittings. Please contact your nearest Roughneck Distributor for more detailed information. (Refer to Roughneck Distributor list at the beginning of this

Cover:

NOTE: FIELD WELDING OF FITTINGS TO COUPLING IS NOT RECOMMENDED.

FITTINGS:



Female Sub











Male Sub./Nut PACKAGING: Each length packaged in a heavy-duty wooden crate.

BRANDING:

One continuous longitudinal yellow transfer label (with serial number and code date embossed). Example: "GATES® BLACK GOLD® SOUR SERVICE – MAX 20% $\rm H_2S$ 4 INCH MAX WP 5000 PSI TESTED TO 10000 PSI MADE IN U.S.A."

CERTIFICATION/

STANDARDS: Coupling/Mat'l Traceability (Additional Cost)

Letter of Conformance (Additional Cost)

NACE

Test Certificates

3rd Party Witness Test (Additional Cost)

Accessories such as SAFETY CLAMPS, HOSE LIFT EYE & COLLAR CLAMP and STAINLESS STEEL **OPTIONAL:**



Black Gold®

Oilfield Hose **Sour Service**

7,500 psi W.P. – 15,000 Test – 18,750 Minimum Burst

(Specification 4773LE)

Nom. I.D.	Nom. O.D.	Min. Bend Radius (Inches)	Wt. per Ft. of hose (Lbs)	Swage Cplg. Wts. Each (Lbs)	Maximum length of hose (Feet)	Safety Clamp & Chain Part No.
2-1/2	5.14	48	20.6	62	90	7361-0835
3	5.64	48	23.0	70	90	7361-0840
3-1/2	6.05	54	24.6	75	90	7361-0845
4	6.40	60	26.4	90	90	7361-0850

RECOMMENDED FOR: Flexible connection between standpipe and swivel (Rotary Drilling) or between pump and standpipe (Rotary

Vibrator).

TEMPERATURE: -4° F to $+200^{\circ}$ F (-20° C to $+93^{\circ}$ C) continuous service.

CONSTRUCTION: Tube: Type V (Fluoroelastomer). Black. Resists abrasion, corrosion, oil, and up to 20% H₂S.

NOTE: Hose is manufactured to handle up to 20% Hydrogen Sulfide (H₂S) for 1 hour at

93°C (200°F) at rated working pressure.

Multiple layers of "close wound", high tensile steel cables, with one layer of adhesion fabric placed between cable layers. Multiple layers of reinforcement under cover. Type C_4 (Modified Nitrile). Black. Specially compounded UltraBrasion cover is resistant Reinforcement: Cover:

to abrasion, corrosion, cutting, gouging, oil and weather.

COUPLINGS: Swaged - meets NACE MR0175. API 7K hose assemblies with working pressures exceeding 5,000 psi, the

end fitting will be butt-welded onto the hose coupling. Couplings can be supplied with your choice of end fittings. Please contact your nearest Roughneck Distributor for more detailed information. (Refer to Rough-

neck Distributor list at the beginning of this section).

NOTE: FIELD WELDING OF FITTINGS TO COUPLING IS NOT RECOMMENDED.

Hammer Unions FITTINGS:

Female Sub



Male Sub./Nut







PACKAGING: Each length packaged in a heavy-duty wooden crate.

BRANDING:

One continuous longitudinal yellow transfer label (with serial number and code date embossed). Example: "GATES® BLACK GOLD® SOUR SERVICE – MAX 20% $\rm H_2S$ 4 INCH MAX WP 7500 PSI TESTED TO 15000 PSI MADE IN U.S.A."

CERTIFICATION/

STANDARDS: Coupling/Mat'l Traceability (Additional Cost)

Letter of Conformance (Additional Cost)

NACE

Test Certificates

3rd Party Witness Test (Additional Cost)

OPTIONAL: Accessories such as SAFETY CLAMPS, HOSE LIFT EYE & COLLAR CLAMP and STAINLESS STEEL



Oilfield Hose

Black Gold®

Choke and Kill

5,000 psi W.P. – 10,000 Test – 15,000 Minimum Burst

(Specification 4774F*/4773LE**)

Nom. I.D.	Nom. O.D.	Min. Bend Radius (Inches)	Wt. per Ft. of hose (Lbs)	Swage Cplg. Wts. Each (Lbs)	Maximum length of hose (Feet)	Safety Clamp & Chain Part No.
2-1/2*	4.15	36	10.1	33	90	7361-0825
3*	4.61	48	11.1	44.5	90	7361-0830
3-1/2*	5.25	54	13.2	47	90	7361-0835
4**	6.40	60	26.4	90	90	7361-0850

RECOMMENDED FOR: Flexible hose between the riser and manifold or around the ball joint of offshore drilling rigs.

TEMPERATURE: -4°F to +200°F (-20°C to +93°C) continuous service.

CONSTRUCTION: Type V (Fluoroelastomer). Black. Resists abrasion, corrosion, oil, and up to $20\%\ H_2S$. Tube:

NOTE: Hose is manufactured to handle up to 20% Hydrogen Sulfide (H₂S) for 1 hour at

93°C (200°F) at rated working pressure. **Reinforcement:**

Multiple layers of "close wound", high tensile steel cables, with one layer of adhesion fabric placed between cable layers. Multiple layers of reinforcement under cover. Cover:

Type C₄ (Modified Nitrile). Black. Specially compounded UltraBrasion cover is resistant

to abrasion, corrosion, cutting, gouging, oil and weather.

COUPLINGS: Swaged - meets NACE MR0175. Per API - flexible Choke and Kill hose end fittings will be butt-welded

and the pressure rating shall be equivalent to the pressure rating of the flexible hose. Couplings can be supplied with your choice of end fittings. Please contact your nearest Roughneck Distributor for more detailed

information. (Refer to Roughneck Distributor list at the beginning of this section) NOTE: FIELD WELDING OF FITTINGS TO COUPLING IS NOT RECOMMENDED.

FITTINGS: Hammer Unions









Each length packaged in a heavy-duty wooden crate.

BRANDING:

One continuous longitudinal yellow transfer label (with serial number and code date embossed). Example: "GATES $^{\text{\tiny{\$}}}$ BLACK GOLD $^{\text{\tiny{\$}}}$ CHOKE AND KILL – MAX 20% H₂S 4 INCH MAX WP 5000 PSI

TESTED TO 10000 PSI MADE IN U.S.A.

CERTIFICATION/

PACKAGING:

STANDARDS: Coupling/Mat'l Traceability (Additional Cost)

Letter of Conformance (Additional Cost)

NACE

Test Certificates

3rd Party Witness Test (Additional Cost)

OPTIONAL: Accessories such as SAFETY CLAMPS, HOSE LIFT EYE & COLLAR CLAMP and STAINLESS STEEL



Black Gold®

Choke and Kill

Oilfield Hose

10,000 psi W.P. - 15,000 Test - 22,500 Minimum Burst

(Specification 4773LE)

Nom. I.D.	Nom. O.D.	Min. Bend Radius (Inches)	Wt. per Ft. of hose (Lbs)	Swage Cplg. Wts. Each (Lbs)	Maximum length of hose (Feet)	Safety Clamp & Chain Part No.
2-1/2	5.14	48	20.6	60	90	7361-0835
3	5.64	48	23.0	70	90	7361-0840
3-1/2	6.05	54	24.6	75	90	7361-0845

RECOMMENDED FOR: Flexible hose between the riser and manifold or around the ball joint of offshore drilling rigs.

-4°F to +200°F (-20°C to +93°C) continuous service. TEMPERATURE:

CONSTRUCTION: Tube:

Type V (Fluoroelastomer). Black. Resists abrasion, corrosion, oil, and up to $20\%~H_2S$. NOTE: Hose is manufactured to handle up to $20\%~Hydrogen~Sulfide~(H_2S)$ for 1 hour at

93°C (200°F) at rated working pressure.

Multiple layers of "close wound", high tensile plated steel cables, with one layer of adhe-Reinforcement: sion fabric placed between cable layers. Multiple layers of reinforcement under cover.

Type $\mathrm{C_4}$ (Modified Nitrile). Black. Specially compounded UltraBrasion cover is resistant to abrasion, corrosion, cutting, gouging, oil and weather. Cover:

COUPLINGS: Swaged – meets NACE MR0175. Per API – flexible Choke and Kill hose end fittings will be butt-welded

and the pressure rating shall be equivalent to the pressure rating of the flexible hose. Couplings can be supplied with your choice of end fittings. Please contact your nearest Roughneck Distributor for more detailed

information. (Refer to Roughneck Distributor list at the beginning of this section).

NOTE: FIELD WELDING OF FITTINGS TO COUPLING IS NOT RECOMMENDED.

FITTINGS:

Hammer Unions









Female Sub

Male Sub./Nut

PACKAGING: Each length packaged in a heavy-duty wooden crate.

BRANDING:

One continuous longitudinal yellow transfer label (with serial number and code date embossed). Example: "GATES® BLACK GOLD® CHOKE AND KILL – MAX 20% $\rm H_2S$ 3 INCH MAX WP 10000 PSI TESTED TO 15000 PSI MADE IN U.S.A."

CERTIFICATION/

STANDARDS: Coupling/Mat'l Traceability (Additional Cost)

Letter of Conformance (Additional Cost)

Lloyds Fire Test OD/1000/499

Test Certificates

3rd Party Witness Test (Additional Cost)

OPTIONAL: Accessories such as SAFETY CLAMPS, HOSE LIFT EYE & COLLAR CLAMP and STAINLESS STEEL



Oilfield Hose

Black Gold®

Super Choke and Kill

15,000 psi W.P. – 22,500 Test – 33,750 Minimum Burst

(Specification 4758L)

Nom. I.D.	Nom. O.D.	Min. Bend Radius (Inches)	Wt. per Ft. of hose (Lbs)	Swage Cplg. Wts. Each (Lbs)	Maximum length of hose (Feet)	Safety Clamp & Chain Part No.
2-1/2	5.66	60	29.4	130	90	7361-0840
3	6.16	60	33.2	172	90	7361-0845

RECOMMENDED FOR: Flexible hose between the riser and manifold or around the ball joint of offshore drilling rigs.

-4°F to +200°F (-20°C to +93°C) continuous service. TEMPERATURE:

CONSTRUCTION: Tube: Type V (Fluoroelastomer). Black. Resists abrasion, corrosion, oil, and up to 20% H₂S.

NOTE: Hose is manufactured to handle up to 20% Hydrogen Sulfide (H₂S) for 1 hour at

93°C (200°F) at rated working pressure.

Multiple layers of "close wound", high tensile plated steel cables to withstand flexing and **Reinforcement:**

high pressures encountered in offshore operations. Multiple layers of fabric reinforcement

under cover.

Type C₄ (Modified Nitrile). Black. Specially compounded UltraBrasion cover is resistant

to abrasion, corrosion, cutting, gouging, oil and weather.

COUPLINGS: Special Built-In - meets NACE MR0175. Per API - flexible Choke and Kill hose end fittings will be butt-

welded and the pressure rating shall be equivalent to the pressure rating of the flexible hose. Couplings can be supplied with your choice of end fittings. Please contact your nearest Roughneck Distributor for more

detailed information. (Refer to Roughneck Distributor list at the beginning of this section). NOTE: FIELD WELDING OF FITTINGS TO COUPLING IS NOT RECOMMENDED.

FITTINGS: Hammer Unions

Cover:









Female Sub Each length packaged in a heavy-duty wooden crate.

BRANDING:

One continuous longitudinal yellow transfer label (with serial number and code date embossed). Example: "GATES® BLACK GOLD® SUPER CHOKE AND KILL – MAX 20% $\rm H_2S$ 3 INCH MAX WP 15000 PSI TESTED TO 22500 PSI MADE IN U.S.A."

CERTIFICATION/

PACKAGING:

STANDARDS:

Coupling/Mat'l Traceability (Additional Cost) Letter of Conformance (Additional Cost)

NACE

Test Certificates

3rd Party Witness Test (Additional Cost)

Accessories such as SAFETY CLAMPS, HOSE LIFT EYE & COLLAR CLAMP and STAINLESS STEEL **OPTIONAL:**



Black Gold®

Rotary Decoking

Oilfield Hose

5,000 psi W.P. – 10,000 Test – 12,500 Minimum Burst – Grade D

(Specification 4774PE)

Nom. I.D.	Nom. O.D.	Min. Bend Radius (Inches)	Wt. per Ft. of hose (Lbs)	Swage Cplg. Wts. Each (Lbs)	Maximum length of hose (Feet)	Safety Clamp & Chain Part No.
3	4.61	48	10.8	44.5	90	7361-0830
3-1/2	5.25	54	12.8	47	90	7361-0835
4	5.61	54	13.4	55	90	7361-0840

7,500 psi W.P. – 15,000 Test – 18,750 Minimum Burst – Grade E

(Specification 4773PE)

Ī	Nom. I.D.	Nom. O.D.	Min. Bend Radius (Inches)	Wt. per Ft. of hose (Lbs)	Swage Cplg. Wts. Each (Lbs)	Maximum length of hose (Feet)	Safety Clamp & Chain Part No.
Ī	3	5.66	48	22.6	70	90	7361-0840
Ī	3-1/2	6.04	54	24.1	75	90	7361-0845
Ī	4	6.40	60	25.8	90	90	7361-0850

RECOMMENDED FOR: Coke is one of the by-products used in oil refining. It is stored in silos until it can be loaded into railroad cars for

shipment. The coke hardens after being placed in the silos. To unload the coke from the silos, a decoking hose is attached to a drill stem which travels down the silo using warm, high-pressure water to wash the loosened coke

 -4° F to $+180^{\circ}$ F (-20° C to $+82^{\circ}$ C) continuous service. TEMPERATURE:

CONSTRUCTION: Tube: Type C₃ (Modified Nitrile). 3/16" thick. Black. Specially compounded for handling

abrasion and corrosion.

Multiple layers of polyester cord over tube. Multiple layers of "close wound", high tensile Reinforcement:

steel cables with one layer of adhesion fabric placed between cable layers. Multiple layers

of reinforcement under cover. Type C₄ (Modified Nitrile). Black. Specially compounded UltraBrasion cover is resistant

to abrasion, corrosion, cutting, gouging, oil and weather. **COUPLINGS:**

Swaged - supplied with API standard flanges or equivalent of your choice. Please contact your nearest Roughneck Distributor for more detailed information. (Refer to Roughneck Distributor list at the beginning of this section).

NOTE: FIELD WELDING OF FITTINGS TO COUPLING IS NOT RECOMMENDED.

FITTINGS: Flanges

Cover:

PACKAGING: Each length packaged in a heavy-duty wooden crate.

BRANDING:

One continuous longitudinal yellow transfer label (with serial number and code date embossed). Example: "GATES® BLACK GOLD® ROTARY VIBRATOR 3 INCH MAX WP 5000 PSI API SPEC 7K TESTED TO 10000 PSI GRADE D FSL 1 TEMP RANGE 1 ISO 14693 LICENSE 7K-0003 MADE IN U.S.A."

CERTIFICATION/

STANDARDS: Coupling/Mat'l Traceability (Additional Cost)

Letter of Conformance (Additional Cost)

Test Certificates

3rd Party Witness Test (Additional Cost)

OPTIONAL: Accessories such as SAFETY CLAMPS, HOSE LIFT EYE & COLLAR CLAMP and STAINLESS STEEL

ARMOR are available.

Due to continual product improvements, Gates reserves the right to alter specs and prices without prior notice

Oilfield Hose

Safety Clamps & Chain

For Rotary Vibrator/Drilling Hose

Grade "D" Rotary Hose or Motion Compensator Hose 5,000 psi W.P. – 10,000 Test

Nom. I.D.	Θ	Standard	Stock (X) or Minimum	Gates
(ln.)	(mm)	Pack	Order Qty.	Item. No.
2-1/2	63.5	1 EA	X	7361-0825
3	76.2	1 EA	X	7361-0830
3-1/2	88.9	1 EA	X	7361-0835
4	101.6	1 EA	X	7361-0840

Grade "E" Rotary Hose 7,500 psi W.P. – 15,000 Test

Nom. I.D.	Θ	Standard	Stock (X) or Minimum	Gates
(ln.)	(mm)	Pack	Order Qty.	Item. No.
2-1/2	63.5	1 EA	X	7361-0835
3	76.2	1 EA	X	7361-0840
3-1/2	88.9	1 EA	X	7361-0845
4	101.6	1 EA	X	7361-0850

SAFETY CLAMP: A set of safety clamps can be obtained on special order. Location for attaching these safety

clamps is shown by notations marked at each end of the assembly.

NOTE: Not Sold Separately. Additional Cost. Contact a Roughneck Distributor for pricing.



LIFT EYE AND COLLAR: Hose lift eye and collar clamp also available. Do not use safety clamp and chain for lifting.

NOTE: Additional Cost. Contact a Roughneck Distributor for pricing.



STAINELSS STEEL An external stainless steel armor shield can be supplied. Applied over the hose cover.

ARMOR: The armor provides extra abrasion and mechanical protection for the hose, where external

abuse is severe.

NOTE: Additional Cost. Contact a Roughneck Distributor for pricing.





Oilfield Hose

Powerbraid® Plus (Slim Hole Rotary)

(Specification 3670H, 4651RL, ZL)

2,000 - 3,000 Working Pressure 4651RL, 3670H

Nom. I.D.	Θ	Nom. O.D.	Ō	Max. W.P.	(Suction	\bigcirc	Min. Bend Radius	P	Wt. Per Ft.	\triangle	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
2	50.8	2.63	66.8	3000	20.68	_	_	25.0	635	2.95	1.34	50 ft.	X	3670-0655
2	50.8	2.63	66.8	3000	20.68	_	_	25.0	635	2.95	1.34	200 ft.	X	3670-0660
2 1/2	63.5	3.38	85.9	2500	17.24	_	_	30.0	762	4.00	1.81	50 ft.	X	3670-0656
3	76.2	3.90	99.1	2000	13.79	_	_	36.0	914	4.33	1.96	50 ft.	X	3670-0657

5,000 Working Pressure 4651ZL

Nom. I.D.	Θ	Nom. O.D.	O	Max. W.P.	(Suction	\bigcirc	Min. Bend Radius	P	Wt. Per Ft.	\triangle	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
1	25.4	1.53	38.9	5000	34.47	_		12.0	305	1.49	.68	200 ft.	X	3670-0665
1 1/4	31.8	1.97	50.0	5000	34.47	_	_	16.5	419	2.67	1.21	200 ft.	X	3670-0670
1 1/2	38.1	2.26	57.4	5000	34.47	_	_	20.0	508	3.22	1.46	200 ft.	X	3670-0675
2	50.8	2.80	71.1	5000	34.47	_	_	25.0	635	4.72	2.14	50 ft.	Х	3670-0679
2	50.8	2.80	71.1	5000	34.47	l —	_	25.0	635	4.72	2.14	200 ft.	Χ	3670-0680

Rotary applications on workover rigs and slim hole or seismograph rigs designed to operate at a maximum of 2,000 to 5,000 PSI rated working pressure depending on size. Applications on small or medium-size drilling rigs RECOMMENDED FOR:

used for water well operations, water well core drill, blast or shot hole operations. Hoses are flexible connectors in pressure lines used in conveying mud or air. For normal air or mud applications and where increased resistance to

external abuse or pump pulsations is required.

TEMPERATURE: -40°F to +180°F (-40°C to +82°C) continuous service.

CONSTRUCTION: **Tube:** Type A (Neoprene). Black. For 1 1/2" I.D. and 2" I.D. 5,000 psi and 2" I.D. 3,000 psi.

Type C (Nitrile). Black. For 1' and 1 1/4" I.D. 5,000 psi, 2 1/2" I.D. 2,500 psi and 3" I.D.

2,000 psi.

High tensile steel wire. (Minimum 2.5:1 design factor). **Reinforcement:**

Type A (Neoprene). Black with blue longitudinal stripes. All sizes perforated. Cover:

COUPLINGS: 1 1/2" I.D. 5,000 psi. Gates 24PCM-24MPAPI (7347-0307)

1 1/4" I.D. 5,000 psi. Gates 20GS-20MPAPI (7347-7695) 1" I.D. 5,000 psi. Gates 16GS-16MPLH (7347-7654) 2" I.D. 5,000 psi. Gates 32PCM-32MPAPI (7347-0305) 2" I.D. 5,000 psi. Gates 32PCS-32MPAPI (7347-0389)

71 Permanent (Mulconroy - API threads only) or reusable male couplings (Wildman - API threads only). 77 GSH® with Integral 2" Fig. 1502 Hammer Unions. Reference the Hose Coupling Section.

For GS, PCM and PCS couplings reference Gates Hydraulic Hose catalog #35093.

PACKAGING: All sizes packaged 1 length in a carton.

BRANDING: Continuous transfer label. Example: "GATES® POWERBRAID® PLUS SLIM HOLE ROTARY 2 INCH 3000 PSI

WP FLAME RESISTANT, MSHA 2G-IC-11C MADE IN U.S.A."

SPECIAL ORDER **REQUIREMENTS:**

Special production runs require minimum order quantities of 3,000 feet for 1" and 1,800 feet for 1~1/4" through 2". For 2", 2~1/2" and 3" 50 foot lengths, minimum is 600 feet. Maximum length available for 2~1/2" and 3" is 50

REMNANT LENGTHS: None.

> STANDARDS: Tube: RMA (Class B) Medium oil resistance.

Meets MSHA 30 CFR 18.65. Flame resistant. Cover:



Oilfield Hose

16 EFBOP Blow-Out Preventer

(Specification 4651ZL, XL)

Nom. I.D.	Θ	Nom. O.D.	O	Max. W.P.	(Suction	0	Min. Bend Radius		Wt. Per Ft.	Å	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
1	25.4	1.53	38.9	5000	34.97	_	_	12.0	305	1.49	.68	200 ft.	Χ	3670-0141
1 1	25.4	1.53	38.9	6000	41.36	_	_	120	305	1 49	68	200 ft	X	3670-0140

RECOMMENDED FOR: Insert hose in all oilfield blow-out systems. This rugged hose has been tested for 5,000 psi STATIC pressure

requirements. NOTE: Insert must be sleeved and shielded for BOP applications in accordance with applicable

-40°F to +250°F (-40°C to +121°C) continuous service. TEMPERATURE:

CONSTRUCTION: Type C (Nitrile). Black. Petroleum and Bio-degradable oil resistant.

Reinforcement: High tensile steel wire. (Minimum 4:1 design factor for static applications).

Type A (Neoprene). Black. Red lettering.

Gates GlobalSpiral. Stem 16GS-16MPAPI (7347-79285), 16GS-16MPLH (7347-76545). Ferrule 16GS1F-4 (7347-79285) **COUPLINGS:**

03145). See the Gates Hydraulics catalog 35093.

PACKAGING: 200' per carton.

BRANDING: Continuous transfer label. Example: "GATES® ENVIROFLUID™ 16 EFBOP 5000 PSI MAX STATIC WP USE

ONLY FOR BLOW OUT PREVENTER INSERT HOSE MADE IN U.S.A.'

Special production runs require minimum order quantities of 3000 feet. If a special transfer label is required, contact Gates Corporation for minimum quantity. SPECIAL ORDER

REQUIREMENTS:

REMNANT LENGTHS: None.

> STANDARDS: **Tube:** RMA (Class A) High oil resistance.

Meets MSHA 30 CFR 18.65. Flame resistant. Cover:



Petroleum Transfer Hose

Longhorn®

(Specification 4688CC/4688DC)

Smooth Cover (4688CC)

Nom. I.D.	Θ	Nom. O.D.	<u>10</u>	Max. W.P.	(Suction	\bigcirc	Min. Bend Radius	(P)	Wt. Per Ft.	\triangle	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
1	25.4	1.50	38.1	150	1.03	30.0	762	3.0	76	.60	.27	200 ft.	400 ft.	4688-0454
1	25.4	1.50	38.1	150	1.03	30.0	762	3.0	76	.60	.27	100 ft.	X	4688-1305
1 1/4	31.8	1.75	44.5	150	1.03	30.0	762	4.0	102	.72	.33	100 ft.	X	4688-1306
1 1/2	38.1	2.02	51.3	150	1.03	30.0	762	4.0	102	.88	.36	100 ft.	X	4688-1307
1 1/2	38.1	2.02	51.3	150	1.03	30.0	762	4.0	102	.88	.36	200 ft.	400 ft.	4688-1493
2	50.8	2.52	64.0	150	1.03	30.0	762	6.0	152	1.12	.51	100 ft.	X	4688-1308
2	50.8	2.52	64.0	150	1.03	30.0	762	6.0	152	1.12	.51	200 ft.	400 ft.	4688-1342
2 1/2	63.5	3.05	77.5	150	1.03	30.0	762	8.0	203	1.50	.68	200 ft.	400 ft.	4688-0455
2 1/2	63.5	3.05	77.5	150	1.03	30.0	762	8.0	203	1.50	.68	100 ft.	X	4688-1309
3	76.2	3.58	90.9	150	1.03	30.0	762	9.0	229	1.90	.86	100 ft.	X	4688-1310
3	76.2	3.58	90.9	150	1.03	30.0	762	9.0	229	1.90	.86	200 ft.	400 ft.	4688-1343
4	101.6	4.62	117.4	150	1.03	30.0	762	12.0	305	2.65	1.20	100 ft.	X	4688-1311
4	101.6	4.62	117.4	150	1.03	30.0	762	12.0	305	2.65	1.20	200 ft.	400 ft.	4688-1344

Corrugated Cover (4688DC)

Nom. I.D.	Θ	Nom. O.D.	Ō	Max. W.P.	(Suction	0	Min. Bend Radius	P	Wt. Per Ft.	Å	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
2 3	50.8 76.2	2.52 3.58	64.0 90.9	150 150	1.03 1.03	30.0 30.0	762 762	5.0 8.0	127 203	1.13 1.78	.51 .81	100 ft. 100 ft.	X	4688-1351 4688-1352
4	101.6	4.64	117.9	150	1.03	30.0	762	11.0	279	2.65	1.20	100 ft.	X	4688-1353
6	152.4	6.87	174.5	150	1.03	30.0	762	17.0	432	5.91	2.68	50 ft.	Х	4688-1355

RECOMMENDED FOR: Transfer of refined fuels (commercial gasoline and diesel fuel), oils and other petroleum products. Ideal for oilfield

service truck use. Service life of transfer hoses can be extended by draining hoses after use. For bio-diesel and other alternative fuel applications, see Longhorn® AF. Petroleum transfer hoses may be used with all grades of bio-diesel only if the exposure is intermittent and the hose is drained between uses.

TEMPERATURE: -40°F to +180°F (-40°C to +82°C). Warning: Do not convey fuels over 120°F (+49°C).

CONSTRUCTION: Tube: Type C (Nitrile). Black.

Synthetic, high tensile textile with steel wire helix. Type A (Neoprene). Black with red spiral stripe. **Reinforcement:** Cover:

COUPLINGS: 7, 26, 49 or 78. (for ambient temperatures only). Reference the Hose Coupling Section.

PACKAGING: All lengths coiled and wrapped in polyethylene.

BRANDING: Continuous transfer label. Example: "GATES® Longhorn® Petroleum Transfer 150 PSI (1.03MPa) WP Made In

SPECIAL ORDER **REQUIREMENTS:**

Specific cut lengths available through the Cut Length Program. Contact Customer Service for details.

REMNANT LENGTHS:

Remnant lengths are sometimes available in popular sizes at a discount. Contact Gates Corporation for pricing,

order requirements and availability.



Petroleum Transfer Hose

Longhorn® AF (Alternative **Fuel-Corrugated**)

(Specification 4688AC, AF)

Smooth Cover (4688AF)

Nom. I.D.	Θ	Nom. O.D.	Ō	Max. W.P.	(Suction	\bigcirc	Min. Bend Radius	P	Wt. Per Ft.	\triangle	Standard	Stock (X) or Minimum	Gates
(ln.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(ln.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
1	25.4	1.50	38.1	150	1.03	30.0	762	3.0	76	.53	.27	100 ft.	X	4688-1700
1	25.4	1.50	38.1	150	1.03	30.0	762	3.0	76	.59	.27	200 ft.	400 ft.	4688-1701
1 1/4	31.8	1.75	44.5	150	1.03	30.0	762	4.0	102	.70	.32	100 ft.	X	4688-1702
1 1/4	31.8	1.75	44.5	150	1.03	30.0	762	4.0	102	.70	.32	200 ft.	400 ft.	4688-1703
1 1/2	38.1	2.02	51.3	150	1.03	30.0	762	4.0	102	.87	.39	100 ft.	X	4688-1704
1 1/2	38.1	2.02	51.3	150	1.03	30.0	762	4.0	102	.87	.39	200 ft.	400 ft.	4688-1705
2	50.8	2.52	64.0	150	1.03	30.0	762	6.0	152	1.10	.50	100 ft.	X	4688-1706
2	50.8	2.52	64.0	150	1.03	30.0	762	6.0	152	1.10	.50	200 ft.	400 ft.	4688-1707
2 1/2	63.5	3.05	77.5	150	1.03	30.0	762	8.0	203	1.47	.67	100 ft.	X	4688-1708
2 1/2	63.5	3.05	77.5	150	1.03	30.0	762	8.0	203	1.47	.67	200 ft.	400 ft.	4688-1709
3	76.2	3.53	89.7	150	1.03	30.0	762	9.0	229	1.86	.84	100 ft.	X	4688-1710
3	76.2	3.53	89.7	150	1.03	30.0	762	9.0	229	1.86	.84	200 ft.	400 ft.	4688-1711
4 4	101.6	4.57	116.1	150	1.03	30.0	762	12.0	305	2.59	1.17	100 ft.	X	4688-1712
	101.6	4.57	116.1	150	1.03	30.0	762	12.0	305	2.59	1.17	200 ft.	400 ft.	4688-1713

Corrugated Cover (4688AC)

Nom. I.D.	Θ	Nom. O.D.	O	Max. W.P.	(Suction	\bigcirc	Min. Bend Radius	(R)	Wt. Per Ft.	\triangle	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
1	25.4	1.50	38.1	150	1.03	30.0	762	3.0	76	.59	.27	100 ft.	X	4688-1718
1 1/4	31.8	1.75	44.5	150	1.03	30.0	762	4.0	102	.70	.32	100 ft.	X	4688-1720
1 1/4	31.8	1.75	44.5	150	1.03	30.0	762	4.0	102	.70	.32	200 ft.	400 ft.	4688-1721
1 1/2	38.1	2.02	51.3	150	1.03	30.0	762	4.0	102	.87	.39	100 ft.	X	4688-1722
1 1/2	38.1	2.02	51.3	150	1.03	30.0	762	4.0	102	.87	.39	200 ft.	400 ft.	4688-1723
2	50.8	2.52	64	150	1.03	30.0	762	6.0	152	1.10	.50	100 ft.	X	4688-1724
2	50.8	2.52	64	150	1.03	30.0	762	6.0	152	1.10	.50	200 ft.	400 ft.	4688-1725
2 1/2	63.5	3.05	77.5	150	1.03	30.0	762	8.0	203	1.47	.67	100 ft.	X	4688-1726
2 1/2	63.5	3.05	77.5	150	1.03	30.0	762	8.0	203	1.47	.67	200 ft.	400 ft.	4688-1727
3	76.2	3.53	89.7	150	1.03	30.0	762	9.0	229	1.86	.84	100 ft.	X	4688-1728
3	76.2	3.53	89.7	150	1.03	30.0	762	9.0	229	1.86	.84	200 ft.	400 ft.	4688-1729
4	101.6	4.57	116.1	150	1.03	30.0	762	12.0	305	2.59	1.17	100 ft.	X	4688-1730
4	101.6	4.57	116.1	150	1.03	30.0	762	12.0	305	2.59	1.17	200 ft.	400 ft.	4688-1731

RECOMMENDED FOR:

Longhorn AF is designed and engineered specifically for constant contact use in the transfer of alternative fuels such as bio-diesel, bio-diesel blends, ethanol and ethanol blends. It can also be used for transfer of commercial gasolines, diesel fuels, oils and other petroleum products. It is ideal for tank truck, terminal loading and in-plant

TEMPERATURE:

-30°F to +180°F (-34°C to +82°C). Warning: Do not convey fuels over 120°F (+49°C). Contact Denver Product Application (303) 744-5070 for use at temperature extremes.

CONSTRUCTION:

Type C (Nitrile). Black.

Reinforcement:

Synthetic, high tensile textile with steel wire helix.

Type C2 (Modified Nitrile). Black with red spiral stripe and green boarder.

COUPLINGS:

7, 26, 49 or 78. (for ambient temperatures only). Reference the Hose Coupling Section.

PACKAGING:

All lengths coiled and wrapped in polyethylene.

BRANDING:

Continuous transfer label. Example: "GATES" LONGHORN" AF 150 PSI (1.03MPa) WP FLAME RESISTANT MSHA IC-4116 MADE IN U.S.A."

SPECIAL ORDER **REQUIREMENTS:**

Special production runs require minimum order quantities of 400 feet for sizes through 4" and 200 feet for sizes above 4". If a special transfer label is required, contact Gates Corporation for minimum quantity.

Specific cut lengths available through the Cut Length Program. Contact Customer Service for details.

REMNANT LENGTHS:

Remnant lengths are sometimes available in popular sizes at a discount. Contact Gates Corporation for pricing,

order requirements and availability.

STANDARDS:

Tube:

Cover:

RMA (Class A) High oil resistance. Meets MSHA 30 CFR 18.65. Flame resistant.

RMA (Class A) High oil resistance.



Petroleum Transfer Hose

REQUIREMENTS:

Steer®

(Specification 4688CN)

Nom. I.D.	Θ	Nom. O.D.	Ō	Max. W.P.	(Suction	\bigcirc	Min. Bend Radius	P	Wt. Per Ft.	\triangle	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
2	50.8	2.44	62.0	150	1.03	_	_	_	_	.93	.42	100 ft.	Χ	4688-1320
2	50.8	2.44	62.0	150	1.03	_	_	_	_	.93	.42	200 ft.	400 ft.	4688-1491
3	76.2	3.45	87.6	150	1.03	_	_	_	_	1.39	.63	100 ft.	Χ	4688-1321
3	76.2	3.45	87.6	150	1.03	_	_	_	_	1.39	.63	200 ft.	400 ft.	4688-1530
4	101.6	4.51	114.6	150	1.03	_	_	_	_	2.03	.92	100 ft.	X	4688-1322
4	101.6	4.51	114.6	150	1.03	_	_	_	_	2.03	.92	200 ft.	400 ft.	4688-1531

RECOMMENDED FOR:

Transfer of refined fuels (commercial gasoline and diesel fuel), oils and other petroleum products. Ideal for oilfield service truck use. Service life of transfer hoses can be extended by draining hoses after use. For bio-diesel and other alternative fuel applications, see Longhorn® AF. Petroleum transfer hoses may be used with all grades of bio-diesel only if the exposure is intermittent and the hose is drained between uses.

TEMPERATURE: -40°F to +180°F (-40°C to +82°C). Warning: Do not convey fuels over 120°F (+49°C).

CONSTRUCTION: Tube: Type C (Nitrile). Black.

Braided, high tensile synthetic textile cord with static conductor. Type A (Neoprene). Black with red spiral stripe. **Reinforcement:**

Cover:

COUPLINGS: 7, 26, 49 or 78. (for ambient temperatures only). Reference the Hose Coupling Section.

100' length coiled and wrapped in polyethylene. PACKAGING:

Continuous transfer label. Example: "GATES" Steer" Petroleum Transfer Discharge 150 PSI (1.03MPa) WP Made **BRANDING:**

Special production runs require minimum order quantities of 400 feet per size. If a special transfer label is SPECIAL ORDER

required, contact Gates Corporation for minimum quantity.

Specific cut lengths available through the Cut Length Program. Contact Customer Service for details.

REMNANT LENGTHS: Remnant lengths are sometimes available in popular sizes at a discount. Contact Gates Corporation for pricing,

order requirements and availability.



Petroleum Transfer Hose

MaverickTM

(Specification 4687R)

Nom. I.D.	Θ	Nom. O.D.	O	Max. W.P.	(Suction	0	Min. Bend Radius		Wt. Per Ft.	Å	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
2	50.8	2.48	63.0	100	.69	30.0	762	4.0	102	1.08	.49	100 ft.	X	4687-0251
3	76.2	3.50	88.9	100	.69	30.0	762	6.0	152	1.73	.79	100 ft.	X	4687-0252
4	101.6	4.50	114.3	100	.69	30.0	762	11.0	279	2.25	1.02	100 ft.	X	4687-0253

RECOMMENDED FOR: Transfer of refined fuels (commercial gasoline and diesel fuel), oils and other petroleum products. Ideal for oilfield service truck use. Service life of transfer hoses can be extended by draining hoses after use. For bio-diesel and other alternative fuel applications, see Longhorn® AF. Petroleum transfer hoses may be used with all grades of bio-diesel only if the exposure is intermittent and the hose is drained between uses.

TEMPERATURE: -40°F to +180°F (-40°C to +82°C). Warning: Do not convey fuels over 120°F (+49°C).

CONSTRUCTION: Tube: Type C (Nitrile). Black.

Reinforcement:

Synthetic, high tensile textile with steel wire helix.

Type C2 (Modified Nitrile). Red corrugated with white spiral stripe. Cover:

COUPLINGS: 7, 26, 49 or 78. (for ambient temperatures only). Reference the Hose Coupling Section.

PACKAGING: 100' length coiled and wrapped in polyethylene.

BRANDING: Continuous transfer label. Example: "GATES® Maverick™ Petroleum Transfer 100 PSI (.69MPa) WP Made In

SPECIAL ORDER Special production runs require minimum order quantities of 400 feet per size. If a special transfer label is

REQUIREMENTS: required, contact Gates Corporation for minimum quantity.

Specific cut lengths available through the Cut Length Program. Contact Customer Service for details.

REMNANT LENGTHS: Remnant lengths are sometimes available in popular sizes at a discount. Contact Gates Corporation for pricing,

order requirements and availability.



Petroleum Transfer Hose

Super-Vac®

(Specification 4688V)

Nom. I.D.	Θ	Nom. O.D.	O	Max. W.P.	(Suction	0	Min. Bend Radius	P	Wt. Per Ft.	Å	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
1	25.4	1.42	36.1	150	1.03	30.0	762	3.0	76	.52	.24	100 ft.	X	4688-0651
1 1/4	31.8	1.68	42.7	150	1.03	30.0	762	3.0	76	.67	.30	100 ft.	X	4688-0653
1 1/2	38.1	1.97	50.0	150	1.03	30.0	762	3.0	76	.77	.35	100 ft.	X	4688-0656
2	50.8	2.47	62.7	150	1.03	30.0	762	4.0	102	.99	.45	100 ft.	X	4688-0665
2	50.8	2.47	62.7	150	1.03	30.0	762	4.0	102	.99	.45	200 ft.	400 ft.	4688-0668
2 1/2	63.5	2.99	75.9	150	1.03	30.0	762	5.0	127	1.46	.66	100 ft.	X	4688-0675
3	76.2	3.52	89.4	150	1.03	30.0	762	6.0	152	1.76	.80	100 ft.	X	4688-0680
4	101.6	4.52	114.8	100	.69	30.0	762	8.0	203	2.29	1.04	100 ft.	X	4688-0690
6	152.4	6.67	169.4	60	.41	30.0	762	18.0	457	4.37	1.98	20 ft.	X	4688-0697
6	152.4	6.67	169.4	60	.41	30.0	762	18.0	457	4.37	1.98	50 ft.	X	4688-0698
6	152.4	6.67	169.4	60	.41	30.0	762	18.0	457	4.37	1.98	200 ft.	400 ft.	4688-0702

RECOMMENDED FOR: NOTE: NOT RECOMMENDED FOR REFINED PETROLEUM PRODUCTS SUCH AS GASOLINE.

Tank truck service, including oil field vacuum truck, where full suction or rated working pressures are required. Ideal for applications handling crude oil, salt and fresh water, tank bottoms, drilling mud, dilute solutions of hydrochloric acids, diesel fuels and sewage transfer. Reference Gates Chemical Resistance Table.

TEMPERATURE: -40°F to +150°F (-40°C to +66°C) continuous service. NOTE: Diesel fuel normally conveyed below 120°F

(+49°C).

CONSTRUCTION: Type C (Nitrile). Black. **Tube:**

Reinforcement: Synthetic, high tensile textile with steel wire helix. Type D (SBR). Black corrugated with blue spiral stripe.

COUPLINGS: 6, 7 or 78. (for ambient temperatures only). Reference the Hose Coupling Section.

PACKAGING: All lengths coiled and wrapped in polyethylene.

Continuous transfer label. Example: "GATES® Super-Vac® Oil Field Vacuum 150 PSI (1.03MPa) WP Made In **BRANDING:**

Special production runs require minimum order quantities of 400 feet for sizes through 4" and 200 feet for sizes above 4". If a special transfer label is required, contact Gates Corporation for minimum quantity. SPECIAL ORDER REQUIREMENTS:

Specific cut lengths available through the Cut Length Program. Contact Customer Service for details.

REMNANT LENGTHS: Remnant lengths are sometimes available in popular sizes at a discount. Contact Gates Corporation for pricing,

order requirements and availability.

STANDARDS: Tube: RMA (Class B) Medium oil resistance.



Petroleum Transfer Hose

Blender Transfer

(Specification 4110DW)

Nom I.D	: O	Nom. O.D.	Ō	Max. W.P.	(Suction	0	Min. Bend Radius		Wt. Per Ft.	Å	Standard	Stock (X) or Minimum	Gates
(In.) (mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
	4 101.6	4.73	120.1	150	1.03	_	_	_	_	3.07	1.39	100 ft.	400 ft.	4110-0400
:	5 127.0	5.73	145.5	150	1.03	_	_	_	_	3.77	1.71	100 ft.	400 ft.	4110-0500

RECOMMENDED FOR: Transfer of water, petroleum based fluids, dilute acids, chemicals and abrasive slurries used in oil and gas well

TEMPERATURE: -40° F to $+180^{\circ}$ F (-40° C to $+82^{\circ}$ C).

CONSTRUCTION: Type C (Nitrile). Black.

Reinforcement: Synthetic, high tensile textile. Cover: Type A (Neoprene). Black with red spiral stripe.

PACKAGING: 100' length coiled and wrapped in polyethylene.

BRANDING: Continuous transfer label. Example: "GATES® Blender Transfer 150 PSI (1.03MPa) WP Made In U.S.A."

Special production runs require minimum order quantities of 400 feet for 4" and 200 feet for 5". If a special SPECIAL ORDER

transfer label is required, contact Denver Industrial Hose Marketing for minimum quantity. **REQUIREMENTS:**

REMNANT LENGTHS: None.



Petroleum Transfer Hose

Sea Horse® 400 (Fuel Transfer)

(Specification 4110SH)

	Nom. I.D.	Θ	Nom. O.D.	O	Max. W.P.	(Suction	\circ	Min. Bend Radius	P	Wt. Per Ft.	Å	Standard	Stock (X) or Minimum	Gates
	(ln.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
Γ	2	50.8	2.70	68.6	400	2.76	10.0	254	17.0	432	1.51	.68	200 ft.	X	4110-0715
	3	76.2	3.67	93.2	400	2.76	10.0	254	22.0	559	2.14	.97	200 ft.	X	4110-0716
	4	101.6	4.83	122.7	400	2.76	10.0	254	30.0	762	3.43	1.56	200 ft.	X	4110-0717

RECOMMENDED FOR: Transfer of refined fuels (commercial gasoline, diesel fuel) oils and other petroleum products. Transfer hoses are designed for intermittent contact with refined fuels and must be drained after use. Ideal for offshore/onshore transfer applications involving discharge service for diesel oils and other similar petroleum products where an extremely lightweight, flexible hose with a high rated working pressure and a small minimum bend radius is required. For bio-diesel and other alternative fuel applications, see Longhorn® AF. Petroleum transfer hoses may be used with all grades of bio-diesel only if the exposure is intermittent and the hose is drained between uses.

TEMPERATURE: -40°F to +180°F (-40°C to +82°C) continuous service.

Type C (Nitrile). Black. CONSTRUCTION:

Synthetic, high tensile textile with static wire. Type A (Neoprene). Black with red spiral stripe. **Reinforcement:** Cover:

COUPLINGS: 14, 15, 71. Reference the Hose Coupling Section. PACKAGING: 200' length coiled and wrapped in polyethylene.

Continuous transfer label. Example: "GATES® SEA HORSE® 400 Fuel Transfer 400 PSI (2.76MPa) WP Made In **BRANDING:**

U.S.A.

SPECIAL ORDER Special production runs require minimum order quantities of 400 feet per size. If a special transfer label is

REQUIREMENTS: required, contact Gates Corporation for minimum quantity.

REMNANT LENGTHS: Remnant lengths are sometimes available in popular sizes at a discount. Contact Gates Corporation for pricing,

order requirements and availability.



Petroleum Transfer Hose

Sea Horse® 400 HW (Fuel **Transfer Suction/Discharge -**Hardwall)

(Specification 4688SH)

No	om. I.D.	Θ	Nom. O.D.	O	Max. W.P.	(Suction	0	Min. Bend Radius		Wt. Per Ft.	Å	Standard	Stock (X) or Minimum	Gates
(ln.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
	2	50.8	2.84	72.1	400	2.76	30.0	762	15.0	381	2.03	.92	200 ft.	Х	4688-0590
	3	76.2	4.00	101.6	400	2.76	30.0	762	20.0	508	3.66	1.66	200 ft.	X	4688-0591
	4	101.6	4.99	126.8	400	2.76	30.0	762	25.0	635	4.64	2.11	200 ft.	X	4688-0592

RECOMMENDED FOR:

Transfer of refined fuels (commercial gasoline and diesel fuel) oils and other petroleum products. Transfer hoses are designed for intermittent contact with refined fuels and must be drained after use. Ideal for offshore/onshore transfer applications involving suction and discharge service for diesel oils and other similar petroleum products where an extremely lightweight, hardwall, flexible hose with a high rated working pressure and a small minimum bend radius is required. For bio-diesel and other alternative fuel applications, see Longhorn® AF. Petroleum transfer hoses may be used with all grades of bio-diesel only if the exposure is intermittent and the hose is drained between uses.

TEMPERATURE: -40°F to +180°F (-40°C to +82°C) continuous service.

CONSTRUCTION: Tube:

Type C (Nitrile). Black. Synthetic, high tensile textile with steel wire helix. Type A (Neoprene). Black with red spiral stripe. Reinforcement: Cover:

COUPLINGS: 14, 15, 71. Reference the Hose Coupling Section. PACKAGING: 200' length coiled and wrapped in polyethylene.

BRANDING: Continuous transfer label. Example: "GATES® SEA HORSE® 400 HW Hardwall Fuel Transfer 400 PSI (2.76

MPa) WP Made In U.S.A.

SPECIAL ORDER Special production runs require minimum order quantities of 400 feet per size. If a special transfer label is

REQUIREMENTS: required, contact Gates Corporation for minimum quantity.

REMNANT LENGTHS: Remnant lengths are sometimes available in popular sizes at a discount. Contact Gates Corporation for pricing,

order requirements and availability.



Petroleum Transfer Hose

Sea Horse® (Fuel Transfer)

(Specification 4110SS)

Nom. I.D.	Θ	Nom. O.D.	O	Max. W.P.	(Suction	0	Min. Bend Radius		Wt. Per Ft.	Å	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
2	50.8	2.66	67.6	300	2.07	10.0	254	14.0	356	1.40	.64	200 ft.	X	4110-0701
2 1/2	63.5	3.16	80.3	300	2.07	10.0	254	17.0	432	1.70	.77	200 ft.	400 ft.	4110-0704
3	76.2	3.70	94.0	300	2.07	10.0	254	21.0	533	2.17	.98	200 ft.	X	4110-0707
4	101.6	4.70	119.4	300	2.07	10.0	254	28.0	711	2.80	1.27	200 ft.	X	4110-0710
5	127.0	5.84	148.3	300	2.07	10.0	254	35.0	889	4.14	1.88	200 ft.	X	4110-0713

RECOMMENDED FOR: Transfer of refined fuels (commercial gasoline, diesel fuel) oils and other petroleum products. Transfer hoses are

designed for intermittent contact with refined fuels and must be drained after use. Ideal for offshore/onshore transfer applications involving discharge service for diesel oils and other similar petroleum products where an extremely lightweight, flexible hose with a high rated working pressure and a small minimum bend radius is required. For bio-diesel and other alternative fuel applications, see Longhorn® AF. Petroleum transfer hoses may be used with all grades of bio-diesel only if the exposure is intermittent and the hose is drained between uses.

TEMPERATURE: -40°F to +180°F (-40°C to +82°C) continuous service.

CONSTRUCTION: Tube: Type C (Nitrile). Black.

Reinforcement: Synthetic, high tensile textile with static wire.

Cover: Type A (Neoprene). Black with red spiral stripe.

COUPLINGS: 14, 15, 71, all sizes. 26 2" and 2 1/2" only. Reference the Hose Coupling Section.

PACKAGING: 200' length coiled and wrapped in polyethylene.

BRANDING: Continuous transfer label. Example: "GATES" SEA HORSE" Fuel Transfer 300 PSI (2.07MPa) WP Made In

U.S.A."

SPECIAL ORDER Special production runs require minimum order quantities of 400 feet for sizes through 4" and 200 feet for sizes

REQUIREMENTS: above 4th. If a special transfer label is required, contact Gates Corporation for minimum quantity.

REMNANT LENGTHS: Remnant lengths are sometimes available in popular sizes at a discount. Contact Gates Corporation for pricing,

order requirements and availability.



Petroleum Transfer Hose

Sea Horse® HW (Fuel Transfer **Suction/Discharge - Hardwall)**

(Specification 4688SS)

Nom. I.D.	Θ	Nom. O.D.	Ō	Max. W.P.	(Suction	0	Min. Bend Radius	P	Wt. Per Ft.	Å	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
2	50.8	2.78	70.6	300	2.07	30.0	762	10.0	254	1.87	.85	200 ft.	X	4688-0584
3	76.2	3.86	98.0	300	2.07	30.0	762	18.0	457	3.14	1.42	200 ft.	X	4688-0585
4	101.6	4.87	123.7	300	2.07	30.0	762	24.0	610	4.03	1.83	200 ft.	Χ	4688-0587
6	152.4	7.07	179.6	200	1.38	30.0	762	36.0	914	7.95	3.61	100 ft.	X	4688-0589

Transfer of refined fuels (commercial gasoline and diesel fuel) oils and other petroleum products. Transfer hoses **RECOMMENDED FOR:**

are designed for intermittent contact with refined fuels and must be drained after use. Ideal for offshore/onshore transfer applications involving suction and discharge service for diesel oils and other similar petroleum products where an extremely lightweight, hardwall, flexible hose with a high rated working pressure and a small minimum bend radius is required. For bio-diesel and other alternative fuel applications, see Longhorn® AF. Petroleum transfer hoses may be used with all grades of bio-diesel only if the exposure is intermittent and the hose is drained

TEMPERATURE: -40°F to +180°F (-40°C to +82°C) continuous service.

CONSTRUCTION: Type C (Nitrile). Black.

Reinforcement: Synthetic, high tensile textile with steel wire helix. Type A (Neoprene). Black with red spiral stripe.

COUPLINGS: 14, 15 or 71. Reference the Hose Coupling Section. PACKAGING: 200' length coiled and wrapped in polyethylene.

BRANDING: Continuous transfer label. Example: "GATES® SEA HORSE® HW Hardwall Fuel Transfer 300 PSI (2.07MPa) WP

Made In U.S.A.

Special production runs require minimum order quantities of 400 feet for sizes through 4" and 200 feet for sizes above 4". If a special transfer label is required, contact Gates Corporation for minimum quantity. SPECIAL ORDER

REQUIREMENTS:

REMNANT LENGTHS: Remnant lengths are sometimes available in popular sizes at a discount. Contact Gates Corporation for pricing,

order requirements and availability.



Petroleum Transfer Hose

Trident® 400

(Specification 3150B)

Nom. I.D.	Θ	Nom. O.D.	O	Max. W.P.	(Suction	0	Min. Bend Radius	P	Wt. Per Ft.	Å	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
2	50.8	2.71	68.8	400	2.76	10.0	254	16.0	406	1.50	.68	200 ft.	Χ	3150-0410
2 1/2	63.5	3.20	81.3	400	2.76	10.0	254	20.0	508	1.82	.83	200 ft.	400 ft.	3150-0411
3	76.2	3.71	94.2	400	2.76	10.0	254	24.0	610	2.23	1.01	200 ft.	X	3150-0412
4	101.6	4.84	122.9	400	2.76	10.0	254	32.0	813	3.49	1.58	200 ft.	X	3150-0413

RECOMMENDED FOR: NOTE: For fuels, use a petroleum transfer hose with a Type C (Nitrile) tube.

Water, air and petroleum product transfer applications where a lightweight, flexible hose in long lengths is

TEMPERATURE: -30°F to +158°F (-34°C to +70°C) continuous service.

CONSTRUCTION: **Tube:** Type A (Neoprene). Black. **Reinforcement:** Synthetic, high tensile textile.

Type A (Neoprene). Black with blue spiral stripe for high visibility.

COUPLINGS: 14, 15, 71 or 8. Reference the Hose Coupling Section.

PACKAGING: 200' length coiled and wrapped in polyethylene.

BRANDING: Continuous transfer label. Example: "GATES® Trident® 400 Multi Service Transfer Air-Water-Petroleum 400 PSI

WP Fluid/250 PSI WP Air Made In U.S.A."

SPECIAL ORDER Special production runs require minimum order quantities of 400 feet per size. If a special transfer label is **REQUIREMENTS:**

required, contact Gates Corporation for minimum quantity.

REMNANT LENGTHS: Remnant lengths are sometimes available in popular sizes at a discount. Contact Gates Corporation for pricing,

order requirements and availability.

STANDARDS: RMA (Class B) Medium oil resistance. **Tube:**



Petroleum Transfer Hose

Master-Flex® Fuel Delivery

(Specification 7744)

Nom. I.D.	Θ	Nom. O.D.	O	Max. W.P.	(Suction	0	Min. Bend Radius	P	Wt. Per Ft.	Å	Standard	Stock (X) or Minimum	Gates
(ln.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
3	76.2	3.76	95.5	65	.45	28.0	711	6.0	152	1.71	.78	100 ft.	X	7744-7103
4	101.6	4.79	121.7	65	.45	28.0	711	8.0	203	2.44	1.11	100 ft.	X	7744-7104

*Working Pressure and Suction at +72°F (+22°C).

RECOMMENDED FOR: Transfer of commercial gasolines, diesel fuel, oils and other petroleum products. Ideal for oilfield service truck

TEMPERATURE: -30°F to +130°F (-34°C to +55°C) Warning: Do not convey fuels over 120°F (+49°C).

CONSTRUCTION: Type C3 (Modified Nitrile). Black.

Polyester fabric with static wire. Type G (PVC). Black with yellow helix. Reinforcement:

COUPLINGS: 6, 7, 49 or 78. Reference the Hose Coupling Section.

PACKAGING: All lengths coiled and wrapped in polyethylene.

BRANDING: Unlabeled.

SPECIAL ORDER None.

REQUIREMENTS: REMNANT LENGTHS: None.



Master-Flex® Fuel Delivery Sleeve

Nom. I.D.	Θ	Wt. Per Ea.	Å	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
3 4	76.2 101.6	5.13 7.32	2.33 3.32	3 ft. 3 ft.	1 ea. 1 ea.	7744-8103 7744-8104

Apply the sleeve by twisting in a clockwise direction. Use of an appropriate lubricant, i.e. soapy water solution, will simplify sleeve application and reduce possibility of damage to hose cover. Make sure sleeve is applied prior

to coupling insertion.

RECOMMENDED FOR: Soft Black PVC sleeve is designed to fit Gates Fuel Delivery Hose and provides a smooth banding surface.



Petroleum Transfer Hose

Master-Flex® Vapor Recovery

(Specification 7744)

Nom. I.D.	Θ	Nom. O.D.	O	Max. W.P.	(Suction	\circ	Min. Bend Radius	P	Wt. Per Ft.	Å	Standard	Stock (X) or Minimum	Gates
(ln.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
1 1/2	38.1	1.88	47.8	5	.03	_	_	1.5	38	.36	.16	100 ft.	1,000 ft.	7744-7015
2	50.8	2.43	61.7	5	.03	_	_	2.0	51	.48	.22	100 ft.	X	7744-7020
3	76.2	3.54	89.9	5	.03	_	_	3.0	76	.69	.31	100 ft.	X	7744-7030
4	101.6	4.56	115.8	5	.03	_	_	4.0	102	.92	.42	100 ft.	Х	7744-7040
5	127.0	5.51	140.0	5	.03	_	_	5.0	127	1.13	.51	100 ft.	1,000 ft.	7744-7050
6	152.4	6.52	165.6	5	.03	_	_	6.0	152	1.24	.56	100 ft.	1,000 ft.	7744-7060

*Working Pressure and Suction at +72°F (+22°C).

RECOMMENDED FOR: Vapor Recovery for use with Gates Brahma®, Longhorn® and Master-Flex® Fuel Delivery. Can also be used for

ducting, dust and light abrasive material handling.

TEMPERATURE: -30°F to +140°F (-34°C to +60°C) continuous service.

CONSTRUCTION: Tube: Type U (Polyurethane). Clear.

Reinforcement: Rigid yellow PVC helix with copper static wire.

Cover: Type G (PVC). Clear with yellow helix.

COUPLINGS: 7, 26, 49 or 78. Reference the Hose Coupling Section.

PACKAGING: 100' coiled and wrapped in polyethylene.

BRANDING: Unlabeled.

SPECIAL ORDER Special production runs require minimum order quantities of 1,000 feet per size. No deviations allowed to above

REQUIREMENTS: product REMNANT LENGTHS: None.



Master-Flex® Vapor Recovery Sleeve

Nom. I.D.	Θ	Wt. Per Ea.	Å	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
3 4	76.2 101.6	5.13 7.32	2.33 3.32	3 ft. 3 ft.	1 ea. 1 ea.	7744-8030 7744-8040

INSTALLATION: Apply the sleeve by twisting in a clockwise direction. Use of an appropriate lubricant, i.e. soapy water solution,

will simplify sleeve application and reduce possibility of damage to hose cover. Make sure sleeve is applied prior

to coupling insertion.

RECOMMENDED FOR: Soft Gray PVC sleeve is designed to fit Gates Vapor Recovery Hose and provides a smooth banding surface.



Petroleum Transfer Hose

Fuel Oil Delivery

(Specification 3221FR)

Nom. I.D.	Θ	Nom. O.D.	Ō	Max. W.P.	(Suction	\bigcirc	Min. Bend Radius	P	Wt. Per Ft.	\triangle	Standard	Stock (X) or Minimum	Gates
(ln.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
1	25.4	1.50	38.1	200	1.38	10.0	254	8.0	203	.58	.26	100 ft.	X	3221-0410
1	25.4	1.50	38.1	200	1.38	10.0	254	8.0	203	.58	.26	125 ft.	X	3221-0411
1	25.4	1.50	38.1	200	1.38	10.0	254	8.0	203	.58	.26	150 ft.	X	3221-0412
1	25.4	1.50	38.1	200	1.38	10.0	254	8.0	203	.58	.26	175 ft.	X	3221-0413
1 1/4	31.8	1.75	44.5	200	1.38	10.0	254	10.0	254	.75	.34	100 ft.	X	3221-0414
1 1/4	31.8	1.75	44.5	200	1.38	10.0	254	10.0	254	.75	.34	125 ft.	X	3221-0415
1 1/4	31.8	1.75	44.5	200	1.38	10.0	254	10.0	254	.75	.34	150 ft.	X	3221-0416
1 1/4	31.8	1.75	44.5	200	1.38	10.0	254	10.0	254	.75	.34	175 ft.	X	3221-0417
1 3/8	34.9	1.87	47.5	200	1.38	10.0	254	10.0	254	.80	.36	100 ft.	X	3221-0418
1 3/8	34.9	1.87	47.5	200	1.38	10.0	254	10.0	254	.80	.36	125 ft.	X	3221-0419
1 3/8	34.9	1.87	47.5	200	1.38	10.0	254	10.0	254	.80	.36	150 ft.	X	3221-0420
1 3/8	34.9	1.87	47.5	200	1.38	10.0	254	10.0	254	.80	.36	175 ft.	X	3221-0421
1 1/2	38.1	2.08	52.8	200	1.38	10.0	254	12.0	305	.95	.43	100 ft.	X	3221-0422
1 1/2	38.1	2.08	52.8	200	1.38	10.0	254	12.0	305	.95	.43	125 ft.	X	3221-0423
1 1/2	38.1	2.08	52.8	200	1.38	10.0	254	12.0	305	.95	.43	150 ft.	X	3221-0424
1 1/2	38.1	2.08	52.8	200	1.38	10.0	254	12.0	305	.95	.43	175 ft.	X	3221-0425
1 1/2	38.1	2.08	52.8	200	1.38	10.0	254	12.0	305	.95	.43	200 ft.	X	3221-0426

Fuel Oil Delivery Assemblies

Nom. I.D.	Θ	Nom. O.D.	Ō	Max. W.P.	(Suction	0	Min. Bend Radius	P	Wt. Per Ea.	Å	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(ln.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
1	25.4	1.50	38.1	200	1.38	10.0	254	8.0	203	61.00	27.67	100 ft. cpld	1 ea.	3221-0075
1	25.4	1.50	38.1	200	1.38	10.0	254	8.0	203	75.50	34.25	125 ft. cpld	1 ea.	3221-0076
1	25.4	1.50	38.1	200	1.38	10.0	254	8.0	203	90.00	40.82	150 ft. cpld	1 ea.	3221-0077
1	25.4	1.50	38.1	200	1.38	10.0	254	8.0	203	104.50	47.63	175 ft. cpld	1 ea.	3221-0078
1 1/4	31.8	1.75	44.5	200	1.38	10.0	254	10.0	254	79.00	33.11	100 ft. cpld	1 ea.	3221-0079
1 1/4	31.8	1.75	44.5	200	1.38	10.0	254	10.0	254	97.75	41.39	125 ft. cpld	1 ea.	3221-0080
1 1/4	31.8	1.75	44.5	200	1.38	10.0	254	10.0	254	116.50	49.67	150 ft. cpld	1 ea.	3221-0081
1 1/4	31.8	1.75	44.5	200	1.38	10.0	254	10.0	254	135.25	57.95	175 ft. cpld	1 ea.	3221-0082
1 3/8	34.9	1.87	47.5	200	1.38	10.0	254	10.0	254	84.00	34.93	100 ft. cpld	1 ea.	3221-0083
1 3/8	34.9	1.87	47.5	200	1.38	10.0	254	10.0	254	104.00	43.66	125 ft. cpld	1 ea.	3221-0084
1 3/8	34.9	1.87	47.5	200	1.38	10.0	254	10.0	254	124.00	52.39	150 ft. cpld	1 ea.	3221-0085
1 3/8	34.9	1.87	47.5	200	1.38	10.0	254	10.0	254	144.00	61.12	175 ft. cpld	1 ea.	3221-0086
1 1/2	38.1	2.08	52.8	200	1.38	10.0	254	12.0	305	100.00	38.56	100 ft. cpld	1 ea.	3221-0087
1 1/2	38.1	2.08	52.8	200	1.38	10.0	254	12.0	305	123.75	48.19	125 ft. cpld	1 ea.	3221-0088
1 1/2	38.1	2.08	52.8	200	1.38	10.0	254	12.0	305	147.50	57.83	150 ft. cpld	1 ea.	3221-0089
1 1/2	38.1	2.08	52.8	200	1.38	10.0	254	12.0	305	171.25	67.47	175 ft. cpld	1 ea.	3221-0090
1 1/2	38.1	2.08	52.8	200	1.38	10.0	254	12.0	305	195.00	88.45	200 ft. cpld	1 ea.	3221-0095

RECOMMENDED FOR: Transferring fuel oils or commercial gasolines in applications at temperatures as low as -40°F (-40°C). Hose

remains flexible to -20°F (-29°C). For home and commercial service where a non-marking cover is required.

-40°F to +180°F (-29°C to +82°C) continuous service. NOTE: Gasoline is normally conveyed below 120°F TEMPERATURE:

(+49°C).

CONSTRUCTION: **Tube:** Type C (Nitrile). Black.

High tensile synthetic textile cord. Reinforcement:

Type C4 (Carboxylated Nitrile). Red. Non-marking. Cover:

COUPLINGS: 26 or 49. Reference the Hose Coupling Section.

PACKAGING: 1" through 1 /38": Cut lengths: Packaged one each in a carton.

1 1/2": Cut lengths: Packaged one length coiled and shrink wrapped on a pallet.

Continuous ink print label. Example: "GATES" FUEL OIL DELIVER/GASOLINE 1 1/2 INCH (38.1mm) 200 PSI (1.38MPa) WP MADE IN U.S.A." **BRANDING:**

SPECIAL ORDER Special production runs require minimum order quantities of 25,000 feet for all sizes. **REQUIREMENTS:**

REMNANT LENGTHS: None.

> STANDARDS: Tube: RMA (Class A) High oil resistance.



Petroleum Transfer Hose

LP350 (Butane-Propane)

(Specification 3220LP, 3320)

	Nom. I.D.	Θ	Nom. O.D.	O	Max. W.P.	(Suction	0	Min. Bend Radius	P	Wt. Per Ft.	Å	Standard	Stock (X) or Minimum	Gates
	(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
Γ	1 1/4	31.8	1.85	47.0	350	2.41	10.0	254	10.0	254	.89	.40	Reel	X	3220-0855
	1 1/2	38.1	2.25	57.2	350	2.41	10.0	254	12.0	305	1.35	.61	60 ft.	X	3320-0935
	2	50.8	2.86	72.6	350	2.41	10.0	254	14.0	356	2.01	.91	60 ft.	X	3320-0938
Γ	3	76.2	3.88	98.6	350	2.41	10.0	254	24.0	610	2.77	1.26	60 ft.	X	3320-0934

RECOMMENDED FOR:

Liquid or gaseous propane, butane or any combination of these two mixtures. Can be used for natural gas (not to exceed 50 psi) under certain conditions such as: open/outside areas and well ventilated factory buildings (if local building codes permit). Not recommended for residential, office buildings or as fuel line hose on compressed natural gas vehicles. Contact Denver Product Application (303) 744-5070 for inspection and assembly testing

TEMPERATURE:

-40°F to +180°F (-40°C to +82°C) continuous service. Warning: Do not convey LP Gas over 140°F (60°C).

CONSTRUCTION:

Type A (Neoprene). 1 1/2", 2" and 3". Black. Type C (Nitrile) 1 1/4". Black.

Braided, high tensile synthetic textile cord.

Cover:

Reinforcement:

Tube:

Type A (Neoprene). Black. All sizes are perforated.

COUPLINGS:

75 Gates GLX® only for 1/4" through 1". 72 Gates Power Crimp® only for 1 1/4", 1 1/2" and 2" I.D. For Power Crimp ferrules, reference the Hose Coupling Section. Do not use male swivel, reusable or o-ring type couplings. For 3" I.D. use Dixon LP Boss only.

PACKAGING:

1 1/4": Packaged in 270' to 330' reels. Maximum of 3 pieces. Minimum length 25'.

1 1/2" through 3": Packaged 60' in a carton.

BRANDING:

Continuous molded strip brand label. Example: "GATES® LP350 LP-Gas Hose 2 INCH DO NOT EXCEED 350

PSI WP Made In U.S.A.

SPECIAL ORDER **REQUIREMENTS:** Special production runs require minimum order quantities of 5,000 feet for 1 1/4" and 600 feet for 1 1/2" through 3th. Any other size in specified lengths requires a minimum production order. For price, add 15% (x1.15) to price.

REMNANT LENGTHS:

STANDARDS:

CAN/CGA-8.1-M86.

NFPA 58, Section 2-4.6.

Underwriters Laboratories Standard No. 21. (Applies to all sizes).



Petroleum Transfer Hose

LP350X (Butane-Propane)

(Specification 3220SP)

Nom. I.D.	Θ	Nom. O.D.	O	Max. W.P.	(Suction	\circ	Min. Bend Radius		Wt. Per Ft.	Å	Standard	Stock (X) or Minimum	Gates
(ln.)	(mm)	(ln.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
1/4	6.4	.58	14.7	350	2.41	30.0	762	3.0	76	.14	.06	Reel	Х	3220-1200
1/4	6.4	.58	14.7	350	2.41	30.0	762	3.0	76	.14	.06	Bulk	3700 ft. (X)	3220-1201
3/8	9.5	.74	18.8	350	2.41	30.0	762	3.0	76	.21	.10	Reel	X	3220-1202
3/8	9.5	.74	18.8	350	2.41	30.0	762	3.0	76	.21	.10	Bulk	2000 ft. (X)	3220-1203
1/2	12.7	.91	23.1	350	2.41	25.0	635	5.0	127	.28	.13	Reel	X	3220-1204
1/2	12.7	.91	23.1	350	2.41	25.0	635	5.0	127	.28	.13	Bulk	1000 ft. (X)	3220-1205
3/4	19.1	1.23	31.2	350	2.41	20.0	508	6.0	152	.44	.20	Reel	X	3220-1206
3/4	19.1	1.23	31.2	350	2.41	20.0	508	6.0	152	.44	.20	100 ft.	X	3220-1207
3/4	19.1	1.23	31.2	350	2.41	20.0	508	6.0	152	.44	.20	125 ft.	X	3220-1208
3/4	19.1	1.23	31.2	350	2.41	20.0	508	6.0	152	.44	.20	150 ft.	X	3220-1209
1	25.4	1.51	38.4	350	2.41	15.0	381	8.0	203	.60	.27	Reel	X	3220-1210
1	25.4	1.51	38.4	350	2.41	15.0	381	8.0	203	.60	.27	100 ft.	X	3220-1211
1	25.4	1.51	38.4	350	2.41	15.0	381	8.0	203	.60	.27	125 ft.	Х	3220-1212
1	25.4	1.51	38.4	350	2.41	15.0	381	8.0	203	.60	.27	150 ft.	X	3220-1213

RECOMMENDED FOR: Liquid or gaseous propane, butane or any combination of these two mixtures. Can be used for natural gas (not to

exceed 50 psi) under certain conditions such as: open/outside areas and well ventilated factory buildings (if local building codes permit). Not recommended for residential, office buildings or as fuel line hose on compressed natural gas vehicles. Contact Denver Product Application (303) 744-5070 for inspection and assembly testing

TEMPERATURE: -40°F to +180°F (-40°C to +82°C) continuous service. Warning: Do not convey LP Gas over 140°F (60°C).

CONSTRUCTION: Tube: Type C (Nitrile). Black.

Reinforcement:

High tensile synthetic textile cord.
Type A (Neoprene). Black. All sizes are perforated. Cover:

COUPLINGS: 75 Gates GLX*. Do not use male swivel, reusable or o-ring type couplings. Reference the Hose Coupling Section.

PACKAGING: 1/4" Bulk Pack: Packaged 3700' in a pallet carton. Maximum 10 pieces. Maximum of 6 pieces under 25'.

Minimum length 10'.

1/4" through 1/2": Packaged in 600' to 800' reels. Maximum 4 pieces. One length 25' to 50'. Maximum of 2 pieces

3/8" Bulk Pack: Packaged 2000' in a pallet carton. Maximum 10 pieces. Maximum of 6 pieces under 25'.

Minimum length 10'.

1/2" Bulk Pack: Packaged 1000' in a pallet carton. Maximum 10 pieces. All lengths in increments of 25'.

Minimum length 25'.

3/4" and 1" Cut lengths: Coiled in cartons.

3/4" through 1": Packaged in 300' to 400' reels. Maximum 3 pieces. One length 25' to 50'. All other lengths over

50'. Maximum of 2 pieces under 100'.

BRANDING: Continuous molded strip brand label. Example: "GATES® LP350X UL/CGA TYPE 1 LP-Gas Hose 1 INCH DO

NOT EXCEED 350 PSI WP Made In U.S.A.

SPECIAL ORDER Special production runs require minimum order quantities of 25,000 feet. 3/4" and 1" cut lengths are available as **REQUIREMENTS:**

standard items as listed. Any other size in specified lengths requires a minimum production order. For price add

15% (x1.15) to reel price.

REMNANT LENGTHS:

STANDARDS: CAN/CGA-8.1-M86 Type 1.

NFPA 58, Section 2-4.6.

Underwriters Laboratories Standard No. 21. (Applies to all sizes).



Petroleum Transfer Hose

LPG Vapor

(Specification 3220E)

Nom. I.D.	Θ	Nom. O.D.	O	Max. W.P.	(1)	Suction	\circ	Min. Bend Radius	(P)	Wt. Per Ft.	Å	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
3/16	4.8	.44	11.2	125	.86	30.0	762	2.0	51	.08	.04	Reel	X	3220-0451
1/4	6.4	.53	13.5	125	.86	30.0	762	3.0	76	.11	.05	Reel	X	3220-0456
3/8	9.5	.66	16.8	125	.86	25.0	635	3.0	76	.14	.06	Reel	X	3220-0461

RECOMMENDED FOR: Flexible connector for conveying low pressure LPG (vapor only) to many types of farm and industrial heating

applications; e.g., space heaters.

NOTE: This hose should not be used for liquid LPG or in UL approved appliances such as barbecue grills.

TEMPERATURE: -30°F to +150°F (-34°C to +66°C) continuous service.

CONSTRUCTION: Type C (Nitrile). Black.

Reinforcement: High tensile synthetic textile cord.

Type A (Neoprene). Black.

PACKAGING: 3/16" through 3/8": Packaged in 600' to 800' reels. Maximum 4 pieces. One length 25' to 50'. Maximum of 2

lengths under 100'.

BRANDING: Continuous ink print label. Example: "GATES® LPG Vapor 3/8 Inch (9.5mm) 125 PSI (.86MPa) WP Made In

SPECIAL ORDER Special production runs require minimum order quantities of 25,000 feet per size. **REQUIREMENTS:**

REMNANT LENGTHS:

STANDARDS: Underwriters Laboratories Standard No. 569. (Applies to hose assemblies only). **Petroleum Transfer Hose**



39496-000 July 30, 2009 Supersedes 39496-000 July 30, 2007

Blacksnake® (Curb Pump -Hardwall)

(Specification 3624)

Nom. I.D.	Θ	Nom. O.D.	Ō	Max. W.P.	(Suction	0	Min. Bend Radius	P	Wt. Per Ft.	Å	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
5/8	15.9	1.00	25.4	150	1.03	30.0	762	6.0	152	.37	.17	Reel	Χ	3624-0001
3/4	19.1	1.13	28.7	150	1.03	30.0	762	6.0	152	.42	.19	Reel	X	3624-0002
1 1	25.4	1.38	35.1	150	1.03	30.0	762	8.0	203	.57	.26	Reel	ΙX	3624-0003

RECOMMENDED FOR: Dispensing all types of commercial gasolines, or other petroleum based products, from service station pumps. A heavy duty hardwall hose which does not collapse in reel use or behind the nozzle in heavy duty service.

- 40° F to + 120° F (- 40° C to + 49° C) continuous service. **TEMPERATURE:**

CONSTRUCTION: Type C (Nitrile). Black.

Braided, high tensile steel wire. Type J (CPE). Black. Reinforcement:

Cover:

COUPLINGS: 24. Reference the Hose Coupling Section.

PACKAGING: 5/8" through 1": Packaged 500' per reel. Maximum 5 pieces. Minimum length 12'.

Continuous transfer label. Example: "GATES® BLACKSNAKE® 3/4 Inch (19.1mm) 1 wire braid (UL) Listed **BRANDING:**

Gasoline Hose Made In U.S.A.

SPECIAL ORDER Special production runs require minimum order quantities of 5,000 feet per size.

REQUIREMENTS:

REMNANT LENGTHS:

STANDARDS: Underwriters Laboratories Standard No. 330. (USA and Canada).

RMA (Class A) High oil resistance.



Pressure Washer

PowerClean[™] - 1 Wire Braid

(Specification 4657, KB, KG, KK, KY, PB, PG, PY)

PowerClean™ 2500

	Nom. I.D.	Θ	Nom. O.D.	Ī	Max. W.P.	(Suction	\bigcirc	Min. Bend Radius	(Py)	Wt. Per Ft.	$\stackrel{\circ}{\Box}$	Standard	Stock (X) or Minimum	Gates
Color	(In.)	(mm)	(ln.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
Black Black	1/2 1/2	12.7 12.7	.80 .80	20.3 20.3	2500 2500	17.24 17.24	30.0 30.0	762 762	7.0 7.0	178 178	.28 .28	.13 .13	Reel Lg. Reel	X 5,000 ft.	4657-2408 4657-2412
Blue	1/2	12.7	.80	20.3	2500	17.24	30.0	762	7.0	178	.28	.13	Reel	X	4657-2413
Gray	1/2	12.7	.80	20.3	2500	17.24	30.0	762	7.0	178	.28	.13	Reel	5,000 ft.	4657-2414
Yellow	1/2	12.7	.80	20.3	2500	17.24	30.0	762	7.0	178	.28	.13	Reel	Χ	4657-2415

PowerClean™ 3000

	Nom. I.D.	Θ	Nom. O.D.	Ō	Max. W.P.	(Suction	0	Min. Bend Radius	P	Wt. Per Ft.	$^{\circ}$	Standard	Stock (X) or Minimum	Gates
Color	(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
Black Black	3/8 3/8	9.5 9.5	.68 .68	17.3 17.3	3000 3000	20.68 20.68	30.0 30.0	762 762	5.0 5.0	127 127	.23 .23	.10 .10	Lg. Reel Reel	X	4657-2401 4657-2402
Blue Blue	3/8 3/8	9.5 9.5	.68 .68	17.3 17.3	3000 3000	20.68 20.68	30.0 30.0	762 762	5.0 5.0	127 127	.23 .23	.10 .10	Lg. Reel Reel	X	4657-2403 4657-2404
Gray	3/8	9.5	.68	17.3	3000	20.68	30.0	762	5.0	127	.23	.10	Reel	Х	4657-2416
Yellow	3/8	9.5	.68	17.3	3000	20.68	30.0	762	5.0	127	.23	.10	Reel	X	4657-2417

PowerClean™ 3500

	Nom. I.D.	Θ	Nom. O.D.	Ō	Max. W.P.	(Suction	0	Min. Bend Radius	P	Wt. Per Ft.	Å	Standard	Stock (X) or Minimum	Gates
Color	(In.)	(mm)	(ln.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
Black	1/4	6.4	.53	13.5	3500	24.13	30.0	762	4.0	102	.15	.07	Reel	Х	4657-2400
Black	1/4	6.4	.53	13.5	3500	24.13	30.0	762	4.0	102	.15	.07	Lg. Reel	X	4657-2418
Blue	1/4	6.4	.53	13.5	3500	24.13	30.0	762	4.0	102	.15	.07	Reel	X	4657-2419
Gray	1/4	6.4	.53	13.5	3500	24.13	30.0	762	4.0	102	.15	.07	Reel	X	4657-2420
Yellow	1/4	6.4	53	13.5	3500	24 13	30.0	762	4.0	102	15	07	Reel	5,000 ft	4657-2421

PowerClean™ 4000

	Nom. I.D.	Θ	Nom. O.D.	10	Max. W.P.	(Suction	\bigcirc	Min. Bend Radius	(P ₂)	Wt. Per Ft.	Å	Standard	Stock (X) or Minimum	Gates
Color	(ln.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
Black Black	3/8 3/8	9.5 9.5	.68 .68	17.3 17.3	4000 4000	27.58 27.58	30.0 30.0	762 762	5.0 5.0	127 127	.23 .23	.10 .10	Reel Lg. Reel	X X	4657-2225 4657-2405
Blue	3/8	9.5	.68	17.3	4000	27.58	30.0	762	5.0	127	.25	.10	Reel	X	4657-2422
Gray	3/8	9.5	.68	17.3	4000	27.58	30.0	762	5.0	127	.23	.10	Reel	5,000 ft.	4657-2423
Yellow	3/8	9.5	.68	17.3	4000	27.58	30.0	762	5.0	127	.23	.10	Reel	5,000 ft.	4657-2424

RECOMMENDED FOR: Heavy-duty use on hot and cold water high pressure cleaning equipment where heavy duty service is required.

Flexible. Use Bend Restrictors to extend service life. NOTE: Not recommended for steam service.

TEMPERATURE: -40°F to +250°F (-40°C to +121°C). Laboratory tested for normal service. Increased operating temperatures will

reduce hose assembly service life.

CONSTRUCTION: Tube: Type C (Nitrile). Black. Specially compounded to handle high pressure water service.

Reinforcement: High tensile steel one-wire braid.

Type C2 (Modified Nitrile). Black, Blue, Gray, Yellow. Specially compounded to handle pressure washer environment. (Blue, Gray and Yellow covers are non-marking). Cover:

COUPLINGS: 74 MegaCrimp® couplings. Reference the Hose Coupling Section.

PACKAGING: 1/4" through 1/2": Packaged in 1000' large reels. Any number of pieces. All lengths in 50' increments. Minimum

length 50'.

1/4" through 1/2": Packaged in 300' reels. Any number of pieces. All lengths in 50' increments. Minimum length

BRANDING: Continuous ink brand. Example: "GATES® 3/8 Inch PowerClean™ 3000 Max WP 3000 PSI Not For Steam Service

Made In U.S.A.'

SPECIAL ORDER Special production runs require minimum order quantities of 5,000 feet per size. **REQUIREMENTS:**

REMNANT LENGTHS: Remnant lengths are sometimes available in popular sizes at a discount. Contact Gates Corporation for pricing,

order requirements and availability.

Due to continual product improvements, Gates reserves the right to alter specs and prices without prior notice



Pressure Washer

PowerClean[™] - 2 Wire Braid

(Specification 4657F, XB, XG, XY)

PowerClean™ 4000

	Nom. I.D.	Θ	Nom. O.D.	O	Max. W.P.	(Suction	\bigcirc	Min. Bend Radius	P	Wt. Per Ft.	$\stackrel{\circ}{\Box}$	Standard	Stock (X) or Minimum	Gates
Color	(In.)	(mm)	(ln.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
Black Black	1/2 1/2	12.7 12.7	.86 .86	21.8 21.8	4000 4000	27.58 27.58	30.0 30.0	762 762	7.0 7.0	178 178	.42 .42	.19 .19	Lg. Reel Reel	5,000 ft. X	4657-2425 4657-2426
Blue	1/2	12.7	.86	21.8	4000	27.58	30.0	762	7.0	178	.42	.19	Reel	5,000 ft.	4657-2409
Gray	1/2	12.7	.86	21.8	4000	27.58	30.0	762	7.0	178	.42	.19	Reel	5,000 ft.	4657-2427
Yellow	1/2	12.7	.86	21.8	4000	27.58	30.0	762	7.0	178	.42	.19	Reel	5,000 ft.	4657-2428

PowerClean™ 5000

	Nom. I.D.	Θ	Nom. O.D.	Ō	Max. W.P.	(Suction	\bigcirc	Min. Bend Radius	P	Wt. Per Ft.	\triangle	Standard	Stock (X) or Minimum	Gates
Color	(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
Black Black	3/8 3/8	9.5 9.5	.74 .74	18.8 18.8	5000 5000	34.47 34.47	30.0 30.0	762 762	5.0 5.0	127 127	.35 .35	.16 .16	Lg. Reel Reel	X	4657-2406 4657-2407
Blue	3/8	9.5	.74	18.8	5000	34.47	30.0	762	5.0	127	.35	.16	Reel	X	4657-2429
Gray	3/8	9.5	.74	18.8	5000	34.47	30.0	762	5.0	127	.35	.16	Reel	5,000 ft.	4657-2430
Yellow	3/8	9.5	.74	18.8	5000	34.47	30.0	762	5.0	127	.35	.16	Reel	5,000 ft.	4657-2431

PowerClean™ 6000

	Nom. I.D.	Θ	Nom. O.D.	O	Max. W.P.	(Suction	\bigcirc	Min. Bend Radius	(Ry)	Wt. Per Ft.	\triangle	Standard	Stock (X) or Minimum	Gates	
Color	(ln.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.	
Black	1/4	6.4	59	15.0	6000	41.37	30.0	762	4.0	102	25	11	Reel	X	4657-2410	

RECOMMENDED FOR: Heavy-duty use on hot and cold water high pressure cleaning equipment where heavy duty service is required. Flexible. Use Bend Restrictors to extend service life. NOTE: Not recommended for steam service.

TEMPERATURE: -40°F to +250°F (-40°C to +121°C). Laboratory tested for normal service. Increased operating temperatures will

reduce hose assembly service life.

CONSTRUCTION: Tube: Type C (Nitrile). Black. Specially compounded to handle high pressure water service.

Reinforcement: High tensile steel two-wire braid.

Cover: Type C2 (Modified Nitrile). Black, Blue, Gray, Yellow. Specially compounded to handle

pressure washer environment. (Blue, Gray and Yellow covers are non-marking).

 $\textbf{COUPLINGS:} \quad \text{74 MegaCrimp} \\ \text{$^{\$}$ couplings. Reference the Hose Coupling Section.}$

PACKAGING: 1/4" through 1/2": Packaged in 300' reels. Any number of pieces. All lengths in 50' increments. Minimum length

50'.

3/8" and 1/2": Packaged in 1000' large reels. Any number of pieces. All lengths in 50' increments. Minimum

ength 50'.

BRANDING: Continuous ink brand. Example: "GATES® 3/8 Inch PowerClean™ 5000 Max WP 5000 PSI Not For Steam Service

Made In U.S.A.

SPECIAL ORDER Special production runs require minimum order quantities of 5,000 feet per size.

REQUIREMENTS:

REMNANT LENGTHS: Remnant lengths are sometimes available in popular sizes at a discount. Contact Gates Corporation for pricing,

order requirements and availability.



Pressure Washer

Pressure Washer Assemblies

(Specification 3603PW)

Nom. I.D.	Θ	Nom. O.D.	O	Max. W.P.	(Suction	0	Min. Bend Radius	P	Wt. Per Ea.	Å	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
1/4	6.4	.48	12.2	3000	20.68	30.0	762	4.0	102	5.50	2.50	50 ft.	5 ea. (X)	3604-0034
3/8	9.5	.63	16.0	3000	20.68	30.0	762	5.0	127	8.50	3.86	50 ft.	5 ea. (X)	3604-0035
3/8	9.5	.63	16.0	3000	20.68	30.0	762	5.0	127	8.50	3.86	100 ft.	50 ea.	3604-0071
1/2	12.7	.76	19.3	3000	20.68	30.0	762	7.0	178	11.50	5.22	50 ft.	5 ea. (X)	3604-0036

RECOMMENDED FOR: Standard duty use on hot and cold water high pressure cleaning equipment. Extremely flexible, lightweight and

easy to handle. NOTE: Not recommended for steam service.

 $-40^{\circ}F \ to \ +250^{\circ}F \ (-40^{\circ}C \ to \ +121^{\circ}C). \ Laboratory \ tested \ for \ normal \ service. \ Increased \ operating \ temperatures \ will \ be a substitute of the property of$ **TEMPERATURE:**

reduce hose assembly service life.

CONSTRUCTION: Tube: Type C (Nitrile). Black. Specially compounded to handle high pressure water service.

Reinforcement:

High tensile steel one-wire braid.

Type C2 (Modified Nitrile). Black. Specially compounded to handle pressure washer Cover:

environment. Bend restrictors applied on each end.

COUPLINGS: Gates permanent couplings (MP/MPX). Factory coupled assemblies only.

PACKAGING: 1/4" x 50': Coiled in a carton, 5 assemblies per carton.

3/8" x 100': Coiled in a carton, 5 assemblies per carton. 3/8" x 50': Coiled in a carton, 5 assemblies per carton. $1/2\ensuremath{^{"}}\ x\ 100\ensuremath{^{"}}\ :$ Coiled in a carton, 5 assemblies per carton.

BRANDING: Continuous ink brand. Example: "GATES® 3/8 Inch Pressure Washer Max 3000 PSI Not For Steam Service Made

SPECIAL ORDER Special production runs require minimum order quantities of 5,000 feet per size.

REQUIREMENTS:

REMNANT LENGTHS: None.



Pressure Washer

Cyclone®

(Specification 3217HY)

Nom. I.D.	Θ	Nom. O.D.	O	Max. W.P.	(Suction	\circ	Min. Bend Radius	P	Wt. Per Ft.	Å	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
3/8	9.5	.73	18.5	1000	6.90	30.0	762	4.0	102	.18	.08	100 ft.	Х	3217-0584
3/8	9.5	.73	18.5	1000	6.90	30.0	762	4.0	102	.18	.08	Reel	X	3217-0585
1/2	12.7	.94	23.9	1000	6.90	30.0	762	5.0	127	.29	.13	Reel	X	3217-0586
1/2	12.7	.94	23.9	1000	6.90	30.0	762	5.0	127	.29	.13	100 ft.	5,000 ft.	3217-0587
3/4	19.1	1.20	30.5	1000	6.90	30.0	762	6.0	152	.41	.19	Reel	X	3217-0588

RECOMMENDED FOR: High-pressure washer operations using mild detergents in meat and poultry plants. Cover is resistant to weather,

oil, animal fat, abrasion and heat encountered in packing plant cleaning applications. Air service working pressure

is 300 psi for all sizes.

TEMPERATURE: -40°F to +212°F (-40°C to +100°C) continuous washdown service.

CONSTRUCTION: Type C2 (Modified Nitrile). Black.

Braided, synthetic high tensile cord.

Type C2 (Modified Nitrile). Yellow. (Red, green and blue cover available on special order). Reinforcement:

COUPLINGS: 75 Gates GLX®. Reference the Hose Coupling Section.

PACKAGING: 3/8" through 3/4": Packaged in 500' to 750' reels. Maximum 3 pieces. Minimum length 50'.

3/8" x 100': Packaged 500' in a pallet box. Each length coiled and tied. 1/2" x 100': Packaged 500' in a pallet box. Each length coiled and tied.

Continuous ink print label. Example: "GATES® Cyclone® Washdown 3/8 Inch (9.5mm) 1000 PSI (6.90MPa) WP **BRANDING:**

Made In U.S.A.

SPECIAL ORDER Red, green and blue covers are made to order and require 5,000 feet orders per size/color. Contact Gates

REQUIREMENTS: Corporation for pricing, order requirements and availability.

Special production runs require minimum order quantities of 5,000 feet per size. For special requirements contact

Gates Corporation.

REMNANT LENGTHS:



Creamery/Paper Mill Washdown

(Specification 3213B/3325T)

Pressure Washer

Without Nozzle (3213B)

	Nom. I.D.	Θ	Nom. O.D.	Ō	Max. W.P.	(Suction	\bigcirc	Min. Bend Radius	P	Wt. Per Ft.	\triangle	Standard	Stock (X) or Minimum	Gates
	(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(ln.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
	1/2 3/4 3/4	12.7 19.1 19.1	.91 1.25 1.25	23.1 31.8 31.8	200 200 200	1.38 1.38 1.38	25.0 15.0 15.0	635 381 381	5.0 6.0 6.0	127 152 152	.28 .49 .49	.13 .22	Reel 50 ft. Reel	X X X	3213-0401 3213-0413 3213-0501
r	1	25.4 25.4	1.52 1.52	38.6 38.6	200 200	1.38 1.38	15.0 15.0	381 381	8.0 8.0	203 203	.65 .65	.30	Reel 50 ft.	25,000 ft. X	3213-0415 3213-0416

With Nozzle (3325T)

Nom. I.D.	Θ	Nom. O.D.	O	Max. W.P.	(Suction	\bigcirc	Min. Bend Radius	P	Wt. Per Ea.	range	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
3/4	19.1	1.25	31.8	150	1.03	25.0	635	6.0	152	27.50	12.47	50 ft.	1 ea. (X)	3213-0543
1	25.4	1.50	38.1	150	1.03	15.0	381	8.0	203	33.50	15.20	50 ft.	1 ea. (X)	3213-0544
1 1/4	31.8	1.75	44.5	150	1.03	15.0	381	10.0	254	39.50	17.92	50 ft.	1 ea. (X)	3213-0545

RECOMMENDED FOR: CAUTION: NOT RECOMMENDED FOR USE WITH STEAM.

Cold and hot water up to 212°F (100°C) where steam is injected into the water. Used for paper mill, food

handling or processing plant washdown service requiring hose with a non-marking cover.

TEMPERATURE: -20°F to +180°F (-29°C to +82°C) continuous service. For nozzle only.

-40°F to +212°F (-40°C to +100°C) continuous service.

CONSTRUCTION: Tube: Type D (SBR). Black. For nozzle only.

Type P (EPDM). Black.

Reinforcement: Braided, high tensile synthetic textile cord. For nozzle only.

Synthetic, high tensile textile cord.

Cover: Type D (Natural Rubber). Gray with green stripe. For nozzle only.

Type P (EPDM). White. All sizes are perforated on plain end hose only.

Type 1 (El Divi). White. All sizes are perforated on plant end nose only.

COUPLINGS: 1, 14, 15 or 75 Gates GLX® (For without nozzle only). Reference the Hose Coupling Section.

PACKAGING: 1/2": Packaged in 600' to 800' reels. Maximum 4 pieces. Minimum length 25'.

3/4" and 1": Packaged in 300' to 400' reels. Maximum 3 pieces. One length 25' to 50'. Maximum of 2 lengths

under 100'.

50' lengths (with nozzle): Packaged each length coiled and wrapped in polyethylene.

50' lengths (without nozzle): Packaged 50' coiled in a carton.

BRANDING: Continuous ink print label. Example: "GATES® WASHDOWN 3/4 INCH (19.1mm) 200 PSI (1.38MPa) WP

MADE IN U.S.A.

Continuous transfer label. Example: "GATES® WASHDOWN 3/4 INCH (19.1mm) 150 PSI (1.03MPa) WP MADE

IN MEXICO"

SPECIAL ORDER Special production runs require minimum order quantities of 25,000 feet for plain end hose and 600 feet for 3/4"

REQUIREMENTS: through 1 1/4" with nozzle.

REMNANT LENGTHS: None.



Steam Hose

205MB Steam King®

(Specification 3605)

Smooth Cover

Nom. I.D.	Θ	Nom. O.D.	Ō	Max. W.P.	(Suction	\bigcirc	Min. Bend Radius	P	Wt. Per Ft.	\triangle	Standard	Stock (X) or Minimum	Gates
(ln.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
3/8	9.5	.78	19.8	250	1.72	30.0	762	4.0	102	.26	.12	50 ft.	250 ft. (X)	3605-0650
3/8	9.5	.78	19.8	250	1.72	30.0	762	4.0	102	.26	.12	Reel	X	3605-0652
1/2	12.7	1.06	26.9	250	1.72	25.0	635	7.0	178	.40	.18	50 ft.	200 ft. (X)	3605-0655
1/2	12.7	1.06	26.9	250	1.72	25.0	635	7.0	178	.40	.18	Reel	X	3605-0672
1/2	12.7	1.06	26.9	250	1.72	25.0	635	7.0	178	.40	.18	50 ftBP**	1,500 ft. (X)	3605-0677
3/4	19.1	1.28	32.5	250	1.72	20.0	508	9.0	229	.49	.22	50 ft.	150 ft. (X)	3605-0664
3/4	19.1	1.28	32.5	250	1.72	20.0	508	9.0	229	.49	.22	Reel	X	3605-0678
3/4	19.1	1.28	32.5	250	1.72	20.0	508	9.0	229	.49	.22	50 ftBP**	1,000 ft. (X)	3605-0679
1	25.4	1.63	41.4	250	1.72	20.0	508	11.0	279	.78	.35	Reel	X ()	3605-0668

Wrapped Cover

Nom. I.D.	Θ	Nom. O.D.	O	Max. W.P.	(Suction	0	Min. Bend Radius	(Pa)	Wt. Per Ft.	Å	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
3/4	19.1	1.27	32.3	250	1.72	20.0	508	9.0	229	.57	.26	50 ft.	100 ft. (X)	3605-0901
1	25.4	1.52	38.6	250	1.72	20.0	508	11.0	279	.70	.32	50 ft.	200 ft. (X)	3605-0665
1	25.4	1.52	38.6	250	1.72	20.0	508	11.0	279	.70	.32	50 ftBP**	600 ft. (X)	3605-0669
1 1/4	31.8	1.81	46.0	250	1.72	20.0	508	16.0	406	.90	.41	50 ft.	100 ft. (X)	3605-0671
1 1/2	38.1	2.14	54.4	250	1.72	10.0	254	20.0	508	1.21	.55	50 ft.	X	3605-0676
2	50.8	2.66	67.6	250	1.72	10.0	254	25.0	635	1.57	.71	50 ft.	X	3605-0681

205MB Assemblies Wrapped Cover

Nom. I.D.	Θ	Nom. O.D.	O	Max. W.P.	(Suction	\bigcirc	Min. Bend Radius	P	Wt. Per Ea.	\triangle	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(ln.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
3/4	19.1	1.27	32.3	250	1.72	20.0	508	9.0	229	31.90	14.47	50 ft. F/F	1 ea. (X)	3605-0736
3/4	19.1	1.27	32.3	250	1.72	20.0	508	9.0	229	30.90	14.02	50 ft. F/M	1 ea. (X)	3605-0737
3/4	19.1	1.27	32.3	250	1.72	20.0	508	9.0	229	29.90	13.56	50 ft. M/M	1 ea. (X)	3605-0738

RECOMMENDED FOR: NOTE: DO NOT ALTERNATE USE BETWEEN STEAM AND WATER.

TEMPERATURE: -40°F to +450°F (-40°C to +232°C) continuous service.

CONSTRUCTION: Tube: Type P2 (EPDM). Black.

Reinforcement: Braided, high tensile steel wire.

Cover: Type P2 (EPDM). Black. All sizes are perforated.

COUPLINGS: 14, 15, or 76 only. Reference the Hose Coupling Section.

PACKAGING: **BP - Bulk Pack, 50' coiled and tied in a pallet carton: 1/2" - 1,500'; 3/4" - 1,000'; 1" - 600'.

3/8" x 50': Packaged 250' per carton, each length coiled and tied.

3/8": Packaged in 200' to 300' reels. Maximum of 3 pieces. Minimum length 25'. One length under 100'.

1/2" x 50': Packaged 200' per carton, each length coiled and tied.
3/4" x 50" coupled assy: Coiled in carton, one assembly per carton.
3/4" x 50': Packaged 100' or 150' per carton, each length coiled and tied.
1" x 50': Packaged 200' per carton, each length coiled and tied.
1 1/4" x 50': Packaged 100' per carton, each length coiled and tied.
1 1/2" and 2" x 50': Packaged 50' per carton, each length coiled and tied.

1/2", 3/4" and 1": Packaged in 500' reels. Maximum of 3 pieces. All lengths in 50' increments.

BRANDING: Continuous molded brand. Example: "GATES" 205MB STEAM KING" 3/4 INCH 2 WIRE BRAID 250 PSI WP

AT 450°F MADE IN U.S.A. CAUTION: TIGHTEN CLAMPS BEFORE USING."

SPECIAL ORDER S REQUIREMENTS:

Special production runs require minimum order quantities of 5,000 feet.

REMNANT LENGTHS: None



Steam Hose

232MB Steam Queen®

(Specification 3602EL)

Nom. I.D.	Θ	Nom. O.D.	Ō	Max. W.P.	(Suction	0	Min. Bend Radius	P	Wt. Per Ft.	Å	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
3/8	9.5	.80	20.3	250	1.72	30.0	762	4.0	102	.30	.14	50 ft.	X	3602-1051
3/8	9.5	.80	20.3	250	1.72	30.0	762	4.0	102	.30	.14	Reel	X	3602-1061
1/2	12.7	1.02	25.9	250	1.72	25.0	635	7.0	178	.45	.20	50 ft.	X	3602-1052
1/2	12.7	1.02	25.9	250	1.72	25.0	635	7.0	178	.45	.20	Reel	X	3602-1062
3/4	19.1	1.27	32.3	250	1.72	20.0	508	9.0	229	.60	.27	50 ft.	X	3602-1055
3/4	19.1	1.27	32.3	250	1.72	20.0	508	9.0	229	.60	.27	Reel	X	3602-1065
1	25.4	1.52	38.6	250	1.72	20.0	508	11.0	279	.73	.33	50 ft.	X	3602-1057
1 1/2	38.1	2.18	55.4	250	1.72	10.0	254	20.0	508	1.24	.56	50 ft.	X	3602-1059
2	50.8	2.66	67.6	250	1.72	10.0	254	25.0	635	1.64	.74	50 ft.	X	3602-1060

232MB Assemblies Wrapped Cover

Nom. I.D.	Θ	Nom. O.D.	Ō	Max. W.P.	(Suction	\bigcirc	Min. Bend Radius	P	Wt. Per Ea.	Å	Standard	Stock (X) or Minimum	Gates
(ln.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
3/4	19.1	1.27	32.3	250	1.72	20.0	508	9.0	229	33.40	15.15	50 ft. F/F	1 ea. (X)	3602-0002
3/4	19.1	1.27	32.3	250	1.72	20.0	508	9.0	229	32.40	14.70	50 ft. F/M	1 ea. (X)	3602-0003
3/4	19.1	1.27	32.3	250	1.72	20.0	508	9.0	229	31.40	14.24	50 ft. M/M	1 ea. (X)	3602-0004

All types of steam - saturated and superheated - up to 250 PSI and +450°F (+232°C). RECOMMENDED FOR:

NOTE: DO NOT ALTERNATE USE BETWEEN STEAM AND WATER.

TEMPERATURE: -40°F to +450°F (-40°C to +232°C) continuous service.

CONSTRUCTION: Type P2 (EPDM). Black.

Reinforcement: Braided, high tensile steel wire.

Type B1 (Special compound designed to withstand heat and oil). Red. All sizes are perforated.

COUPLINGS: 14, 15, or 76 only. Reference the Hose Coupling Section.

PACKAGING: 3/8" through 3/4": Packaged in 200' to 300' reels. Maximum of 3 pieces. Minimum length 25'. One length under

3/4" x 50" coupled assy: Coiled in carton, one assembly per carton.

50' lengths: Coiled in a carton.

Continuous molded brand. Example: "GATES® 232MB STEAM QUEEN® 3/4 INCH 2 WIRE BRAID 250 PSI WP AT 450°F MADE IN U.S.A. (assemblies only)
Continuous molded brand. Example: "GATES® 232MB STEAM QUEEN® 3/4 INCH 2 WIRE BRAID 250 PSI **BRANDING:**

Special production runs require minimum order quantities of 5,000 feet for sizes less than 1 1/2" and 600 feet for

WP AT 450°F MADE IN U.S.A. CAUTION: TIGHTEN CLAMPS BEFORE USING.

SPECIAL ORDER 1 1/2" and larger. **REQUIREMENTS:**

REMNANT LENGTHS:

STANDARDS: RMA (Class C) Limited oil resistance.



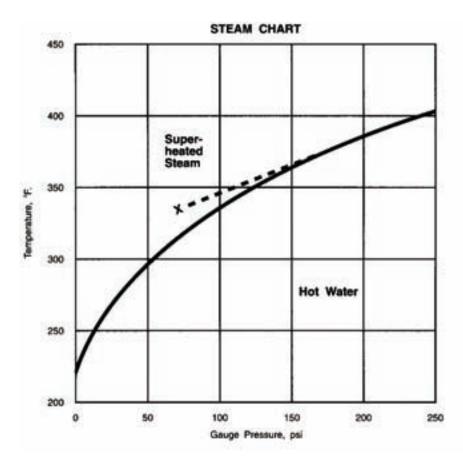
Steam and Its Effect on Hose

Water can exist in three different basic states — solid, liquid or gas — and there are three different conditions of the gas (steam). Which particular condition exists is dictated by the pressure and temperature existing.

These conditions are:

Wet Saturated Steam or "Wet Steam" Dry Saturated Steam Superheated Steam or "Dry Steam"

By way of explanation, refer to the steam chart. The heavy black line is the boiling point of water at various gauge pressures. Any point on this line represents saturated steam. Saturated steam may be completely free of unvaporized water particles, or it may carry such particles. In other words, saturated steam may be "Dry" or "Wet." Any point below the line represents Hot Water — any point above the line represents Superheated Steam.



The dotted line shows the process of saturated steam being transformed into superheated steam. If a steam line is at a pressure of 150 psi, and a temperature of 366°F., it contains saturated steam. If the pressure is substantially reduced by the expansion of the steam (such as the sudden opening of a valve or the steam passing into a larger pipe or hose), the condition of the steam follows the dotted line to some point X in the superheated steam area. This condition may not last very long, but the superheated steam tends to deteriorate the tube stock in ordinary steam hose intended for use with saturated steam. This usually results in hose failure.

How to Select The Correct Steam Hose Assembly

1. Determine Required Hose Size

The hose size required is usually fixed by size of fittings or pipe to which the hose is to be connected. It is important that you **do not select** a hose with inside diameter **larger** than the diameter of the preceding pipe.

2. Find Actual Rated Working Pressure and Temperature

Take pressure and temperature readings just ahead of the hose connection.

3. Determine Condition of Steam (Saturated or Superheated)

Locate the actual Rated Working Pressure and Temperature on the steam chart on previous page. Any point on the heavy line is saturated steam.

4. Select the Correct Hose

From the table at right, select the hose that fulfills the requirements of both the condition of the team and the Rated Working Pressure.

5. Determine Length Required

Length required is almost always dictated by the application.

6. Select Couplings Required

Gates recommends interlocking* and permanent crimped types of couplings for steam hose applications. These are identified as:

14 Interlocking, ground joint

15 Interlocking, washer joint

76 Permanent Crimped Steam Hose Couplings

7. Maintenance and Inspection

For proper maintenance and inspection of interlocking and permanent crimped steam hose assemblies, refer to RMA IP-11-1.

NOTE: When electrical continuity is required, ground the wire braid in the hose to couplings with aluminum, copper or stainless steel staples.

STEAM HOSE TABLE

	Rec	ommended Service	
Hose Type	Rated Working Pressure (psi)	Working Temperature (°F)	Type of Steam
232MB Steam Queen®	250	450	Saturated or Superheated
205MB Steam King [®]	250	450	Saturated or Superheated

Properties of Saturated Steam

(Abridged from Handbook of Chemistry and Physics – 39th Edition.)

Gauge	*Temperature of	Gauge	*Temperature of	Gauge	*Temperature of
Pressure	Saturated Steam	Pressure	Saturated Steam	Pressure	Saturated Steam
(psi)	(°F)	(psi)	(°F)	(psi)	(°F)
10	239	110	344	200	388
25	267	115	347	205	390
30	274	120	350	210	392
35	281	125	353	215	394
40	287	130	356	220	395
45	292	135	358	225	397
50	298	140	361	230	399
55	303	145	363	235	401
60	307	150	366	240	403
65	312	155	368	245	404
70	316	160	371	250	406
75	320	165	373	255	408
80	324	170	375	260	409
85	328	175	377	265	411
90	331	180	380	270	413
95	335	185	382	275	414
100	338	190	384	I	
105	341	195	386		

*Based on an atmosphere pressure of 14.7 psi.

IMPORTANT: Steam can be dangerous material. Play it safe – stay within the limits of published recommendations!

Do Not Alternate Use Between Steam and Water

^{*}Remember to retighten bolts on a regular basis.



Water Hose

Shark®

(Specification 4686AR/4686DC)

Nom. I.D.	Θ	Nom. O.D.	Ō	Max. W.P.	(Suction	\bigcirc	Min. Bend Radius	P	Wt. Per Ft.	\triangle	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
1	25.4	1.45	36.8	150	1.03	30.0	762	5.0	127	.53	.24	100 ft.	X	4686-0701
1 1/4	31.8	1.71	43.4	150	1.03	30.0	762	6.0	152	.68	.31	100 ft.	X	4686-0702
1 1/2	38.1	1.96	49.8	150	1.03	30.0	762	8.0	203	.79	.36	100 ft.	X	4686-0703
2	50.8	2.46	62.5	150	1.03	30.0	762	10.0	254	1.01	.46	100 ft.	X	4686-0704
2	50.8	2.46	62.5	150	1.03	30.0	762	10.0	254	1.01	.46	200 ft.	400 ft.	4686-0710
2 1/2	63.5	3.02	76.7	150	1.03	30.0	762	12.0	305	1.46	.66	100 ft.	X	4686-0705
3	76.2	3.58	90.9	150	1.03	30.0	762	15.0	381	2.01	.91	100 ft.	X	4686-0706
4	101.6	4.58	116.3	150	1.03	30.0	762	20.0	508	2.62	1.19	100 ft.	X	4686-0707
5	127.0	5.60	142.2	100	.69	30.0	762	25.0	635	3.89	1.76	100 ft.	X	4686-0708
6	152.4	6.65	168.9	100	.69	30.0	762	30.0	762	4.84	2.20	100 ft.	X	4686-0709
6	152.4	6.65	168.9	100	.69	30.0	762	30.0	762	4.84	2.20	20 ft.	X	4686-0711
6	152.4	6.65	168.9	100	.69	30.0	762	30.0	762	4.84	2.20	25 ft.	X	4686-0712

RECOMMENDED FOR: Suction hose used to convey water, detergents, phosphate ester hydraulic fluids and dilute solutions of acids,

alkalies and glycols.

-40°F to +180°F (-40°C to +82°C) continuous service. **TEMPERATURE:**

CONSTRUCTION: Type P (EPDM). Black.

Synthetic, high tensile textile with steel wire helix. Type D (SBR). Black with green spiral stripe. Reinforcement: Cover:

COUPLINGS: 6, 7, 49 or 78. Reference the Hose Coupling Section. All lengths coiled and wrapped in polyethylene. PACKAGING:

Continuous transfer label. Example: "GATES® Shark® Water Suction/Discharge 150 PSI (1.03MPa) WP Made In U.S.A." **BRANDING:**

SPECIAL ORDER Special production runs require minimum order quantities of 400 feet for sizes through 4" and 200 feet for sizes above 4". If a special transfer label is required, contact Gates Corporation for minimum quantity. REQUIREMENTS:

Specific cut lengths available through the Cut Length Program. Contact Customer Service for details.

REMNANT LENGTHS: Remnant lengths are sometimes available in popular sizes at a discount. Contact Gates Corporation for pricing,

order requirements and availability.



Water Hose

Barracuda®

(Specification 4686AT)

Nom. I.D.	Θ	Nom. O.D.	O	Max. W.P.	(Suction	\circ	Min. Bend Radius		Wt. Per Ft.	Å	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
1	25.4	1.33	33.8	150	1.03	30.0	762	5.0	127	.39	.18	100 ft.	400 ft.	4686-0199
1 1/4	31.8	1.61	40.9	150	1.03	30.0	762	5.0	127	.51	.23	100 ft.	X	4686-0203
1 1/2	38.1	1.86	47.2	150	1.03	30.0	762	6.0	152	.60	.27	100 ft.	X	4686-0204
1 1/2	38.1	1.86	47.2	150	1.03	30.0	762	6.0	152	.60	.27	200 ft.	400 ft.	4686-0237
2	50.8	2.36	59.9	150	1.03	30.0	762	8.0	203	.76	.35	100 ft.	X	4686-0200
2	50.8	2.36	59.9	150	1.03	30.0	762	8.0	203	.76	.35	200 ft.	400 ft.	4686-0235
2 1/2	63.5	2.96	75.2	150	1.03	30.0	762	10.0	254	1.06	.48	100 ft.	X	4686-0205
2 1/2	63.5	2.96	75.2	150	1.03	30.0	762	10.0	254	1.06	.48	200 ft.	400 ft.	4686-0250
3	76.2	3.54	89.9	150	1.03	30.0	762	14.0	356	1.74	.79	100 ft.	X	4686-0201
3	76.2	3.54	89.9	150	1.03	30.0	762	14.0	356	1.74	.79	200 ft.	400 ft.	4686-0236
4	101.6	4.54	115.3	150	1.03	30.0	762	18.0	457	2.25	1.02	100 ft.	X	4686-0202
4	101.6	4.54	115.3	150	1.03	30.0	762	18.0	457	2.25	1.02	200 ft.	400 ft.	4686-0208
6	152.0	6.68	170.0	100	.69	30.0	762	28.0	711	3.94	1.79	25 ft.	X	4686-0206
6	152.0	6.68	170.0	100	.69	30.0	762	28.0	711	3.94	1.79	20 ft.	X	4686-0207
6	152.0	6.68	170.0	100	.69	30.0	762	28.0	711	3.94	1.79	200 ft.	400 ft.	4686-0234
8	203.2	9.00	228.6	100	.69	30.0	762	40.0	1016	8.81	4.00	25 ft.	X	4686-0209
10	254.0	11.27	286.3	100	.69	30.0	762	50.0	1270	15.80	7.17	25 ft.	X	4686-0210
12	304.8	13.27	337.1	100	.69	30.0	762	60.0	1524	18.63	8.45	25 ft.	X	4686-0211

RECOMMENDED FOR: Medium to light duty water suction/discharge for agricultural, construction and industrial applications. EPDM tube

designed to handle a variety of liquids including Lasso*, Lasso II* and Freedom*. Recommended for sanitation

liner in marine applications.

TEMPERATURE: -32°F to +200°F (-36°C to +93°C). For 8" through 12" sizes.

-40°F to +180°F (-40°C to +82°C). For 1" through 6" sizes.

CONSTRUCTION: Tube: Type P (EPDM). Black.

Reinforcement: Synthetic, high tensile textile with steel wire helix.

Cover: Type P (EPDM). Black with green spiral stripe.

COUPLINGS: 5, 6, 7, 8, 49 or 78 all sizes. Reference the Hose Coupling Section.

PACKAGING: 1" through 6": Packaged with each length coiled and wrapped in polyethylene.

8" through 12": Packaged with each length placed in nylon woven fabric.

BRANDING: Continuous transfer label. Example: "GATES® Barracuda® Water Suction/Discharge 150 PSI (1.03MPa) WP Made In U.S. Δ."

SPECIAL ORDER Special production runs require minimum order quantities of 400 feet for sizes through 4" I.D. and 200 feet for REQUIREMENTS: sizes above 4" I.D. If a special transfer label is required, contact Gates Corporation for minimum quantity.

Specific cut lengths available through the Cut Length Program. Contact Customer Service for details.

REMNANT LENGTHS: Remnant lengths are sometimes available in popular sizes at a discount. Contact Gates Corporation for pricing,

order requirements and availability.

*Lasso®, Lasso II® and Freedom® are Registered Trademarks of Monsanto.



Water Hose

Steelhead®

(Specification 3135SP)

Nom. I.D.	Θ	Nom. O.D.	O	Max. W.P.	(Suction	\bigcirc	Min. Bend Radius	P	Wt. Per Ft.	\triangle	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
1 1/2	38.1	1.98	50.3	150	1.03	_	_	12.0	305	.70	.32	100 ft.	X	3135-2651
1 5/8 1 7/8	41.3 47.6	2.10 2.35	53.3 59.7	150 150	1.03 1.03			15.0 15.0	381 381	.74 .88	.34 .40	100 ft. 100 ft.	400 ft. 400 ft.	3135-2652 3135-2653
2	50.8	2.48	63.5	150	1.03	_	_	20.0	508	.93	.42	100 ft.	X	3135-2654
2 1/2	63.5	2.99	76.0	150	1.03	_	_	25.0	635	1.14	.52	100 ft.	X	3135-2655
3	76.2	3.49	88.7	150	1.03	_	_	36.0	914	1.35	.61	100 ft.	X	3135-2656
3	76.2	3.49	88.7	150	1.03	_	_	36.0	914	1.64	.74	200 ft.	400 ft.	3135-2661
3 1/2	88.9	3.99	101.4	150	1.03	_	_	42.0	1067	1.35	.74	100 ft.	400 ft.	3135-2657
4	101.6	4.49	114.1	150	1.03	_	_	48.0	1219	1.85	.84	100 ft.	X	3135-2658
4 1/2	114.3	5.01	127.3	150	1.03	_	_	54.0	1372	2.16	.98	100 ft.	X	3135-2659
6	152.4	6.51	165.4	150	1.03	_	l —	72.0	1829	2.84	1.29	100 ft.	X	3135-2660

RECOMMENDED FOR: Water discharge in heavy duty industrial applications.

TEMPERATURE: -40°F to +150°F (-40°C to +66°C) continuous service.

CONSTRUCTION: Type D (SBR). Black.

Multiple plies of synthetic, high tensile textile. Type D (SBR). Black with green spiral stripe. Reinforcement:

COUPLINGS: 1, 3, 5, 7, 49 or 78. Reference the Hose Coupling Section.

PACKAGING: 100' coiled and wrapped in polyethylene.

BRANDING: Continuous transfer label. Example: "GATES® Steelhead® HD Water Discharge 150 PSI (1.03MPa) WP Made In

Special production runs require minimum order quantities of 400 feet for sizes through 4" and 200 feet for sizes SPECIAL ORDER

REQUIREMENTS: above 4". If a special transfer label is required, contact Gates Corporation for minimum quantity.

REMNANT LENGTHS: Remnant lengths are sometimes available in popular sizes at a discount. Contact Gates Corporation for pricing,

order requirements and availability.



Water Hose

Marlin®

(Specification 3137M)

Nom. I.D.	Θ	Nom. O.D.	Q	Max. W.P.	(Suction	0	Min. Bend Radius	P	Wt. Per Ft.	Å	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
1 1/2	38.1	1.82	46.2	150	1.03	_	_	12.0	305	.47	.21	100 ft.	X	3137-0370
1 1/2	38.1	1.90	48.3	150	1.03	_	_	12.0	305	.63	.29	100 ft.	X	3137-0371
2	50.8	2.33	59.2	150	1.03	_	_	20.0	508	.65	.30	100 ft.	X	3137-0372
2	50.8	2.41	61.2	150	1.03	_	_	20.0	508	.84	.38	100 ft.	X	3137-0373
2 1/2	63.5	2.83	71.9	150	1.03	_	_	25.0	635	1.02	.36	100 ft.	400 ft.	3137-0374
2 1/2	63.5	2.91	73.9	150	1.03	_	_	25.0	635	1.02	.46	100 ft.	X	3137-0375
3	76.2	3.33	84.6	150	1.03	_	_	36.0	914	1.21	.43	100 ft.	X	3137-0376
3	76.2	3.41	86.6	150	1.03	_	_	36.0	914	1.21	.55	100 ft.	X	3137-0377
3 1/2	88.9	3.91	99.3	150	1.03	_	_	42.0	1067	1.47	.67	100 ft.	X	3137-0378
4	101.6	4.33	110.0	150	1.03	_	_	48.0	1219	1.32	.60	100 ft.	X	3137-0379
4	101.6	4.41	112.0	150	1.03	_	_	48.0	1219	1.67	.76	100 ft.	X	3137-0380
4	101.6	4.33	110.0	150	1.03	_	_	48.0	1219	1.32	.60	200 ft.	400 ft.	3137-1272
5	127.0	5.44	138.2	150	1.03		_	60.0	1524	2.17	.98	100 ft.	X	3137-0381
6	152.4	6.40	162.6	150	1.03	_	_	72.0	1829	2.32	1.05	100 ft.	X	3137-0382
6	152.4	6.49	164.9	150	1.03	_	_	72.0	1829	2.96	1.34	100 ft.	X	3137-0383

RECOMMENDED FOR: Water discharge in heavy duty service requiring a compact, rugged and lightweight hose.

TEMPERATURE: -40°F to +180°F (-40°C to +82°C) continuous service.

CONSTRUCTION: Type P (EPDM). Black.

Multiple plies of synthetic, high tensile textile. Type D (SBR). Black with green spiral stripe. Reinforcement: Cover:

COUPLINGS: 1, 3, 5, 7, 49 or 78. Reference the Hose Coupling Section.

PACKAGING: 100' coiled and wrapped in polyethylene.

BRANDING: Continuous transfer label. Example: "GATES® Marlin® Water Discharge 150 PSI (1.03MPa) WP Made In U.S.A."

Special production runs require minimum order quantities of 400 feet for sizes through 4" and 200 feet for sizes above 4". If a special transfer label is required, contact Gates Corporation for minimum quantity. SPECIAL ORDER

REQUIREMENTS: Specific cut lengths available through the Cut Length Program. Contact Customer Service for details.

REMNANT LENGTHS: Remnant lengths are sometimes available in popular sizes at a discount. Contact Gates Corporation for pricing,

order requirements and availability.



Water Hose

Dolphin®

(Specification 3137T)

Nom. I.D.	Θ	Nom. O.D.	O	Max. W.P.	(Suction	0	Min. Bend Radius	P	Wt. Per Ft.	Å	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
1 1/4	31.8	1.53	38.9	150	1.03	_	_	_	_	.37	.17	100 ft.	X	3137-0884
1 1/2	38.1	1.78	45.2	150	1.03	_	_	_	_	.43	.20	100 ft.	X	3137-0883
1 1/2	38.1	1.78	45.2	150	1.03	_	_	_	_	.43	.20	200 ft.	400 ft.	3137-0898
2	50.8	2.32	58.9	150	1.03	_	_	_	_	.65	.30	100 ft.	X	3137-0885
2	50.8	2.32	58.9	150	1.03	_	_	_	_	.65	.30	200 ft.	400 ft.	3137-0905
2 1/2	63.5	2.82	71.6	150	1.03	_	_	_	_	.80	.36	100 ft.	X	3137-0888
3	76.2	3.36	85.3	150	1.03	_	_	_	_	1.08	.49	100 ft.	X	3137-0886
3	76.2	3.36	85.3	150	1.03	_	_	_	_	1.08	.49	200 ft.	400 ft.	3137-0895
4	101.6	4.36	111.7	150	1.03	_	_	_	_	1.41	.64	100 ft.	X	3137-0889
4	101.6	4.36	111.7	150	1.03	_	_	_	_	1.41	.64	200 ft.	400 ft.	3137-0896
6	152.4	6.38	162.1	125	.86	l —	_	l —	l —	2.09	.95	100 ft.	X	3137-0890
6	152.4	6.38	162.1	125	.86	_	_	_	_	2.09	.95	200 ft.	400 ft.	3137-0892

RECOMMENDED FOR: Medium to light duty water discharge for agricultural, construction and industrial applications. EPDM tube designed to handle a variety of liquids including Lasso*, Lasso Π^* and Freedom*.

TEMPERATURE: -40° F to $+180^{\circ}$ F (-40° C to $+82^{\circ}$ C).

Type P (EPDM). Black. CONSTRUCTION:

Reinforcement:

Synthetic, high tensile textile.

Type P (EPDM). Black with green spiral stripe. Cover:

COUPLINGS: 5, 6, 7, 8, 49 or 78 all sizes. Reference the Hose Coupling Section.

NOTE: 3:1 Safety Factor for Burst Pressure to Working Pressure is reduced when the temperature increases.

PACKAGING: 100' length coiled and wrapped in polyethylene.

BRANDING: Continuous transfer label. Example: "GATES® Dolphin® Water Discharge 150 PSI (1.03MPa) WP Made In

SPECIAL ORDER Special production runs require minimum order quantities of 400 feet for sizes through 4" I.D. and 200 feet for **REQUIREMENTS:** sizes above 4" I.D. If a special transfer label is required, contact Gates Corporation for minimum quantity.

Specific cut lengths available through the Cut Length Program. Contact Customer Service for details.

REMNANT LENGTHS: Remnant lengths are sometimes available in popular sizes at a discount. Contact Gates Corporation for pricing,

order requirements and availability.

*Lasso®, Lasso II® and Freedom® are Registered Trademarks of Monsanto.



Water Hose

Master-Flex® 500

(Specification 7744)

Nom. I.D.	Θ	Nom. O.D.	O	Max. W.P.	(Suction	0	Min. Bend Radius	P	Wt. Per Ft.	Å	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
1 1/2	38.1	1.67	42.4	75	.52	_	_	_	_	.17	.08	300 ft.	X	7744-1001
2	50.8	2.16	54.9	65	.45	_	_	_	_	.21	.10	300 ft.	X	7744-1002
2 1/2	63.5	2.55	64.8	60	.41	_	_	_	_	.28	.13	300 ft.	X	7744-1003
3	76.2	3.17	80.5	60	.41	_	_	_	_	.39	.18	300 ft.	X	7744-1004
4	101.6	4.20	106.7	60	.41	_	_	_	_	.53	.24	300 ft.	X	7744-1005
6	152.4	6.20	157.5	45	.31	_	_	_	_	.88	.40	300 ft.	X	7744-1006
8	203.2	8.16	207.3	45	.31	_	_	_	_	1.27	.58	300 ft.	X	7744-1007

RECOMMENDED FOR: General lay flat water discharge service. Excellent for job sites in construction, irrigation and areas where a

lightweight, flexible hose is required.

 $+25^{\circ}$ F to $+120^{\circ}$ F (-4° C to $+49^{\circ}$ C) continuous service. **TEMPERATURE:**

 $\begin{array}{ll} \mbox{Type } G \mbox{ (PVC)}. \mbox{ Blue with yellow identification.} \\ \mbox{Synthetic, high tensile textile.} \\ \mbox{Type } G \mbox{ (PVC)}. \mbox{ Blue. Smooth.} \end{array}$ CONSTRUCTION: **Tube:**

Reinforcement: Cover:

COUPLINGS: 5, 6, 7 or 49. One band for 1 1/2". Two bands for 2" I.D. and larger. Reference the Hose Coupling Section.

PACKAGING: 300' length coiled in polyethylene and banded, one length.

Ink stamp every 5 ft. with I.D. only. **BRANDING:**

SPECIAL ORDER REQUIREMENTS: REMNANT LENGTHS:



Water Hose

Master-Flex® 100GR

(Specification 7744)

Nom. I.D.	Θ	Nom. O.D.	Ō	Max. W.P.	(Suction	0	Min. Bend Radius		Wt. Per Ft.	Å	Standard	Stock (X) or Minimum	Gates
(In.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
1	25.4	1.27	32.3	90	.62	28.0	711	3.0	76	.27	.12	100 ft.	X	7744-3101
1 1/4	31.8	1.53	38.9	90	.62	28.0	711	4.0	102	.36	.16	100 ft.	X	7744-3102
1 1/2	38.1	1.82	46.2	90	.62	28.0	711	5.0	127	.47	.21	100 ft.	X	7744-3103
2	50.8	2.36	59.9	70	.48	28.0	711	6.0	152	.66	.30	100 ft.	X	7744-3104
2 1/2	63.5	2.90	73.7	65	.45	28.0	711	8.0	203	.92	.42	100 ft.	X	7744-3105
3	76.2	3.44	87.4	60	.41	28.0	711	9.0	229	1.20	.54	100 ft.	X	7744-3106
4	101.6	4.52	114.8	50	.34	28.0	711	13.0	330	1.87	.86	100 ft.	X	7744-3107
5	127.0	5.65	143.5	45	.31	28.0	711	21.0	533	3.08	1.40	100 ft.	1,000 ft.	7744-3108
6	152.4	6.80	172.7	45	.31	28.0	711	24.0	610	4.56	2.07	100 ft.	X	7744-3109

^{*}Working Pressure and Suction at +72°F (+22°C).

RECOMMENDED FOR: Conveying water and light chemical solutions under suction or rated discharge pressure.

TEMPERATURE: -10°F to +130°F (-23°C to +55°C) continuous service.

CONSTRUCTION: **Tube:**

Type G (PVC). Green. Rigid thermoplastic helix. White. Type G (PVC). Green. Smooth. Reinforcement: Cover:

COUPLINGS: 1, 6, 7, 49 or 78 all sizes. Reference the Hose Coupling Section.

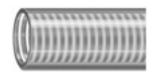
PACKAGING: All lengths coiled and wrapped in polyethylene.

BRANDING: Unlabeled.

SPECIAL ORDER Special production runs require minimum order quantities of 1,000 feet per size. No deviations allowed to above

REQUIREMENTS:

REMNANT LENGTHS: None.



Water Hose

Master-Flex® 101CL

(Specification 7744)

Smooth Cover

Nom. I.D.	Θ	Nom. O.D.	\bigcirc	Max. W.P.	(Suction	\bigcirc	Min. Bend Radius	(P)	Wt. Per Ft.	\triangle	Standard	Stock (X) or Minimum	Gates
(ln.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
1	25.4	1.27	32.3	90	.62	28.0	711	3.0	76	.27	.12	100 ft.	Χ	7744-2101
1 1/4	31.8	1.53	38.9	90	.62	28.0	711	4.0	102	.34	.15	100 ft.	X	7744-2102
1 1/2	38.1	1.82	46.2	90	.62	28.0	711	5.0	127	.47	.21	100 ft.	Χ	7744-2103
2	50.8	2.36	60.0	70	.48	28.0	711	6.0	152	.66	.30	100 ft.	Χ	7744-2104
2 1/2	63.5	2.90	73.7	65	.45	28.0	711	8.0	203	.92	.42	100 ft.	X	7744-2105
3	76.2	3.44	87.4	55	.38	28.0	711	9.0	229	1.20	.54	100 ft.	Χ	7744-2106
4	101.6	4.52	114.8	50	.34	28.0	711	13.0	330	1.87	.85	100 ft.	Χ	7744-2107
5	127.0	5.65	143.5	45	.31	28.0	711	21.0	533	3.00	1.36	100 ft.	1,000 ft.	7744-2108
6	152.4	6.80	172.7	45	.31	28.0	711	24.0	610	4.42	2.00	100 ft.	X	7744-2109

^{*}Working Pressure and Suction at +72°F (+22°C).

Corrugated Cover

Nom. I.D.	Θ	Nom. O.D.	<u>10</u>	Max. W.P.	(Suction	\bigcirc	Min. Bend Radius	P	Wt. Per Ft.	\triangle	Standard	Stock (X) or Minimum	Gates
(ln.)	(mm)	(In.)	(mm)	(psi)	(MPa)	(In. Hg)	(mm Hg)	(In.)	(mm)	(Lbs.)	(Kg)	Pack	Order Qty.	Item No.
1	25.4	1.26	32.0	35	.24	28.0	711	2.0	51	.14	.06	100 ft.	X	7744-0000
1 1/4	31.8	1.61	40.9	50	.34	28.0	711	3.0	76	.31	_	100 ft.	X	7744-0015
1 1/2	38.1	1.86	47.2	50	.34	28.0	711	3.0	76	.37	.17	100 ft.	X	7744-0008
2	50.8	2.44	62.0	40	.28	28.0	711	4.0	102	.57	.26	100 ft.	Х	7744-0009
3	76.2	3.54	89.9	35	.24	28.0	711	6.0	152	1.04	.47	100 ft.	X	7744-0011
4	101.6	4.65	118.1	35	.24	28.0	711	8.0	203	1.65	.75	100 ft.	X	7744-0012
5	127.0	5.73	145.5	30	.21	28.0	711	11.0	279	2.34	1.06	100 ft.	1,000 ft.	7744-0013
6	152.4	6.98	177.3	35	.24	28.0	711	15.0	381	4.08	1.85	100 ft.	X	7744-0014

^{*}Working Pressure and Suction at +72°F (+22°C).

RECOMMENDED FOR: Conveying water and light chemical solutions where a clear PVC hose with a white helix is desirable for heavy

duty applications.

TEMPERATURE: -10°F to +130°F (-23°C to +55°C) continuous service.

Tube: Type G (PVC). Clear. Smooth. **Reinforcement:** Rigid thermoplastic helix. **CONSTRUCTION:**

COUPLINGS: 1, 6, 7, 49 or 78 all sizes. Reference the Hose Coupling Section.

PACKAGING: All lengths coiled and wrapped in polyethylene.

BRANDING: Unlabeled.

SPECIAL ORDER Special production runs require minimum order quantities of 1,000 feet per size. No deviations allowed to above

REQUIREMENTS:

REMNANT LENGTHS:

GATES GC®96 INDUSTRIAL HOSE CRIMPER

The GC®96 crimper is capable of crimping up to 6 inch ID industrial hose. This crimper allows distributors to make assemblies that are reliable and professional looking, thus providing more value to the end user. The large crimper head allows industrial hose assemblies to be made with a variety of terminations using crimpable ferrules and sleeves. The GC96 crimper has additional versatility since in conjunction with optional spacer dies and GC*32-XD dies; it can make Gates hydraulic hose assemblies also.

Features:

- Electronic touch screen control panel for fast input of crimper settings
- Horizontal front-end feed makes crimping easier and convenient
- 340 ton force that allows crimping of a wide variety of couplings
- 2 speed die closure and rapid retract permit fast assembly fabrication
- 3-phase inverter allows crimper to be used all over the world
- Full range of die sets that enable production of a wide range of hose assemblies
- Complete line of options permit customizing the crimper to meet your needs

Model Number:

GC96

Product Number:

7480-9001

Crimping Force:

340 Tons

Capability:

1/4" – 2": Industrial and hydraulic hose (except 2", 6-wire) 2-1/2" – 4": Industrial hose

5" - 6": Industrial hose up to and including 100 PSI WP

Power Source:

208-264 Volts, 45-65 HZ, 1 or 3 Phase and 20 Amps

Electrical inverter for world-wide use

Crimper Dimensions:

31" H x 32" W x 16" D

Weight:

650 lbs.



Crimper	Product No.	Weight (lbs)
GC96 Crimper – Includes Starter Kit, Foot Pedal, 96-610 Die Set and Lifting Rope	7480-9001	650

Dies and Accessories	Product No.	Weight (lbs)
Quick Change Tool	7482-7104	2
Standard Die Kit includes GC32 QCT and GC96 Spacer Dies	7482-9104	36
Mirror	7482-9109	10
Starter Kit	7482-9112	10
Calibration Ring	7482-9200	2
Knuckles	7482-9601	5
GC96 Spacer Dies with box	7482-9600	31
Die Set $-$ 96-610 with box	7482-9610	47
Die Set $-$ 96-611 with box	7482-9611	41
Die Set $-$ 96-612 with box	7482-9612	40
Die Set $-$ 96-613 with box	7482-9613	46
Die Set $-$ 96-614 with box	7482-9614	31

For Pricing of Crimper and Accessories, please contact your local Gates Field Representative.

NOTE: For replacement parts, see GC96 Operating Manual. GC32 dies should be ordered from the Hydraulic Price Sheet #35096-00.



Clamps

Stainless Steel Clamps

(Specification 7408)

Clamp	Hose I	Range	Clamp	Range	Standard	Stock (X) or Minimum	Gates
Size	Min.	Max.	Min.	Max.	Pack	Order Qty.	Item No.
8	.3125	.5	7/16	1	10 ea.	X	7408-1008
10	.375	.625	1/2	1 1/8	10 ea.	X	7408-1010
12	.625	.75	1/2	1 1/4	10 ea.	X	7408-1012
16	.75	1	3/4	1 1/2	10 ea.	X	7408-1016
20	1	1.25	3/4	1 3/4	10 ea.	X	7408-1020
24	1.25	1.5	1	2	10 ea.	X	7408-1024
28	1.25	1.75	1 5/16	2 1/4	10 ea.	X	7408-1028
32	1.5	2	1 1/16	2 1/2	10 ea.	X	7408-1032
36	1.75	2.25	1 7/8	2 3/4	10 ea.	X	7408-1036
48	2.5	3	1 5/8	3 1/2	10 ea.	X	7408-1048
52	3	3.25	1 7/8	3 3/4	10 ea.	X	7408-1052
56	2	3.5	2 1/8	4	10 ea.	X	7408-1056
60	2.25	3.75	2 5/16	4 1/4	10 ea.	X	7408-1060
64	2.25	4	2 5/8	4 1/2	10 ea.	X	7408-1064
72	3	4.5	3 1/2	5	10 ea.	X	7408-1072
104	4	6.5	4	7	10 ea	X	7408-1104

RECOMMENDED FOR: Clamping all types of hose and tubing in corrosive marine environment.

Clamps are constructed of 100% marine grade stainless steel. Bands are 9/16" wide with rounded edges to prevent cutting. Screws feature 305 grade stainless steel construction and deep slotted hex heads. **CONSTRUCTION:**

PACKAGING: 10 each per box.



Clamps

Heavy-Duty T-Bolt Clamps

(Specification 7422)

SAE	Min. Dia.	Θ	Max. Dia.	Θ	Recommended Installation	Standard	Stock (X) or Minimum	Gates
Size	(In.)	mm	(In.)	mm	Torque	Pack	Order Qty.	Item No.
8	1.375	35.1	1.5625	38.6	75 in./lbs. (8.5 Nm)	10 ea.	Х	7422-1049
10 12	1.5 1.625	38.1 41.4	1.625 1.875	41.7 46	75 in./lbs. (8.5 Nm) 75 in./lbs. (8.5 Nm)	10 ea. 10 ea.	X X	7422-1050 7422-1051
28	1.75	44.5	1.075	50.8	75 in./lbs. (8.5 Nm)	10 ea.	X	7422-1051
32	1.875	47.8	2.1875	55.6	75 in./lbs. (8.5 Nm)	10 ea.	X	7422-1053
36	2	50.8	2.3125	58.7	75 in./lbs. (8.5 Nm)	10 ea.	Χ	7422-1054
40	2.125	54.1	2.4375	62	75 in./lbs. (8.5 Nm)	10 ea.	X	7422-1055
44 48	2.25 2.375	57.2 60.5	2.5625 2.6875	65 68.3	75 in./lbs. (8.5 Nm) 75 in./lbs. (8.5 Nm)	10 ea. 10 ea.	X X	7422-1056 7422-1057
52	2.57	63.5	2.8125	71.4	75 in./lbs. (8.5 Nm)	10 ea.	X	7422-1057
56	2.625	66.8	2.9375	74.7	75 in./lbs. (8.5 Nm)	10 ea.	X	7422-1050
60	2.75	69.9	3.0625	77.7	75 in./lbs. (8.5 Nm)	10 ea.	Χ	7422-1060
64	2.875	73.2	3.1875	81	75 in./lbs. (8.5 Nm)	10 ea.	X	7422-1061
68 72	3 3.125	76.2 79.5	3.3125 3.4375	84.1 87.4	75 in./lbs. (8.5 Nm) 75 in./lbs. (8.5 Nm)	10 ea. 10 ea.	X X	7422-1062 7422-1063
76	3.25	82.6	3.5625	90.4	75 in./lbs. (8.5 Nm)	10 ea.	X	7422-1003
80	3.375	85.9	3.6875	93.7	75 in./lbs. (8.5 Nm)	10 ea.	X	7422-1004
84	3.5	88.9	3.8125	96.8	75 in./lbs. (8.5 Nm)	10 ea.	Χ	7422-1066
88	3.625	92.2	3.9375	100.1	75 in./lbs. (8.5 Nm)	10 ea.	X	7422-1067
92 100	3.75 4	95.3 101.6	4.0625 4.3125	103.1 109.5	75 in./lbs. (8.5 Nm) 75 in./lbs. (8.5 Nm)	10 ea. 10 ea.	X X	7422-1068 7422-1069
108	4.25	101.0	4.5625	115.8	75 in./lbs. (8.5 Nm)	10 ea.	X	7422-1009
116	4.5	114.3	4.8125	122.2	75 in./lbs. (8.5 Nm)	10 ea.	Ŷ	7422-1070
124	4.75	120.7	5.0625	128.5	75 in./lbs. (8.5 Nm)	10 ea.	Χ	7422-1072
132	5	127	5.3125	134.9	75 in./lbs. (8.5 Nm)	10 ea.	Х	7422-1073
140 148	5.25 5.5	133.4 139.7	5.5625 5.8125	141.2 147.6	75 in./lbs. (8.5 Nm)	10 ea. 10 ea.	X X	7422-1074 7422-1075
156	5.75	139.7	6.0625	153.9	75 in./lbs. (8.5 Nm) 75 in./lbs. (8.5 Nm)	10 ea.	X	7422-1075
164	6	152.4	6.3125	160.3	75 in./lbs. (8.5 Nm)	10 ea.	Ŷ	7422-1070
172	6.25	158.8	6.5625	166.6	75 in./lbs. (8.5 Nm)	10 ea.	X	7422-1078
180	6.5	165.1	6.8125	173	75 in./lbs. (8.5 Nm)	10 ea.	Х	7422-1079
188	6.75	171.5	7.0625	179.3	75 in./lbs. (8.5 Nm)	10 ea.	X	7422-1080
196	7	177.8	7.3125 7.5625	185.7 192	75 in./lbs. (8.5 Nm)	10 ea.	X	7422-1081
204 212	7.25 7.5	184.2 190.5	7.5625 7.8125	192	75 in./lbs. (8.5 Nm) 75 in./lbs. (8.5 Nm)	10 ea. 10 ea.	X X	7422-1082 7422-1083
220	7.75	196.9	8.0625	204.7	75 in./lbs. (8.5 Nm)	10 ea.	X	7422-1003
228	8	203.2	8.3125	211.1	75 in./lbs. (8.5 Nm)	10 ea.	Χ	7422-1085
236	8.25	209.6	8.5625	217.4	75 in./lbs. (8.5 Nm)	10 ea.	X	7422-1086
244	8.5	215.9	8.8125	223.8	75 in./lbs. (8.5 Nm)	10 ea.	X	7422-1087

RECOMMENDED FOR: Use in high vibration and large diameter applications. Typical applications include industrial machinery, truck air

take systems, cold side charge air systems and off road equipment.

CONSTRUCTION:

T-Bolt Standard Design

Band/Bridge: 3/4" width, 201/301 stainless steel.

Bolt: 1/4" - 28 plated steel.

Nut: 7/16" hex, nylon insert, plated steel locknut.

Trunnion: Plated Steel

PACKAGING: 10 each per box.



GLX® - Male Pipe (NPTF 30° Cone Seat)



Standard Pack

Size		Thread	Stem Hex	Nut Hex	Overal	l Length	Cut Of	f Length	Weight Per Ea.	Standard	Stock (X) or Minimum	Gates
(In.)	Description	(In.)	(In.)	(In.)	(In.)	(mm)	(In.)	(mm)	(Lbs.)	Pack	Order Qty.	Item No.
1/4	4GLX-2MP	1/8-27	1/2		2.01	51.1	.98	24.9	.09	1 ea.	50 ea.	7107-00105
1/4	4GLX-4MP	1/4-18	9/16		2.17	55.1	1.14	29.0	.11	1 ea.	X	7107-00115
3/8	6GLX-4MP	1/4-18	11/16		2.32	58.9	1.22	31.0	.15	1 ea.	50 ea.	7107-00135
3/8	6GLX-6MP	3/8-18	11/16	_	2.32	58.9	1.22	31.0	.16	1 ea.	X	7107-00145
1/2	8GLX-6MP	3/8-18	13/16		2.72	69.1	1.24	31.5	.25	1 ea.	50 ea.	7107-00165
1/2	8GLX-8MP	1/2-14	7/8		2.78	70.6	1.40	35.6	.29	1 ea.	X	7107-00175
5/8	10GLX-8MP	1/2-14	15/16	_	2.40	61.0	1.55	39.3	.22	1 ea.	X	7107-00195
3/4	12GLX-8MP	1/2-14	1 1/16		3.46	87.9	1.46	37.1	.45	1 ea.	50 ea.	7107-00215
3/4	12GLX-12MP	3/4-14	1 1/16		3.46	87.9	1.46	37.1	.49	1 ea.	X	7107-00225
1	16GLX-16MP	1-11 1/2	1 3/8		4.11	104.4	1.88	47.8	.78	1 ea.	X	7107-00255
1 1/4	20GLX-20MP	1 1/4-11 1/2	1 3/4		4.41	112.0	2.09	53.0	1.24	1 ea.	X	7107-00265
1/2	8GLX-12MP	3/4-14	13/16		3.46	87.8	1.45	36.9	.15	1 ea.	X	7107-00785

Bulk Pack

Size		Thread	Stem Hex	Nut Hex	Overal	l Length	Cut Off	f Length	Weight Per Ea.	Standard	Stock (X) or Minimum	Gates
(In.)	Description	(In.)	(In.)	(ln.)	(In.)	(mm)	(In.)	(mm)	(Lbs.)	Pack	Order Qty.	Item No.
1/4	4GLX-2MPXBULK	1/8-27	1/2		2.01	51.1	.98	24.9	.09	200 ea.	200 ea.	7107-0010
1/4	4GLX-4MPXBULK	1/4-18	9/16		2.17	55.1	1.14	29.0	.11	200 ea.	X	7107-0011
3/8	6GLX-4MPXBULK	1/4-18	11/16		2.32	58.9	1.22	31.0	.15	150 ea.	150 ea.	7107-0013
3/8	6GLX-6MPXBULK	3/8-18	11/16		2.32	58.9	1.22	31.0	.16	150 ea.	X	7107-0014
1/2	8GLX-6MPXBULK	3/8-18	13/16		2.72	69.1	1.24	31.5	.25	100 ea.	100 ea.	7107-0016
1/2	8GLX-8MPXBULK	1/2-14	7/8		2.78	70.6	1.40	35.6	.29	100 ea.	X	7107-0017
5/8	10GLX-8MPXBULK	1/2-14	15/16		2.40	61.0	1.55	39.3	.22	100 ea.	X	7107-0019
3/4	12GLX-8MPXBULK	1/2-14	1 1/16		3.46	87.9	1.46	37.1	.46	75 ea.	75 ea.	7107-0021
3/4	12GLX-12MPXBULK	3/4-14	1 1/16		3.46	87.9	1.46	37.1	.49	75 ea.	X	7107-0022
1	16GLX-16MPXBULK	1-11 1/2	1 3/8		4.11	104.4	1.88	47.8	.78	25 ea.	X	7107-0025
1 1/4	20GLX-20MPXBULK	1 1/4-11 1/2	1 3/4		4.41	112.0	2.09	53.0	1.24	20 ea.	X	7107-0026
1/2	8GLX-12MPXBULK	3/4-14	13/16		3.46	87.8	1.45	36.9	.15	60 ea.	60 ea.	7107-0078

GLX® - MS 45° SAE Male Solid



Standard Pack

Size		Thread	Stem Hex	Nut Hex	Overal	l Length	Cut Off	Length	Weight Per Ea.	Standard	Stock (X) or Minimum	Gates
(In.)	Description	(In.)	(In.)	(In.)	(In.)	(mm)	(In.)	(mm)	(Lbs.)	Pack	Order Qty.	Item No.
1/4	4GLX-4MS	7/16-20	1/2	_	2.11	53.6	1.08	27.4	.09	1 ea.	50 ea.	7107-00525
3/8	6GLX-6MS	5/8-18	5/8	_	2.38	60.5	1.28	32.5	.16	1 ea.	50 ea.	7107-00535
1/2	8GLX-8MS	3/4-16	13/16	_	2.89	73.4	1.42	36.1	.27	1 ea.	50 ea.	7107-00545
3/4	12GLX-12MS	1 1/16-14	1 1/16	_	3.78	96.0	1.77	45.0	.54	1 ea.	50 ea.	7107-00555

Bulk Pack

Si	ize		Thread	Stem Hex	Nut Hex	Overal	l Length	Cut Of	f Length	Weight Per Ea.	Standard	Stock (X) or Minimum	Gates
(1	n.)	Description	(In.)	(In.)	(In.)	(In.)	(mm)	(In.)	(mm)	(Lbs.)	Pack	Order Qty.	Item No.
1/		4GLX-4MSXBULK	7/16-20	1/2	_	2.11	53.6	1.08	27.4	.09	1 ea.	50 ea.	7107-0052
3/		6GLX-6MSXBULK	5/8-18	5/8	—	2.38	60.5	1.28	32.5	.16	1 ea.	50 ea.	7107-0053
1/	/2	8GLX-8MSXBULK	3/4-16	13/16	_	2.89	73.4	1.42	36.1	.27	1 ea.	50 ea.	7107-0054
3/	/4	12GLX-12MSXBULK	1 1/16-14	1 1/16	_	3.78	96.0	1.77	45.0	.54	1 ea.	50 ea.	7107-0055

Due to continual product improvements, Gates reserves the right to alter specs and prices without prior notice.

GLX® - FSX 45° SAE Female Swivel



Standard Pack

Size		Thread	Stem Hex	Nut Hex	Overal	l Length	Cut Of	f Length	Weight Per Ea.	Standard	Stock (X) or Minimum	Gates
(In.)	Description	(In.)	(In.)	(In.)	(In.)	(mm)	(In.)	(mm)	(Lbs.)	Pack	Order Qty.	Item No.
1/4	4GLX-4FSX	7/16-20	1/2	_	2.24	56.9	1.22	31.0	.13	200 ea.	200 ea.	7107-00485
3/8	6GLX-6FSX	5/8-18	5/8	_	2.44	62.0	1.35	34.3	.17	150 ea.	150 ea.	7107-00495
1/2	8GLX-8FSX	3/4-16	13/16	_	2.82	71.6	1.34	34.0	.26	100 ea.	100 ea.	7107-00505
3/4	12GLX-12FSX	1 1/16-14	1 1/16	_	3.68	93.5	1.67	42.4	.51	75 ea.	75 ea.	7107-00515

Bulk Pack

Size		Thread	Stem Hex	Nut Hex		l Length		Length	Weight Per Ea.	Standard	Stock (X) or Minimum	Gates
(In.)	Description	(In.)	(In.)	(ln.)	(ln.)	(mm)	(In.)	(mm)	(Lbs.)	Pack	Order Qty.	Item No.
1/4	4GLX-4FSXXBULK	7/16-20	1/2	_	2.24	56.9	1.22	31.0	.13	1 ea.	50 ea.	7107-0048
3/8	6GLX-6FSX XBULK	5/8-18	5/8	_	2.44	62.0	1.35	34.3	.17	1 ea.	50 ea.	7107-0049
1/2	8GLX-8FSX XBULK	3/4-16	13/16	_	2.82	71.6	1.34	34.0	.26	1 ea.	50 ea.	7107-0050
3/4	12GLX-12FSX XBULK	1 1/16-14	1 1/16		3.68	93.5	1.67	42.4	.51	1 ea.	50 ea.	7107-0051

GLX® - MPX Male NPTF Swivel



Standard Pack

Size		Thread	Stem Hex	Nut Hex	Overal	l Length	Cut Off	Length	Weight Per Ea.	Standard	Stock (X) or Minimum	Gates
(In.)	Description	(In.)	(In.)	(In.)	(ln.)	(mm)	(In.)	(mm)	(Lbs.)	Pack	Order Qty.	Item No.
1/4	4GLX-4MPX	1/4-18	1/2	11/16	2.61	66.3	1.58	40.1	.15	1 ea.	50 ea.	7107-00565
3/8	6GLX-6MPX	3/8-18	5/8	7/8	2.81	71.4	1.72	43.7	.25	1 ea.	50 ea.	7107-00575
1/2	8GLX-8MPX	1/2-14	13/16	1	3.42	86.9	1.95	49.5	.36	1 ea.	50 ea.	7107-00585
3/4	12GLX-12MPX	3/4-14	1 1/16	1 5/16	4.02	102.0	2.01	51.1	.65	1 ea.	50 ea.	7107-00595
1	16GLX-16MPX	1-11 1/2	1 3/8	1 5/8	4.73	120.1	2.50	63.5	.98	1 ea.	50 ea.	7107-00605
1 1/4	20GLX-20MPX	1 1/4-11 1/2	1 7/8	2	5.30	134.6	2.98	75.7	1.83	1 ea.	50 ea.	7107-00615

Bulk Pack

Size		Thread	Stem Hex	Nut Hex	Overal	l Length	Cut Off	f Length	Weight Per Ea.	Standard	Stock (X) or Minimum	Gates
(In.)	Description	(ln.)	(In.)	(In.)	(In.)	(mm)	(In.)	(mm)	(Lbs.)	Pack	Order Qty.	Item No.
1/4	4GLX-4MPX XBULK	1/4-18	1/2	11/16	2.61	66.3	1.58	40.1	.15	200 ea.	200 ea.	7107-0056
3/8	6GLX-6MPX XBULK	3/8-18	5/8	7/8	2.81	71.4	1.72	43.7	.25	150 ea.	150 ea.	7107-0057
1/2	8GLX-8MPX XBULK	1/2-14	13/16	1	3.42	86.9	1.95	49.5	.36	100 ea.	100 ea.	7107-0058
3/4	12GLX-12MPX XBULK	3/4-14	1 1/16	1 5/16	4.02	102.0	2.01	51.1	.65	75 ea.	75 ea.	7107-0059
1	16GLX-16MPX XBULK	1-11 1/2	1 3/8	1 5/8	4.73	120.1	2.50	63.5	1.14	25 ea.	25 ea.	7107-0060
1 1/4	20GLX-20MPX XBULK	1 1/4-11 1/2	1 7/8	2	5.30	134.6	2.98	75.7	1.83	20 ea.	20 ea.	7107-0061

GLX® - FP Female NPTF Swivel



Standard Pack

Size		Thread	Stem Hex	Nut Hex	Overal	l Length	Cut Of	f Length	Weight Per Ea.	Standard	Stock (X) or Minimum	Gates
(In.)	Description	(In.)	(In.)	(In.)	(In.)	(mm)	(In.)	(mm)	(Lbs.)	Pack	Order Qty.	Item No.
1/4 3/8 3/8	4GLX-4FP 6GLX-4FP 6GLX-6FP	1/4-18 1/4-18 3/8-18	11/16 11/16 13/16	=	1.99 2.07 2.07	50.5 52.6 52.6	.96 .97 .97	24.4 24.6 24.6	.11 .16 .18	1 ea. 1 ea. 1 ea.	50 ea. 50 ea. 50 ea.	7107-00415 7107-00425 7107-00435
1/2 1/2 3/4	8GLX-6FP 8GLX-8FP 12GLX-12FL	3/8-18 1/2-14 3/4-14	13/16 1 1 1/4		2.48 2.64 3.23	63.0 67.1 82.0	1.00 1.16 1.22	25.4 29.5 31.0	.25 .28 .48	1 ea. 1 ea. 1 ea.	50 ea. 50 ea. 50 ea.	7107-00445 7107-00455 7107-00465
1	16GLX-16FP	1-11 1/2	1 1/2	_	3.86	98.0	1.62	41.1	.76	1 ea.	50 ea.	7107-00475

Bulk Pack

Size		Thread	Stem Hex	Nut Hex	Overal	l Length	Cut Of	Length	Weight Per Ea.	Standard	Stock (X) or Minimum	Gates
(In.)	Description	(In.)	(In.)	(In.)	(In.)	(mm)	(In.)	(mm)	(Lbs.)	Pack	Order Qty.	Item No.
1/4 3/8 3/8	4GLX-4FPXBULK 6FLX-4FPXBULK 6GLX-6FPXBULK	1/4-18 1/4-18 3/8-18	11/16 11/16 13/16	=	1.99 2.07 2.07	50.5 52.6 52.6	.96 .97 .97	24.4 24.6 24.6	.12 .16 .18	200 ea. 150 ea. 150 ea.	200 ea. 150 ea. 150 ea.	7107-0041 7107-0042 7107-0043
1/2 1/2 3/4	8GLX-6FPXBULK 8GLX-8FPXBULK 12GLX-12FPXBULK	3/8-18 1/2-14 3/4-14	13/16 1 1 1/4	_	2.48 2.64 3.23	63.0 67.1 82.0	1.00 1.16 1.22	25.4 29.5 31.0	.25 .28 .48	100 ea. 100 ea. 75 ea.	100 ea. 100 ea. 75 ea.	7107-0044 7107-0045 7107-0046
1	16GLX-16FPXBULK	1-11 1/2	1 1/2	_	3.86	98.0	1.62	41.1	.76	25 ea.	25 ea.	7107-0047

GLX® - FPX Female NPSM Swivel



Standard Pack

Size		Thread	Stem Hex	Nut Hex	Overal	l Length	Cut Off	Length	Weight Per Ea.	Standard	Stock (X) or Minimum	Gates
(In.)	Description	(In.)	(In.)	(In.)	(In.)	(mm)	(In.)	(mm)	(Lbs.)	Pack	Order Qty.	Item No.
1/4 3/8 3/8	4GLX-4FPX 6GLX-4FPX 6GLX-6FPX	1/4-18 1/4-18 3/8-18	1/2 5/8 5/8	11/16 11/16 7/8	2.24 2.40 2.49	56.9 61.0 63.2	1.22 1.30 1.39	31.0 33.0 35.3	.12 .18 .21	1 ea. 1 ea. 1 ea.	50 ea. 50 ea. 50 ea.	7107-00345 7107-00355 7107-00365
1/2 1/2 3/4	8GLX-6FPX 8GLX-8FPX 12GLX-12FPX	3/8-18 1/2-14 3/4-14	13/16 13/16 1 1/16	7/8 1 1 1/4	2.85 2.89 3.72	72.4 73.4 94.5	1.38 1.41 1.71	35.1 35.8 43.4	.30 .32 .57	1 ea. 1 ea. 1 ea.	50 ea. 50 ea. 50 ea.	7107-00375 7107-00385 7107-00395
1	16GLX-16FPX	1-11 1/2	1 3/8	1 1/2	4.11	104.4	1.87	47.5	.98	1 ea.	50 ea.	7107-00405

Bulk Pack

Size		Thread	Stem Hex	Nut Hex	Overal	l Length	Cut Of	f Length	Weight Per Ea.	Standard	Stock (X) or Minimum	Gates
(In.)	Description	(In.)	(In.)	(ln.)	(ln.)	(mm)	(In.)	(mm)	(Lbs.)	Pack	Order Qty.	Item No.
1/4 3/8 3/8	4GLX-4FPXXBULK 6FLX-4FPX XBULK 6GLX-6FPX XBULK	1/4-18 1/4-18 3/8-18	1/2 5/8 5/8	11/16 11/16 7/8	2.24 2.40 2.49	56.9 61.0 63.2	1.22 1.30 1.39	31.0 33.0 35.3	.12 .18 .21	200 ea. 150 ea. 150 ea.	200 ea. 150 ea. 150 ea.	7107-0034 7107-0035 7107-0036
1/2 1/2 3/4	8GLX-6FPX XBULK 8GLX-8FPX XBULK 12GLX-12FPX XBULK	3/8-18 1/2-14 3/4-14	13/16 13/16 1 1/16	7/8 1 1 1/4	2.85 2.89 3.72	72.4 73.4 94.5	1.38 1.41 1.71	35.1 35.8 43.4	.30 .32 .57	100 ea. 100 ea. 75 ea.	100 ea. 100 ea. 75 ea.	7107-0037 7107-0038 7107-0039
1	16GLX-16FPX XBULK	1-11 1/2	1 3/8	1 1/2	4.11	104.4	1.87	47.5	.98	25 ea.	25 ea.	7107-0040



GLX® - Female JIC 37° Flare Swivel



Standard Pack

Size		Thread	Stem Hex	Nut Hex	Overal	l Length	Cut Of	f Length	Weight Per Ea.	Standard	Stock (X) or Minimum	Gates
(In.)	Description	(In.)	(In.)	(In.)	(In.)	(mm)	(In.)	(mm)	(Lbs.)	Pack	Order Qty.	Item No.
1/4 3/8 1/2	4GLX-4FJX 6GLX-6FJX 8GLX-8FJX	7/16-20 9/16-18 3/4-16	1/2 5/8 13/16	9/16 3/4 7/8	2.10 2.31 2.82	53.3 58.7 71.6	1.08 1.19 1.34	27.4 30.2 34.0	.11 .19 .34	1 ea. 1 ea. 1 ea.	X X X	7107-00275 7107-00285 7107-00295
5/8 3/4 1	10GLX-10FJX 12GLX-12FJX 16GLX-16FJX	7/8-14 1 1/16-12 1 5/16-1/2	1 1/16 1 3/8	1 1/16 1 1/4 1 1/2	2.27 3.68 4.17	57.7 93.5 105.9	1.42 1.67 1.94	36.0 42.4 49.3	.24 .63 1.08	1 ea. 1 ea. 1 ea.	X X X	7107-00305 7107-00315 7107-00325
1 1/4	20GLX20FJX	1 5/8-12	1 3/4	2	4.58	116.4	2.26	57.4	1.32	1 ea.	X	7107-00335

Bulk Pack

Size		Thread	Stem Hex	Nut Hex	Overal	l Length	Cut Of	f Length	Weight Per Ea.	Standard	Stock (X) or Minimum	Gates
(In.)	Description	(In.)	(In.)	(In.)	(In.)	(mm)	(In.)	(mm)	(Lbs.)	Pack	Order Qty.	Item No.
1/4 3/8 1/2	4GLX-4FJXXBULK 6GLX-6FJX XBULK 8GLX-8FJX XBULK	7/16-20 9/16-18 3/4-16	1/2 5/8 13/16	9/16 3/4 7/8	2.10 2.31 2.82	53.3 58.7 71.6	1.08 1.19 1.34	27.4 30.2 34.0	.11 .19 .34	200 ea. 150 ea. 100 ea.	X X X	7107-0027 7107-0028 7107-0029
5/8 3/4 1	10GLX-10FJX XBULK 12GLX-12FJX XBULK 16GLX-16FJX XBULK	7/8-14 1 1/16-12 1 5/16-1/2	1 1/16 1 3/8	1 1/16 1 1/4 1 1/2	2.27 3.68 4.17	57.7 93.5 105.9	1.42 1.67 1.94	36.0 42.4 49.3	.24 .63 1.08	100 ea. 75 ea. 25 ea.	X X X	7107-0030 7107-0031 7107-0032
1 1/4	20GLX-20FJX XBULK	1 5/8-12	1 3/4	2	4.58	116.4	2.26	57.4	1.32	20 ea.	X	7107-0033

GSH[™] - GSH with Intergral 2" Fig. 1502 Hammer Unions



2" Figure 1502 Female Sub with Seal

	Size		Thread	Stem Hex	Nut Hex	Overal	l Length	Cut Of	f Length	Weight Per Ea.	Standard	Stock (X) or Minimum	Gates
	(In.)	Description	(In.)	(In.)	(In.)	(In.)	(mm)	(In.)	(mm)	(Lbs.)	Pack	Order Qty.	Item No.
Γ	1 1/2	24GSH-32FHU	_	_		2.52	64.0	6.26	159.0	5.49	1 ea.	X	7341-02675
	2	32GSH-32FHU	_	_	_	2 64	67.1	7 13	181 1	7 45	1 ea	l X	7341-15695

2" Figure 1502 Male Sub with Nut

Size		Thread	Stem Hex	Nut Hex	Overal	l Length	Cut Of	f Length	Weight Per Ea.	Standard	Stock (X) or Minimum	Gates
(In.)	Description	(In.)	(In.)	(In.)	(In.)	(mm)	(In.)	(mm)	(Lbs.)	Pack	Order Qty.	Item No.
1 1/2	24-GSH-32MHUWN	_	_	_	6.64	168.7	2.90	73.7	16.43	1 ea.	Х	7341-02695
2	32GSH-32MHUWN	_	_	_	7.25	184.2	2.76	70.1	17.75	1 ea.	X	7341-15715

2" Figure 1502 Male Sub without Nut

8	Size		Thread	Stem Hex	Nut Hex	Overal	l Length	Cut Off	f Length	Weight Per Ea.	Standard	Stock (X) or Minimum	Gates
((In.)	Description	(In.)	(In.)	(In.)	(In.)	(mm)	(In.)	(mm)	(Lbs.)	Pack	Order Qty.	Item No.
1	1/2	24GSH-32MHU	_	_	_	6.64	168.7	2.90	73.7	2.75	1 ea.	X	7341-02685
2	2	32GSH-32MHU	_	_	_	7.25	184.2	2.76	70.1	7.64	1 ea.	X	7341-15705

2" Figure 1502 Rubber Lip Seal and Wing Nut

	Size		Thread	Stem Hex	Nut Hex	Overal	l Length	Cut Of	f Length	Weight Per Ea.	Standard	Stock (X) or Minimum	Gates
	(ln.)	Description	(ln.)	(In.)	(In.)	(In.)	(mm)	(In.)	(mm)	(Lbs.)	Pack	Order Qty.	Item No.
	2	-32 SR	_	_	_	_	_	_	_	.05	1 ea.	X	7253-01905
Į	2	-32 WN		_	_	_	_	_	_	9.20	1 ea.	X	7253-01915

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2" Butt Weld

Size		Thread	Stem Hex	Nut Hex	Overal	l Length	Cut Of	f Length	Weight Per Ea.	Standard	Stock (X) or Minimum	Gates
(In.)	Description	(In.)	(ln.)	(In.)	(ln.)	(mm)	(In.)	(mm)	(Lbs.)	Pack	Order Qty.	Item No.
2	32GSH-32XXSBW	_	_	_	6.68	169.7	2.19	55.6	5.14	1 ea.	Χ	7341-15775
2	32GSH-40S160BW	_	_	_	6.65	168.9	2.16	54.9	5.51	1 ea.	X	7341-15785
2	32GSH-32S160BW	_	_	_	6.68	169.7	2.19	55.6	5.16	1 ea.	X	7341-15795
2	32GSH-48XXSBWXBULK	_	_	_	6.61	167.9	2.13	54.1	5.82	1 ea.	X	7341-15805

Products

39496-000 July 30, 2009 Supersedes 39496-000 July 30, 2007

How To Use The Coupling Section NOTE: Because the hose/coupling interface is critical to hose assembly performance, always

NOTE: Because the hose/coupling interface is critical to hose assembly performance, always follow the specific instructions of hose and coupling manufacturers regarding the match of hose/fittings and assembly procedures. Trained personnel using proper tools and procedures should make hose assemblies. Failure to follow hose and couplings manufacturers' instructions or failure to use trained personnel might be dangerous and could result in damage to property and serious bodily injury.

Couplings are designated by Numbers, and are described as to construction and source. Adapters and fittings are available for special applications. Each coupling has a pressure rating of Low, Medium or High. These terms have a general meaning as follows:

Low Pressure 1	00	psi maximum
Medium Pressure3		
High Pressure8	800	psi maximum

Coupling ratings apply only where the recommended clamps or bands are used. Use this information as a guide since different tube stocks affect coupling retention. Common shank couplings or nipples with bands or clamps should be used only on straight or plain end water or material handling hoses up to the following rated working pressures:

$$\begin{array}{lll} \mbox{1/2"-1-1/2"I.D.} - 315 \mbox{ psi} & \mbox{5" I.D.} - 60 \mbox{ psi} \\ 2 \mbox{-3" I.D.} - 100 \mbox{ psi} & \mbox{6" I.D.} - 50 \mbox{ psi} \\ \mbox{4" I.D.} - 75 \mbox{ psi} & \mbox{} \end{array}$$

NOTE: Band-It® Swaged Hose Nipples, a form of combination nipple, can be used for higher rated working pressures. They are available in plated and unplated steel plus stainless steel with Tapered Pipe Thread for 1/2"through 6" I.D. hose.

Listed are all of the clamps, bands and ferrules used to secure the couplings to the hose. The proper clamp size should be selected carefully, since many clamps will fit only one hose size or a narrow range of sizes. For certain critical fluids, specific couplings are used, as follows:

Critical Applications

1. Use only the couplings recommended in this catalog for conveying:

Steam

LP Gas

Corrosive Chemicals

Petroleum Products

- For conveying flammable fluids, use couplings made of nonsparking materials, such as brass or aluminum.
- 3. For ground fueling of aircraft, use certified coupled assemblies only.

When you have selected a hose from the Hose Section, you will have found one or more coupling recommendations for that hose. The following procedure will help you make the final selection:

- A. If more than one coupling is recommended, make a final selection for type of coupling on basis of cost, sizes available, thread type available and application.
- B. Determine how the coupling is to be fastened to the hose—ferrule, band or clamp.



Coupling Installation

Before making any hose assembly, check these general instructions and precautions:

- 1. **Square Ends**—Before attaching a coupling to the hose, make sure the end is cut square. This will help prevent leakage of the coupling.
- 2. Proper Fit of Ferrules and Clamps—This is important. Make sure you are using the correct sizes for the hose being coupled. Never buff the cover, except when specified for certain hydraulic hose couplings, and you should not enlarge the hose tube in any way to make the coupling insert fit. Occasionally, a nipple pusher tool will be helpful in pushing the insert into the hose.
- 3. Installation Lubricants—Use of lubricants on coupling inserts and ferrules will simplify coupling installation and reduce possibility of damage to the hose. Some lubricants to use are water, soap solution or Lactol. Or, you can use a solution of glycerin and alcohol made up of one (1) part glycerin and 15 parts wood alcohol by volume.
- 4. Appearance of the Hose Assembly-A properly installed coupling significantly improves customer acceptance of the product. It also provides added assurance of satisfactory service and safety of assembly.
- 5. Seal the Ends—Where the hose is intended for use in petroleum transfer applications and hose ends will be exposed after couplings are attached, apply a sufficient amount of quality Neoprene cement or shellac to seal the ends.
- 6. Critical Applications.
 - (a) Use only the couplings recommended in this Hose Coupling Section for conveying:
 - Steam

- Petroleum Products
- LP Gas
- Edible Products
- Corrosive Chemicals
- (b) For conveying flammable fluids, use couplings made of nonsparking materials; i.e., brass or aluminum.
- (c) For aircraft ground fueling hose, use factory coupled assemblies only.

NOTE: Refer to NAHAD Industrial Hose Assembly Guidelines for installation information and additional general information.



Pipe Thread Usage

There are several terms or abbreviations which have come into common use for denoting pipe threads. Some of these are:

Iron Pipe Threads

IPT

Tapered IPT

Straight IPT

IP-S

IP-T

These may be satisfactory for general reference, but since there are several types of pipe thread, it is best to use the notations as given by a recognized standard (ANSI B2.1). The types in this standard which are used with industrial hose couplings are listed later in this section.

Compatibility of threads and method of sealing determine which type of thread is to be used.

An NPT male and female form a pressure-tight joint, and usually some type of sealing compound is placed on the threads. NPTF threads are similar in that the seal is made by tight fit between the threads. However the fit is close enough that a sealing compound is not needed.

NPSM threads are used for either male or female fittings, but the seal is formed by compressing a packing or by metal contact between chamfers on the male and female. Size range is from 1/4" through 6" nominal pipe I.D.

NPSH threads are similar to NPSM threads but are used mostly for fire hose or special couplings. Size range is from 1/2" through 2" nominal pipe I.D. The seal is made by compressing packing. GHT, garden hose threads, are a form of NPSH threads used on water hose. There is only one basic size of thread, 3/4-11-1/2. It is not compatible with $3/4-14\mbox{NPSH}$ or NPSM threads.

Couplings which come in sets usually have a female with NPSM threads and washer; and a male with NPT or NPSM threads.

Long shank couplings and pin lug couplings are examples where the male has NPSM threads. Reusable petroleum couplings are examples of sets in which the male has NPT threads.

Standard brass inserts have NPTF males and solid females and NPSM swivel females. The seal is made by contact of chamfers or tight fit of threads. (See Chart No.1).

Couplings for hydraulic hose have threads which may conform to the above descriptions. In addition, there are many other types peculiar to the hydraulic field. For a complete description of threads, identification, sizes, methods of sealing and other related data, see Hydraulic Hose Catalog #35093.

Combinations of Pipe Threads that Are Compatible: Female Male

NPT(Thread Seal)	NPT NPTF
NPTF (Thread Seal)	NPTF (Dryseal) NPT
NPSM (Washer Seal)	NPT NPTF NPSM
NPSM (Mechanical Seal)	NPT NPTF
NPSH (Washer Seal)	NPSH NPT
GHT(Washer Seal)	GHT

Pipe Thread Usage

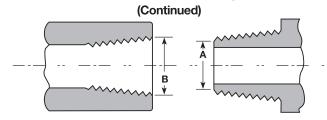


Chart No. 2 American Standard Pipe Threads (ANSI B2.1)

			NPT & NPTF	NPT	NPS	M**
Nominal Pipe Size (In.)	Pipe O.D. (In.)	Threads Per Inch	*Ext. Thrd. Pitch (A) Diameter	*Int. Thrd. Pitch (B) Diameter	Ext. Thrd. Max. Major Diameter	Int. Thrd. Min. Minor Diameter
1/8	.405	27	0.36351	0.37476	0.409	0.362
1/4	.504	18	0.47739	0.48989	0.541	0.470
3/8	.675	18	0.61201	0.62701	0.678	0.607
1/2	.840	14	0.75843	0.77843	0.844	0.753
3/4	1.050	14	0.96768	0.98887	1.054	0.964
1	1.315	11-1/2	1.21363	1.23863	1.318	1.208
1-1/4	1.660	11-1/2	1.55713	1.58338	1.663	1.553
1-1/2	1.900	11-1/2	1.79609	1.82234	1.902	1.792
2	2.375	11-1/2	2.26902	2.29627	2.376	2.265
2-1/2	2.875	8	2.71593	2.76216	2.877	2.718
3	3.500	8	3.34062	3.38850	3.503	3.344
3-1/2	4.000	8	3.83750	3.88881	4.003	3.845
4	4.500	8	4.33438	4.38712	4.502	4.343
5	5.563	8	5.39073	5.44929	5.564	5.405
6	6.625	8	6.44609	6.50597	6.620	6.462

Dimensions A & B shown on the sketch above

 ${\it Chart\ No.\ 3}$ American Standard Straight Pipe Threads for Hose Couplings and Nipples

i		r Otandara Otraignt i ipc		, 3	
	Nominal Size (Hose I.D.) (In.)	Threads Per In.	Pitch	Depth of Thread	Major Diam. Min.
GHT	1/2, 5/8, 3/4 1/2, 5/8, 3/4	11-1/2 11-1/2	Coupling 0.08696 Nipple 0.08696	0.05648 0.05648	1.0725 Max. 1.0625
	1/2, 3/0, 3/4	11-1/2	0.00090	0.03040	
	Female				Major Diam. Min.
NPSH	1/2 14 3/4 14 1 11-1/2 1-1/4 11-1/2 1-1/2 11-1/2 2 11-1/2		0.07143 0.07143 0.08696 0.08696 0.08696 0.08696	0.04639 0.04639 0.05648 0.05648 0.05648 0.05648	0.8323 1.0428 1.3051 1.6499 1.8888 2.3628
112 222	Male				Major Diam. Max.
	1/2 3/4 1 1-1/4 1-1/2 2	14 14 11-1/2 11-1/2 11-1/2	0.07143 0.07143 0.08696 0.08696 0.08696 0.08696	0.04639 0.04639 0.05648 0.05648 0.05648 0.05648	0.8248 1.0353 1.2951 1.6399 1.8788 2.3528

Loose Fitting

Couplings for Gates Hoses

1 Long Shank



Description: Cast brass, serrated shank, set has hex male and hex swivel female couplings, with a washer seal. Threads are GHT or

Sources:

Dixon Valve & Coupling Co.

Seal-Fast, Inc.

2 Lightweight Water Hose



Description: Spun or wrought brass serrated shank, round swivel

female and solid male, both GHT, washer seal.

Sources: American Coupling Co.

L.R. Nelson Corp.

3 Cast Brass or Zinc Short Shank



Description: Cast brass, serrated shank, hex swivel female with

washer, solid male, GHT threads, 3/4-11-1/2.

APG Sources: J.C. Gadd Co. Seal-Fast, Inc.

4 Machined Brass Short Shank



Description: Machined brass, serrated shank. Each set has round swivel female and solid male, GHT, washer seal. Octagon nut male

Sources:

American Coupling Co. Anderson Fittings

Campbell Fittings, Inc.

Lenz. Inc.

5 Brass Pin Lug



Description: Cast brass shank and swivel, shank is serrated. NPSM threads in female and male, with washer seal. Sizes under

3" have lugs on female only. APG Sources:

Dixon Valve & Coupling Co.

P-T Coupling Co.

6 Malleable Iron Pin Lug



Description: Malleable iron shank and swivel with serrated shank, cadmium plated. NPSM threads in male and female, washer seal. Pin lugs on female Only.

APG Sources:

Dixon Valve & Coupling Co. P-T Coupling Co. Seal-Fast, Inc.

7 Combination Nipple



Victaulic Nipple

Description: Swaged steel with scored or serrated shank, NPT threads same nominal size as I.D. of hose. Special plastic materials

available.

APG Sources:

Band-It-IDEX, Inc. Campbell Fittings, Inc.
Dixon Valve & Coupling Co. Martin Brass Works, Inc. P-T Coupling Co. Seal-Fast, Inc

8 Tri-Lokt



Description: Machined steel insert, male NPT threads only. Held in place with steel yoke and Band-It Jr. clamps. Insert is reusable can be reinstalled with new yoke and clamps.

Source: Band-It-IDEX, Inc.

10 Single or Double Bolt Malleable Iron Clamp



Description: Cast malleable iron, cadmium plated.

Dixon Valve & Coupling Co.

14 Interlocking, Ground Joint



Description: Malleable iron swivel. Inserts and spud may be either steel or malleable iron. All parts are cadmium plated. Male and fe-male threads both NPT with same nominal size as hose I.D. Ground joint between spud and female insert. Available with 2- and 4-bolt clamps.

Sources:

Dixon Valve & Coupling Co. P-T Coupling Co. Seal-Fast, Inc.

15 Interlocking, Washer Joint



Description: Malleable iron swivel. Insert and spud may be either malleable iron or steel. All parts are cadmium plated. Female thread in spud is NPT with same nominal size as hose I.D. Washer joint between insert and spud. Available with 2- and 4-bolt clamps.

Source: Campbell Fittings, Inc.

Dixon Valve & Coupling Co.

P-T Coupling Co.

Couplings for Gates Hose—continued

18 Universal Quick Acting

Description: Cast malleable iron with cadmium plate, cast bronze.



Washer seal between two quick-acting heads. Several types of heads are available, but all have same-size attaching heads regardless of hose size. Fingers lock together with quarter-turn rotation.

A P G
Campbell Fittings, Inc.
Dixon Valve & Coupling Co.
P-T Coupling Co.
Seal-Fast, Inc. Sources:

19 Standard Air Hose



Description: Machined brass, with serrated shank, NPTF threads on hex solid male and on hex solid female, and NPSM threads on hex swivel female.

American Coupling Co.

Anderson Fittings A P G Dixon Valve & Coupling Co. Lenz, Inc. National Coupling Co. Plews-Schrader

20 Ferrules



Description: All stock ferrules are plain drawn brass.

American Coupling Co. Anderson Fittings
Dixon Valve & Coupling Co. Jagemann Stamping Co. Plews-Schrader Truex, Inc. Winzler Stamping Co.

21 Preformed Band Clamps



Description: A preformed ring clamp of rust-resistant carbon steel or Type 201 stainless steel. Also available in Type 316 stainless steel, and non-sparking silicon bronze.

Sources: Band-It

Fast-Lok Hose Clamps Punch-Lok Co.

21 Band Rolls



Description: Available in 100-foot rolls, carbon steel or stainless

steel. Buckles –100 per box
Sources: Band-It-IDEX, Inc.
Fast-Lok Hose Clamps Punch-Lok Co.

23 Reusable Gasoline Pump



Description: Various materials; Two piece construction. Male NPT

or IPT threads (also see coupling 47). Sources: J.C. Gadd Co. P-T Coupling Co Serv-All Die and Tool Co.

24 Permanent Gasoline Pump Hose



Description: Various materials; One piece construction. Male NPT

or IPT threads.

Sources: J.C. Gadd Co.

Serv-All Die and Tool Co.

26 Internal Expansion-Brass



Description: Body is forged brass. Ferrule is cold-drawn copper alloy. Male coupling has NPT threads, female swivel coupling has NPSH threads. All threads same nominal size as hose I.D. except 1-3/8" I.D. size which has 1-1/2 – 11-1/2 threads. On 1-1/2" and larger sizes, female has special tightening lugs.

Dixon Valve & Coupling Co. ProGrip Co. United Metal Industries, Inc.

26 Ferrules for Internal Expansion



Sources: Dixon Valve & Coupling Co.

United Metal Industries, Inc.

Couplings for Gates Hose—continued

27 Reusable Petroleum Hose (Compression Ring)



Description: Machined brass coupling body, cast brass sleeve, flat steel wire compression ring. Male NPT or female swivel with NPSM threads and washer seal. Threads are same nominal size as hose

Sources: United Metal Industries, Inc.

28 Barrel Pump



Description: Various materials with serrated shank. Threads are male NPT only. **Sources**: J.C. Gadd Co.

Serv-All Die and Tool Co.

34 Stainless Steel Nipples



Description: Type 316 stainless steel, with serrated shank, solid male NPT threads, hex swivel female, NPSM threads, washer seal. Threads same nominal size as hose I.D Sources: Dixon Valve & Coupling Co. Martin Brass Works, Inc.

35 Four-Finger Boss Clamp



Description: Plated iron, stainless steel and brass clamps in 2, 3 and 4 gripping finger configurations. Corresponding stems come in NPT or beveled ends. Available in 2-, 4- and 6-bolt clamps. Follow manufacturer's recommendations for bolt torque and tightening sequences are recommendations.

36 Sandblast



Sources:

A P G Campbell Fitting, Inc. Dixon Valve & Coupling Co. P-T Coupling Co. Seal-Fast, Inc.

47 Reusable Fuel Oil



Description: This coupling is similar to **23** except it has a brass finish, instead of chrome plating. Male NPTF threads, female NPSM threads, washer seal. Threads same nominal size as hose I.D., except as noted.

Sources: United Metal Industries, Inc.

48 Band-It Nipples



Description: Machined steel hex inserts, rust-resistant blued finish, serrated shank, male NPT threads. Band-It-IDEX, Inc.

quence procedures.

Sources: Dixon Valve & Coupling Co.

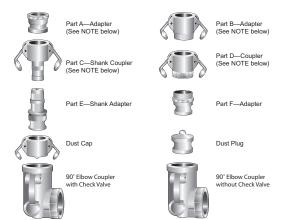
Couplings for Gates Hose—continued

49 Quick-Connecting

Description: The basic parts of this coupling are a bronze female shank coupler and a male adapter, which have a washer seal but no threads. These two parts fit snugly together and are held in place by two cams on the female shank coupler which rotate against a groove in the male adapter. This allows the coupling to be connected or disconnected very quickly. Adapters and dust caps are available as shown below. Standard materials are bronze or alumi-

Sources: APG

Dixon Valve & Coupling Co. OPW Engineered Systems P-T Coupling Co. Scully Signal Co. Seal-Fast, Inc.



Part A and Part D have female NPT threads. Part B and Part F have male NPT threads. Above threads have same nominal size as hose I.D. The above couplers and adapt-NOTE: ers are used to convert threaded-end couplings to quick

connect



Description: Open-end band or preformed band of rust-resistant steel. Also available in stainless steel. **Sources**: Fast-Lok Hose Clamps

Punch-Lok Co.

71 Permanent Swaged or Crimped





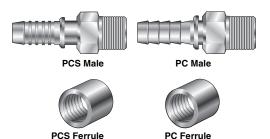
Solid Male

Ferrule

Description: API or NPT threads on connecting end of stem for easy flange attachment. Strong collar to anchor ferrule to stem. Electroplated steel. Also available in stainless steel, brass and other special metals.

Campbell Fittings, Inc. (Max. 1500 psi) Dixon Valve & Coupling Co. George Myer Company, Inc. ProGrip Co. (Max. 500 psi) Sources:

72 Gates Power Crimp®



Description: API or NPT threads on connecting end of stem for easy flange attachment. Strong collar to anchor ferrule to stem. Electroplated steel. Also available in stainless steel. Sources: Gates Corp.

73 Permanent Swaged or Crimped



Cam and Groove

Description: NPT threads on connecting end of stem for easy flange attachment. Strong collar to anchor ferrule to stem. Electroplated steel. Also available in stainless steel, brass and other special metals.

A P G Dixon Valve & Coupling Co. ProGrip Co.

74 Gates MegaCrimp™



Description: NPT threads on connecting end of stem for easy flange attachment. Tuffcoat[™] plated steel. The "C" insert assures an even distribution of crimping forces to form a concentric seal. Sources: Gates Corp.

Couplings for Gates Hose—continued

75 Gates GLX®





Male Pipe

Female Swivel

Description: One piece staked ferrule design. Smooth ferrule ID designed for textile reinforced transfer hoses. Male pipe NPTF 30° cone seat and female JIC 37° flare swivel terminations. TuffCoat™ plated steel for 400 hour red rust corrosion protection (SAE-J516 and ASTMB-117 salt spray conditions).

Sources: Gates Corp.

76 Permanent Crimped Steam Hose Couplings





Male Pipe

Female Ground Joint

Description: Permanently crimped steam hose couplings - Female Viton Seal Ground Joint or Male NPT Thread. Precision metal to metal contact with a Viton seal provides leak-free performance. Streamlined permanently crimped ferrule eliminates protruding bolts that require retightening and can catch on equipment or cause in-

jury. **Sources**: Campbell Fittings, Inc.

77 Gates GSH™ with Integral 2" Fig. 1502 **Hammer Unions**



Description: One piece, no skive, staked ferrule design. Stem terminations are integral (not Welded) mating male or female Fig. 1502 hammer union subs. The male sub is supplied with a hammer union nut. The female sub is supplied with a rubber lip seal.

Sources: Gates Corp.

78 Crimp Sleeves



Description: Available in plated steel, 316 stainless steel and aluminum. Suitable for replacing band clamps when using pin lug, combination nipple or cam and groove stems. Working pressures are determined by the type of couplings and hose used. Sources: APG

Campbell Fittings, Inc.
Dixon Valve & Coupling Co.
P-T Coupling Co.

79 Holedall Permanent Swage Couplings - Long Style





Description: Patented Holedall couplings include a Holedall stem and specially engineered ferrule. This multi-purpose, high-pressure coupling system requires no bolts and results in a clean coupling with no protrusions.

Sources: Dixon Valve & Coupling Co.



Coupling Sources

American Couplings Company

A Dixon Company Westmont, IL 60559 (800) 323-4440

2 4 19 20

Anderson Fittings

Oak Forrest, IL 60452 (800) 323-5284

4 19 20

APG

Houston, TX 77020 (800) 888-5223

1 3 4 5 6 7 14 18 19 36 49 73 78

Band-IT-IDEX, Inc.

Denver, CO 80216 (303) 320-4555

7 8 21 48

Campbell Fittings, Inc.

Boyertown, PA 19512 (800) 367-3678

4 7 15 18 36 71 76 78

Dixon Valve & Coupling Co. Chestertown, MD 21620

(800) 355-1991

1 6 7 10 14 15 18 19 20 26 35 49 71 73 78 79

Fast-Lok Hose Clamps Division of Deco Products Co.

Decorah, IA 52101 (800) 327-9751

Gadd, J.C., Company Denver, CO 80227 (720) 849-4392

3 23 24 28

George Myer Company, Inc. Houston, TX 77023

Jagemann Stamping Company

Manitowoc, WI 54220 (920) 682-4633

(800) 600-3074

20

Lenz, Inc.

Dayton, OH 45401 (937) 277-9364

Martin Brass Works, Inc.

Jamaica, NY 11433 (718) 523-3146

7 34

National Coupling Co. Stafford, TX 77477 (281) 499-2583

19

Nelson Corp., L.R. Peoria, IL 61615

(309) 692-2200

OPW Engineered Systems

Lebanon, OH 45036 (800) 547-9393

P-T Coupling Co. ProGrip Co. Punch-Lok Co.

Enid, OK 73701 (800) 654-0320

5 6 7 14 15 18 21 23 26 49 61 71

73 78

Plews-Schrader

Division of Tomkins Ind. & Auto Dixon, IL 61021 (800) 545-1689

19 20

Scully Signal Co. Wilmington, MA 01887

(617) 692-8600

Seal-Fast, Inc.

Houston, TX 77220 (800) 681-1515

1 3 6 7 18 36 49

Serv-All Die and Tool Co.

Crystal Lake, IL 60014 (815) 459-2900

23 24 28

Truex, Inc. Pawtucket, RI 02861

(800) 458-7839

United Metal Industries, Inc.

New Hyde Park, NY 11040 (800) 359-6801

26 27

Winzler Stamping Company

Montpelier, OH 43543

(419) 485-3147

20



Definitions and Abbreviations

API Thread - American Petroleum Institute Thread.

Block Number—A number, e.g., **1**, that designates each Gates coupling.

Conductive—Rubber designed to transmit electrical current; conducting static electricity

Coupling—A device used to attach a hose to a fitting or other hose in a secure, leakproof manner. There are two primary types:

Permanent—A coupling that is applied to the hose with crimping or swaging dies and cannot be easily removed. It is referred to as a "one-time coupling."

Reusable—A coupling that can be used more than once. It can be applied to or removed from a hose with the use of simple tools.

Coupling Joint—This leak proof connection is achieved by fastening together the mating surfaces of two couplings. The leak proof seal is obtained by any one of these methods:

- 1. Washer seal
- 2. Mechanical seal
- 3. Thread seal

Ferrule—The external part of the coupling which serves to hold the insert to the hose.

GHT—Garden Hose Thread. See Pipe Thread Usage for compatibility.

Helix—Reinforcement formed by spiraling a wire or plastic rod around the cylindrical body of hose—usually to resist collapse or improve minimum bend radius.

I.D. - Abbreviation for Inside Diameter.

Insert—That part of the coupling which fits into the I.D. of the hose, which often has a threaded end, also called stem or nipple.

IPT—Iron Pipe Thread. A general term applying to all pipe threads. See Pipe Thread Usage page.

MBR—Abbreviation for Minimum Bend Radius. It's the smallest radius, in inches, around which a hose can be bent without overstressing components, collapsing the hose wall and without substantially reducing fluid flow.

NPSH—American Standard Straight Pipe Thread for hose couplings and nipples.

NPSM—American Standard Straight Pipe Thread—Common name, straight pipe thread for mechanical joints.

NPT—American Standard Taper Pipe Thread—Common name, tapered pipe thread.

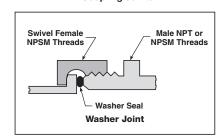
NPTF—American Standard Dryseal Pipe Thread—Common name, dryseal for pressure type joints without sealer.

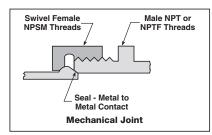
O.D.—Abbreviation for Outside Diameter.

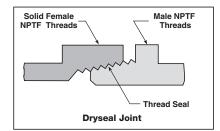
Resistant—Rubber designed to prevent transmission of electrical current; nonconductive.

Shank—That part of the coupling which fits into the I.D. of the hose.

Chart No.1 Coupling Joints









RMA Tolerances

Hand Built Hose - Wire and Nonwire (W and SB)

Size (In.)	I.D. (ln.)	O.D. (ln.)
3/4 and under	± .031	±.031
Over 3/4 through 2	± .031	±.063
Over 2 through 3-1/2	± .047	±.063
Over 3-1/2 through 4	± .063	±.063
Over 4 through 6-5/8	+ .063	+ .125
	250	250

±.063

Size (In.) 3/16 1/4 through 3/4 1 through 1-1/2 O.D. (In.) ±.031 ±.031 ±.031

Horizontal Braid Hose (HB and HW) O.D. (In.) ± .031 ± .031 ± .031 ± .047 + .062 Size (In.) 1/4, 5/16, 3/8 **I.D. (In.)** ± .016 ±.023 ±.031 ±.039 1/2, 5/8, 3/4 1-1/4, 1-1/2 ±.063 ±.063 2 2-1/2, 3 ± .039 ± .047 3-1/2, 4 ±.063 ± .063

4. Specified Cut Length of Hose*

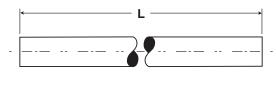
Length (In.)	Tolerance (In.)
12 and under	±.125
Over 12 through 24	±.188
Over 24 through 36	±.250
Over 36 through 48	±.375
Over 48 through 72	±.500
Over 72	± 1%

*Helix wire hoses which can be coiled can appear shorter than the factory cut length. This phenomenon is normal, and the hose(s) will return to the factory cut length upon initial pressurization.

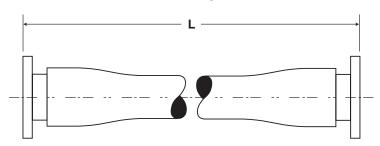
Made-To-Order Hoses Wire-Inserted Construction, Gates

Length (Ft.)	Tolerance (In.)
up to 5	± 1
5 to 10	+ 2, -1
10 to 25	± 2
over 25	± 1%

How to Measure Hose Lengths and Assemblies



Uncoupled



Coupled or Coupled and Flanged

Hose or hose assembly lengths ("L") are measured as shown above, unless otherwise specified.

Care and Maintenance of Hose

(Reprinted From RMA Hose Handbook)

Hose has a limited life and the user must be alert to signs of impending failure, particularly when the conditions of service include high working pressures and/or the conveyance or containment of hazardous materials. The periodic inspection and testing procedures described here provide a schedule of specific measures which constitute a minimum level of user action to detect signs indicating hose deterioration or loss of performance before conditions leading to malfunction or failure are reached.

SAFETY WARNING: Failure to follow properly the manufacturer's recommended procedures for the care, maintenance and storage of a particular hose might result in its failure to perform in the manner intended and might result in possible damage to property and serious bodily injury.

General instructions are also described for the proper storage of hose to minimize deterioration from exposure to elements or environments which are known to be deleterious to rubber products. Proper storage conditions can enhance and extend substantially the ultimate life of hose products.

General Care and Maintenance of Hose

Hose should not be subjected to any form of abuse in service. It should be handled with reasonable care. Hose should not be dragged over sharp or abrasive surfaces unless specifically designed for such service. Care should be taken to protect hose from severe end loads for which the hose or hose assembly were not designed. Hose should be used at or below its rated working pressure; any changes in pressure should be made gradually so as to not subject the hose to excessive surge pressures. Hose should not be kinked or be run over by equipment. In handling large size hose, dollies should be used whenever possible; slings or handling rigs, properly placed, should be used to support heavy hose used in oil suction and discharge service.

General Test and Inspection Procedures for Hose

An inspection and hydrostatic test should be made at periodic intervals to determine if a hose is suitable for continued service.

A visual inspection of the hose should be made for loose covers, kinks, bulges or soft spot which might indicate broken or displaced reinforcement. The couplings or fittings should be closely examined and, if there is any sign of movement of the hose from the couplings, the hose should be removed from service.

The periodic inspection should include a hydrostatic test for one minute at 150 percent of the recommended working pressure of the hose. An exception to this would be woven jacketed fire hose.* During the hydrostatic test, the hose should be straight, not coiled or in a kinked position.

Water is the usual test medium and, following the test, the hose may be flushed with alcohol to remove traces of moisture. A regular schedule for testing should be followed and inspection records maintained.

SAFETY WARNING: Before conducting any pressure tests on hose, provision must be made to ensure the safety of the personnel performing the tests and to prevent any possible damage to property. Only trained personnel using proper tools and procedures should conduct any pressure tests.

*Woven jacket fire hose should be tested in accordance with the service test provisions contained in the current edition of National Fire Protection Bulletin No.1962 — Standard for the Care, Use and Service Testing of Fire Hose.

- 1. Air or any other compressible gas must never be used as the test media because of the explosive action of the hose should a failure occur. Such a failure might result in possible damage to property and serious bodily injury.
- 2. Air should be removed from the hose by bleeding it through an outlet valve while the hose is being filled with the test medium.
- 3. Hose to be pressure tested must be restrained by placing steel rods or straps close to each end and at approximate 10 foot (3 m) intervals along its length to keep the hose from "whipping" if failure occurs. The steel rods or straps are to be anchored firmly to the test structure but in such a manner that they do not contact the hose which must be free to move.
- 4. The outlet end of hose is to be bulwarked so that a blown-out fitting will be stopped.
- 5. Provisions must be made to protect testing personnel from the forces of the pressure media if a failure occurs.
- 6. Testing personnel must never stand in front of or in back of the ends of a hose being pressure tested.
- 7. When liquids such as gasoline, oil, solvent, or other hazardous fluids are used as the test fluid, precautions must be taken to protect against fire or other damage should a hose assembly fail and the test liquid be sprayed over the surrounding area.

The Rubber Manufacturers Association has published separately a series of Hose Technical information bulletins describing hoses designed for different applications which detail Maintenance, Testing and Inspection recommendations. Reference should be made to the current RMA Catalog of Publications to determine the availability of the latest edition. Bulletins published as of January 2003 include the following:

Publication No.

IP 11—1—Steam Hose

IP 11—2—Anhydrous Ammonia Hose

IP 11—4—Oil Suction and Discharge Hose

IP 11—5—Welding Hose

IP 11—7—Chemical Hose

IP 11—8—Fuel Dispensing Hose

Hose Cleaning

There are many different methods used to clean hose assemblies. An apron, safety glasses or face shield, rubber boots and gloves should be worn to help protect the person doing the cleaning from potential injury. Some suggested methods for select hoses in this catalog are listed below. Which method to use and how often cleaning should be performed is based on the following:

- Type of hose
- Residual material in the hose
- Cleanliness requirements for the application
- · Cleaning facilities available
- Consideration for disposal of the residual material and cleaning solutions(s)
- Requirements for special applications such as foods, pharmaceuticals, etc.

Solution Recommendations

- 1. Cleaning solutions should be chosen that will dissolve or remove the residual material without damaging the hose assembly.
- 2. A dilute solution of soap in water can often be sufficient. CAUTION Some chemicals, such as concentrated acids or bases, can react with water releasing heat and byproducts, and possibly splatter.
- 3. Consult the MSDS of the material being cleaned to identify potential cleaning solutions.
- 4. After identifying potential cleaning solutions, check Chemical Resistance Table in this catalog for compatibility with hose tube and cover.
- 5. Non-compatibility of a cleaning solution can cause damage to the hose.

Flushing or Immersing in a Cleaning Bath

- 1. Do not exceed the maximum working pressure or temperature for the hose.
- 2. The cover of the hose should also be washed or wiped to remove any residual material.

Steam Cleaning

- 1. **Steam cleaning is not generally recommended**. High temperatures can accelerate aging of a hose and shorten service life.
- Do not exceed the maximum temperature rating of the hose. Doing so can cause defects such as tube delamination (reducing tube to reinforcement adhesion), tube cracking or tube flow leaving thin spots.
- Never use superheated steam! This will exaggerate the potential damages noted above. Only "open end" 50 psi steam should be used.
- 4. If the hose has blockage, remove it before introducing steam.
- 5. If the steam source has a wand attached, use caution inserting the wand so that physical damage to the hose is not caused. Sharp edges on the wand can cut the tube, and thin spots could occur where the hot wand contacts the tube.

Shuttle Method

- 1. This is not a recommended cleaning method for hose assemblies.
- 2. This method uses a shuttle to travel through the inside of the hose assembly to wipe residual material from the hose. The shuttle and residual material can come out of the hose at velocities that could cause injuries or damage.
- 3. There is also danger from a build up of pressure if the shuttle becomes lodged.
- 4. The shuttle can cause damage to the hose tube.

Recommended Cleaning of Chemical Hose

- 1. Drain the hose after each use.
- 2. Flush with water or other neutralizing cleaning solution.
- 3. Properly dispose of drained fluid and cleaning waste.
- 4. Between uses, store the hose in a clean, dry environment away from sunlight.
- 5. **Avoid cross contamination.** Dedicate a hose to handle a specific chemical.

Recommended Cleaning of Food Hose

- 1. Drain the hose after each use.
- 2. Flush with water or other cleaning solution.
- 3. Properly dispose of drained material and cleaning waste.
- 4. Between uses, store the hose in a clean, dry environment away from sunlight.
- 5. Avoid cross contamination. Dedicate a hose to handle a specific food material.



Storage

Rubber hose products in storage can be affected adversely by temperature, humidity, ozone, sunlight, oils, solvents, corrosive liquids and fumes, insects, rodents and radioactive materials.

The appropriate method for storing hose depends to a great extent on its size (diameter and length), the quantity to be stored and the way in which it is packaged. Hose should not be piled or stacked to such an extent that the weight of the stack creates distortions on the length stored at the bottom.

Since hose products vary considerably in size, weight and length, it is not practical to establish definite recommendations on this point. Hose having a very light wall will not support as much load as could a hose having a heavier wall or hose having a wire reinforcement. Hose which is shipped in coils or bales should be stored so that the coils are in a horizontal plane.

Whenever feasible, rubber hose products should be stored in their original shipping containers, especially when such containers are wooden crates or cardboard cartons which provide some protection against the deteriorating effects of oils, solvents and corrosive liquids; shipping containers also afford some protection against ozone and sunlight.

Certain rodents and insects will damage rubber hose products and adequate protection from them should be provided.

Cotton jacketed hose should be protected against fungal growths if the hose is to be stored for prolonged periods in humid conditions in excess of 70 percent.

The ideal temperature for the storage of rubber products ranges for 50° to 70°F (10-21°C) with a maximum limit of 100°F (38°C). If stored below 32°F (0°C), some rubber products become stiff and would require warming before being placed in service. Rubber products should not be stored near sources of heat, such as radiators, base heaters, etc., nor should they be stored under conditions of high or low humidity.

To avoid the adverse effects of high ozone concentration, rubber hose products should not be stored near electrical equipment that may generate ozone or be stored for any lengthy period in geographical areas of known high ozone concentration. Hose should not be stored in locations where the ozone level exceeds the National Institute of Occupational Safety and Health's upper limits of 0.10 ppm. Exposure to direct or reflected sunlight – even through windows – should also be avoided. Uncovered hose should not be stored under fluorescent or mercury lamps which generate light waves harmful to rubber.

Storage areas should be relatively cool and dark, and free of dampness and mildew. Items should be stored on a first-in, first-out basis, since even under the best of conditions, an unusually long shelf life could deteriorate certain rubber products.

Decimal and Millimeter Equivalents of Fractions

	Inches		
	Fractions	Decimals	Millimeters
1/64		.015625	.397
	1/32	.03125	.794
3/64			1.191
	1/16		1.588
5/64			1.984
	3/32		2.381
7/64		.109375	2.778
	1/8		3.175
9/64			3.572
	5/32		3.969
11/64			4.366
	3/16		4.763
13/64			5.159
	7/32		5.556
15/64			5.953
	1/4		6.350
17/64			6.747
	9/32		7.144
19/64			7.541
	5/16		7.938
21/64		.328125	8.334
	11/32	.34375	8.731
23/64		.359375	9.128
.=	3/8		9.525
25/64	40/00		9.922
	13/32		10.319
27/64	7/40		10.716
00/04	7/16		11.113
29/64	45/00	.453125	11.509
0.4/0.4	15/32	.46875	11.906
31/64	4/0	.484375	12.303
	1/2	.500	12.700

Inches		
Fractions	Decimals	Millimeters
33/64		13.097
17/32	.53125	13.494
35/64		13.891
9/16	.5625	14.288
37/64		14.684
19/32		15.081
39/64		15.478
5/8		15.875
41/64		16.272
21/32		16.669
43/64		17.066
11/16	.6875	17.463
45/64		17.859
23/32	.71875	18.256
47/64	.734375	18.653
3/4		19.050
49/64		19.447
25/32		19.844
51/64		20.241
13/16		20.638
53/64		21.034
27/32		21.431
55/64		21.828
7/8		22.225
57/64		22.622
29/32		23.019
59/64		23.416
15/16		23.813
	.953125	24.209
31/32		24.606
63/64	.984375	25.003
1	1.000	25.400



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Rubber hoses are used basically to convey material. They are used for a variety of reasons, but principally for:

- Flexibility; allows for changes in alignment, hookup or outlet.
- Absorbing vibration.
- Resistance to Corrosive fluids.
- Resistance to abrasion.
- Providing a closed system.

In applying any product, the more you know about the application, the better the product you choose to meet the needs of the application. This is particularly true with hose because of the many variables involved.

Each type of hose and coupling is designed to give satisfactory, safe service life for a particular application. To obtain this service life, the user should:

- Select the proper hose and couplings for the application.
- Take reasonable care of the hose assembly while it is in service.
- Maintain the hose assembly in good working
- Observe all applicable safety regulations.

If a hose assembly was incorrectly selected to solve an application problem, there is very little that care and maintenance can do to prolong its service life. It's very simple: hoses will fail soon regardless of the care and maintenance provided if they are misapplied.

When designing a system with rubber hose, engineering principles regarding materials always apply. Take advantage of the outstanding characteristics of rubber materials listed on the Characteristics and Resistance Information for Hose Tube and Cover Compounds page and avoid those conditions that shorten hose life. Some of these conditions are:

- Exposure to higher-than-rated temperatures.
- Exposure to severe external abuse such as kinking, pulling, excessive bending.
- Exposure to corrosive fluids to which hose has little
- Subjecting hose to higher than rated working pressure/high surge pressure.

The process of selecting hoses from Industrial Hose Products #39496-000 or the following Data Pages usually is resolved in one of two ways:

- Making the optimum choice from several possible selections for an application.
- Making the only choice, which satisfies all the requirements of a somewhat special application; i.e., transfer of LP Gas.

Hoses are versatile, and it's often possible to use one type of hose for several different applications. However, certain specific applications are critical and/or hazardous, and the only type of hose used should be the one Gates recommends for that application. Some of the critical or hazardous applications involving hoses are:

- Steam.
- Liquid Petroleum Gas (LPG).
- Corrosive chemicals.
- Air Drill operation.

Refer to the product description pages in this catalog for details of hoses used in these applications.

> The hoses listed in this Hose Finder may be found in one or more additional Gates catalogs or Market Specifications publications.

The Data Pages are intended to give you a reference for quickly locating standard line hoses for a given application. Hoses are listed by size (I.D.) and rated working pressure. Pertinent specification information is also provided for each hose.

Precautionary Notes

Not all of the sizes shown are stock items and may require minimum order quantities. In addition, many of the larger diameter hoses (water, material handling, etc.) are made to order. For availability, delivery and pricing information refer to your Industrial Hose Products #39496-000, **Customer Service Representative in Denver or your local** Gates Representative.



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PROPER HOSE SELECTION

Proper hose selection is the first step in preventive maintenance. Selecting the best product for the application will allow you to obtain the maximum life expectancy from the product for the best value.

When selecting the correct hose, use the acronym STAMPED as your guide:

S – Size:	 I.D. (Inside Diameter) O.D. (Outside Diameter) Based on the machinery sizing.
Γ – Temperature:	➤ Consider exterior and interior temperature, as well as temperature impact on the material being conveyed.
A – Application:	 ➤ Where will the hose be used? ➤ How will the hose be used? ➤ How often will the hose be used (continuous, intermittent, seldom)? ➤ What are the environmental conditions? ➤ Special hose construction (crush resistant)? ➤ Conductivity requirements? ➤ Is the hose used in a critical application? ➤ Government or Industrial Standard requirements? ➤ Use hoses that are specifically designed for these applications: □ Steam □ LP Gas □ Aircraft Ground Refueling □ Corrosive Chemicals
M – Material being conveyed:	 Chemical name(s) and state(s) – (liquid, solid or gas) Food Dry or powder Liquid
P – Pressure:	 What is the working pressure? What is the maximum surge pressure? Is there a vacuum?
E – End requirements:	What type of thread ends?See Coupling Section.
D – Delivery:	 Identify how many items and when they need to be supplied. Distributors – Call Customer Service. End Users – Call Distributors.

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Explanation of Column Headings

- **Hose I.D.** (In.) This is the nominal hose inside diameter in inches (Refer to RMA Tolerances page).
- **Hose Name** This is the hose identification shown in the catalog. For some special hoses, it may be a number, not a name.
- Rated Working Pressure (psi) This is the design working pressure and is based on a certain percentage of the hose burst value. It varies with hose type and
- Suction (In. Hg) This is the vacuum rating of the hose when used in suction applications at ambient temperatures, and not bent beyond the minimum bend radius
- **Hose O.D.** The outside diameter (Refer to RMA Tolerances page).
- **Tube** For reference, the Gates rubber type identification is given and the color used on that particular hose. Refer to Characteristics and Resistance Information for Hose Tube and Cover Compounds page for a description of these stocks. Oil Resistance — RMA Oil Resistance rating is

High = High Med. = Medium Low = Low > 100% swell - = Not Rated.

Cover — Same information for tube stock.

Color Abbreviations:

Beige – Beige	Mar – Maroon
Blk – Black	Nat – Natural
Blu – Blue	Org – Orange
Bur – Burgundy	Red – Red
Clear – Clear	Tan – Tan
Gld – Gold	Wht – White
Grn – Green	Yel – Yellow
Grv – Grav	

Refer to the product description pages in this catalog for description of any special cover stripes.

- **Hose Weight (lb/ft)** This is approximate measurement per current specification.
- Minimum Bend Radius This is the smallest radius in inches around which a hose can be bent without overstressing components, without collapsing the hose wall and without substantially reducing fluid flow.
- 10. Hose Temperature Range Includes maximum and minimum temperatures of each hose listed.
- 11. **Hose Category** This is a listing of hose types as indicated in the Table of Contents of the Industrial Hose Products #39496-000. Most hoses are not limited to these applications only.

How to Select a Hose From the Data Pages

Example 1

Given: A customer wants a 3/4" I.D. x 20" hose to handle air or water and general purpose applications. Temperatures are ambient, a pressure rating up to 300 psi is required and it must have textile reinforcement with a high oil resistant tube.

Turn to Hose Finder Data Pages for the listing of 3/4" I.D. hoses. In the Rated Working Pressure column, you will find the 300 psi figures. NOTE: Several hoses have a 300 psi rating or higher. But, the ones with textile reinforcement and high oil resistance that are multi-purpose are 19B, 119B or Premo Flex® hoses. All of these hoses could be suitable for the application. Refer to corresponding catalog page number for specific hose details and coupling recommendations.

Example 2

Given: 6" x 50" dry powder food grade transfer hose is needed. The hose requirements are: full suction, 50 psi and a temperature of 100°F.

Turn to Hose Finder Data Pages for the listing of 6" I.D. hoses. In the Rated Working Pressure column, you will find the 50 psi rating or higher. The two hoses with 50 psi and full suction ratings and suitable for bulk food transfer are 690SB and 692SB. Refer to corresponding catalog page number for specific hose details and coupling recommendations.



Data Pages

e I.D. (In.)		W.P.	- •	0.D.	ype	Type	Bend us (In.)	t.)	Temp (°F)			
Hose I.D (In.	Name	Rated W.P. (psi)	Suction (In. Hg.)	Hose O (In.)	Tube Type	Cover Type	Min. Bend Radius (In.)	Hose Wt. (Lbs./Ft.)	Min.	Мах.	Hose Categories	Catalog Page No.
	Vacuum Tubing		30.0	0.12	Р	_	1.5	1.00	-40°F	+257°F	Marine	66
5/32	Vacuum Tubing	_	30.0	0.19	Р		1.5	1.50	-40°F	+257°F	Marine	66
	4219G (Fuel Line & Tank Vent)	50	24.0	0.41	С	C_2	3.0	0.07	-40°F	+257°F		63
3/16	LPG Vapor	125	30.0	0.44	С	Α	2.0	0.08	-30°F		Petroleum Transfer	113
0,10	Premo Flex	250	30.0	0.45	С	C_2	2.0	0.07	-40°F		Air and Multi-Purpose	25
	19B Plant Master	500	30.0	0.43	С	C_2	3.0	0.07	-40°F		Air and Multi-Purpose	20
7/32	Vacuum Tubing		30.0	0.25	Р	_	2.0	2.50	-40°F	+257°F		66
	Vacuum Tubing	_	30.0	0.31	Р	_	2.0	3.00	-40°F	+257°F		66
	Fuel Line (USCG Type A1)	40	28.0	0.64	С	Α	2.5	4.73	-40°F	+212°F	1	61
	Fuel Line (USCG Type A1)	40	28.0	0.64	С	A	2.5	45.36	-40°F	+212°F		61
	Fuel Line (USCG Type A1)	40	28.0	0.64	С	A	2.5	8.56	-40°F	+212°F		61
	Fuel Line (USCG Type B)	40	28.0	0.50	С	M	2.5	22.40	-40°F	+250°F		62
	Fuel Line (USCG Type B)	40	28.0	0.50	CC	M	2.5	4.48	-40°F	+250°F		62 63
	4219G (Fuel Line & Tank Vent)	50 125	24.0	0.50 0.53	C	C ₂	3.0	0.09	-40°F -30°F	+257°F	Petroleum Transfer	1
	LPG Vapor Adapta Flex Black	200	30.0 30.0	0.50	Р	A P	3.0 3.0	0.11 0.09	-30°F		Air and Multi-Purpose	113 30
	Adapta Flex Red	200	30.0	0.50	Р	P	3.0	0.09	-40°F		Air and Multi-Purpose	28
	Adapta Flex Red Cover - UPS Shippable Reels	200	30.0	0.50	Р	Р	3.0	0.09	-40°F		Air and Multi-Purpose	29
	119B Plant Master	250	30.0	0.50	C	A	3.0	0.09	-40°F		Air and Multi-Purpose	21
	19B Plant Master	250	30.0	0.50	С	C_2	3.0	0.09	-40°F		Air and Multi-Purpose	20
	6B Dura Master	250	30.0	0.50	B₁	P	3.0	0.09	-40°F		Air and Multi-Purpose	26
	Adapta Flex Black	250	30.0	0.50	P	Р	3.0	0.09	-40°F		Air and Multi-Purpose	30
	Adapta Flex Black	250	30.0	0.62	P	P	3.0	0.15	-40°F		Air and Multi-Purpose	30
	Adapta Flex Blue, Green & Yellow Cover	250	30.0	0.50	P	P	3.0	0.09	-40°F		Air and Multi-Purpose	31
	Adapta Flex Red	250	30.0	0.50	Р	Р	3.0	0.09	-40°F		Air and Multi-Purpose	28
	Adapta Flex Red	250	30.0	0.62	Р	Р	3.0	0.15	-40°F		Air and Multi-Purpose	28
1/4	Duro Flex	250	30.0	0.50	B₁	Р	2.0	0.09	-40°F	+200°F	Air and Multi-Purpose	27
	Premo Flex	250	30.0	0.50	С	C_2	2.0	0.09	-40°F	+212°F	Air and Multi-Purpose	25
	Tufflex Food	250	_	0.47	G	G	-	0.07	-10°F	+130°F	Food and Beverage	50
	Adapta Flex Red	300	30.0	0.53	Р	Р	3.0	0.10	-40°F	+200°F	Air and Multi-Purpose	28
	Duro Flex	300	30.0	0.57	B ₁	Р	2.0	0.12	-40°F	+200°F	Air and Multi-Purpose	27
	LOL Plus (Lock-On Hose)	300	27.9	0.47	С	Α	3.0	0.09	-40°F	+212°F	Air and Multi-Purpose	23
	Python Plus (Lock-On Hose)	300	30.0	0.54	С	Α	3.0	0.11	-20°F	+212°F	Air and Multi-Purpose	24
	Tufflex Plus	300	25.0	0.50	G_1	G ₁	.7	0.11	-15°F		Air and Multi-Purpose	32
	6B Dura Master	315	30.0	0.62	B ₁	Р	3.0	0.15	-40°F	+200°F	Air and Multi-Purpose	26
	Premo Flex	315	30.0	0.57	С	C_2	2.0	0.12	-40°F		Air and Multi-Purpose	25
	LP350X (Butane-Propane)	350	30.0	0.58		Α	3.0	0.14	-40°F		Petroleum Transfer	112
	119B Plant Master	500	30.0	0.62	С	Α	3.0	0.16	-40°F		Air and Multi-Purpose	21
	19B Plant Master	500	30.0	0.62	С	C ₂	3.0	0.14	-40°F		Air and Multi-Purpose	20
	77B (Paint Spray and Chemical)	500	30.0	0.52		A	3.0	0.09	-40°F		Acid-Chemical	19
	C5M Fuel Line	500	20.0	0.58		C ₂	1.3		-4°F	+212°F	1	60
	Terminator	501	30.0	0.57	C	C ₄	3.0	0.12	-40°F		Air and Multi-Purpose	22
	319MB Gold Master	1000	30.0	0.63		M	3.0	0.22	-40°F		Air and Multi-Purpose	33
	Pressure Washer Assemblies PowerClean - 1 Wire Braid	3000 3500	30.0 30.0	0.48 0.53		C ₂	4.0 4.0	5.50 0.15	-40°F -40°F		Pressure Washer Pressure Washer	117 115
	PowerClean - 1 Wire Braid	6000	30.0	0.53	C	C_2 C_2	4.0	0.15	-40°F		Pressure Washer	116
	Vacuum Tubing	0000	30.0	0.59	P	U ₂	2.5	1.75	-40°F	+250°F		66
	Fuel Line (USCG Type A1)	40	28.0	0.38		_ A	3.0		-40°F	+257°F +212°F	l	61
	Fuel Line (USCG Type A1)	40	28.0	0.70		A	3.0	5.08	-40°F	+212°F	l	61
5/16	Fuel Line (USCG Type A1)	40	28.0	0.70		A	3.0	53.57	-40°F	+212°F	l	61
3,13	Fuel Line (USCG Type B)	40	28.0	0.78	-	M	3.0	27.95	-40°F	+250°F	l	62
	Fuel Line (USCG Type B)	40	28.0	0.58		M	3.0	5.59	-40°F	+250°F		62
	4219G (Fuel Line & Tank Vent)	50	24.0	0.56		C ₂	3.0	0.10			1	63



Data Pages

(ln.)				0.D.	be	ype	nd (In.)	<u>ن</u> ئ	Tem	p (°F)		
Hose I.D (In.)	Name	Rated W.P. (psi)	Suction (In. Hg.)	Hose (In.)	Tube Type	Cover Type	Min. Bend Radius (In.)	Hose Wt. (Lbs./Ft.)	Min.	Мах.	Hose Categories	Catalog Page No.
	Heater Hose	75	25.0	0.62	P	P	2.0	0.14	-40°F	+257°F		56
	Adapta Flex Red	200	30.0	0.53	Р	P	3.0	0.09	-40°F		Air and Multi-Purpose	28
	119B Plant Master	250	30.0	0.62	С	A	3.0	0.13	-40°F		Air and Multi-Purpose	21
	19B Plant Master	250	30.0	0.62	С	C ₂	3.0	0.13	-40°F		Air and Multi-Purpose	20
5/16	6B Dura Master	250	30.0	0.62	B ₁	P	3.0	0.14	-40°F		Air and Multi-Purpose	26
	Premo Flex	250	30.0	0.56	С	C ₂	2.0	0.10	-40°F		Air and Multi-Purpose	25
	Premo Flex	315	30.0	0.67	С	C ₂	2.0	0.16	-40°F		Air and Multi-Purpose	25
	19B Plant Master	500	30.0	0.69	C	C ₂	3.0	0.17	-40°F		Air and Multi-Purpose	20
	77B (Paint Spray and Chemical)	500	30.0	0.59	Z	A	3.0	0.11	-40°F		Acid-Chemical	19
	C5M Fuel Line	500	20.0	0.67	С	C ₂	1.3	0.26	-4°F	+212°F		60
	Vacuum Tubing	- 40	30.0	0.44	P	_	3.0	2.50	-40°F	+257°F		66
	Fuel Line (USCG Type A1)	40	28.0	0.77	С	A	3.0	11.04	-40°F	+212°F		61
	Fuel Line (USCG Type A1)	40	28.0	0.77	С	A	3.0	6.10	-40°F	+212°F		61
	Fuel Line (USCG Type A1)	40	28.0	0.77	С	A	3.0	60.99	-40°F	+212°F		61
	4219G (Fuel Line & Tank Vent)	50	24.0	0.62	С	C ₂	4.0	0.12	-40°F	+257°F		63
	Heater Hose	75	25.0	0.69	Р	P	2.5	0.16	-40°F	+257°F		56
	Engine Coolant (Silicone)	110	05.0	0.74		MQ		0.19	-65°F	+347°F	Petroleum Transfer	55
	LPG Vapor	125	25.0	0.66	C P	A	3.0	0.14	-30°F			113
	Adapta Flex Black	200	30.0	0.66	P	P	3.0	0.14	-40°F		Air and Multi-Purpose	30
	Adapta Flex Red	200	30.0	0.66		١'	3.0	0.14	-40°F		Air and Multi-Purpose	28
	Adapta Flex Red Cover - UPS Shippable Reels	200	30.0	0.66	P	P	3.0	0.14	-40°F		Air and Multi-Purpose	29
	Tufflex Food	200	-	0.63	G	G	-	0.11	-10°F		Food and Beverage	50
	119B Plant Master	250	30.0	0.69	С	A	3.0	0.15	-40°F		Air and Multi-Purpose	21
	19B Plant Master	250	30.0	0.69	С	C ₂	3.0	0.15	-40°F		Air and Multi-Purpose	20
	205MB Steam King	250	30.0	0.78	P ₂	P ₂	4.0	0.26	-40°F	+450°F		120
	232MB Steam Queen	250	30.0	0.80	P ₂	B ₁	4.0	0.30	-40°F	+450°F		121
	6B Dura Master	250	30.0	0.69	B ₁	P P	3.0	0.16	-40°F		Air and Multi-Purpose	26
	Adapta Flex Blue Creen & Valley Cover	250 250	30.0	0.66 0.66	P P	P	3.0	0.14	-40°F -40°F		Air and Multi-Purpose	30
	Adapta Flex Blue, Green & Yellow Cover	250 250	30.0	0.66	P	P	3.0	0.14	-40°F		Air and Multi-Purpose Air and Multi-Purpose	31
	Adapta Flex Red Duro Flex	250 250	30.0 30.0	0.66	P B₁	P	3.0	0.14	-40°F		'	28 27
2/0	Premo Flex	250	30.0	0.66	D ₁		3.0	0.14 0.14	-40°F		Air and Multi-Purpose Air and Multi-Purpose	25
3/0	Adapta Flex Blue, Green & Yellow Cover	300	30.0	0.69	Р	P	3.0	0.14	-40°F		Air and Multi-Purpose	31
	Adapta Flex Red	300	30.0	0.67	P	P	3.0	0.15	-40°F		Air and Multi-Purpose	28
	Duro Flex	300	30.0	0.73		P	3.0	0.13	-40°F			27
	LOL Plus (Lock-On Hose)	300	27.9	0.73		A	3.0	0.10	-40°F			23
	Ohmega (Pot Room)	300	30.0	0.75		P	3.0	0.19	-20°F		Air and Multi-Purpose	36
	Python Plus (Lock-On Hose)	300	30.0	0.73		A	3.0	0.15	-20°F		'	24
	Tufflex Plus	300	25.0	0.60		G₁	1.0	0.13	-15°F		Air and Multi-Purpose	32
	6B Dura Master	315	30.0	0.75	' '	P	3.0	0.20	-40°F		Air and Multi-Purpose	26
	Premo Flex	315	30.0	0.73	C	C ₂	3.0	0.18	-40°F		Air and Multi-Purpose	25
	LP350X (Butane-Propane)	350	30.0	0.74		A	3.0	0.10	-40°F		Petroleum Transfer	112
	119B Plant Master	500		0.75		A	3.0	0.21	-40°F			21
	19B Plant Master	500	30.0	0.75		C ₂	3.0	0.18	-40°F		Air and Multi-Purpose	20
	77B (Paint Spray and Chemical)	500	30.0	0.67	Z	A	3.0	0.14	-40°F		Acid-Chemical	19
	Terminator	501	25.0	0.75	C	C ₄	3.0	0.19	-40°F		Air and Multi-Purpose	22
	Thermo AG 570 (Ag Spray)	570	25.0	0.73	G	G G	4.0	0.13	-10°F		Acid-Chemical	17
	Thermo AG 800 (Ag Spray)	800	25.0	0.69	G	G	4.0	0.12	-10°F		Acid-Chemical	18
	319MB Gold Master	1000	30.0	0.77	A	M	3.0	0.14	-40°F		Air and Multi-Purpose	33
	Cyclone	1000		0.73		C ₂	4.0	0.18	-40°F		Pressure Washer	118
	33HB (Divers' Air)	1125	30.0	0.75		A	4.0	0.19	-40°F		Air and Multi-Purpose	37
	PowerClean - 1 Wire Braid	3000		0.73		C ₂	5.0	0.13	-40°F		Pressure Washer	115
	Pressure Washer Assemblies	3000				C_2	5.0	8.50	-40°F		Pressure Washer	117



Data Pages

I.D.		٥.			4)	e	_ :					
Hose I.D. (In.)		Rated W.P. (psi)	n (.t	0.D.	Tube Type	Cover Type	Min. Bend Radius (In.)	-t. W	Tem	p (°F)		Cotolog
왕		ited si)	Suction (In. Hg.)	ര	pe .	ver	Min. E Radiu	Hose Wt. (Lbs./Ft.)	Ŀ.	×.	Hose	Catalog Page
	Name	Rate (psi)	Suc (In.	Hose (In.)			Mi Ra	울크	Min.	Мах.	Categories	No.
l	PowerClean - 1 Wire Braid	4000	30.0	0.68	С	C ₂	5.0	0.23	-40°F		Pressure Washer	115
3/8	PowerClean - 1 Wire Braid	4000	30.0	0.68	С	C ₂	5.0	0.25	-40°F		Pressure Washer	115
12/22	PowerClean - 2 Wire Braid	5000	30.0	0.74	С	C ₂	5.0	0.35	-40°F -4°F	+250°F +212°F	Pressure Washer	116 60
13/32	C5M Fuel Line 4219G (Fuel Line & Tank Vent)	500 35	20.0	0.77	С	C ₂	1.8 5.0	0.29 0.16	-4°F	+212°F +257°F		63
	Fuel Line (USCG Type A1)	40	28.0	0.78	C	A	5.0	13.33	-40°F	+237 F +212°F		61
	Fuel Line (USCG Type A1)	40	28.0	0.89	С	A	5.0	66.65	-40°F	+212°F	l	61
	Fuel Line (USCG Type A1)	40	28.0	0.89	С	A	5.0		-40°F	+212°F		61
	Heater Hose	75	25.0	0.81	Р	Р	3.0		-40°F	+257°F	l	56
	Engine Coolant (Silicone)	110	_	0.87	MQ	MQ	_	0.23	-65°F	+347°F		55
	429W (Sand Blast)	150	25.0	1.23	D_3	D	5.0	0.55	-40°F	+150°F	Material Handling	71
	Adapta Flex Black	200	25.0	0.81	P	Р	5.0	0.19	-40°F	+200°F	Air and Multi-Purpose	30
	Adapta Flex Red	200	25.0	0.81	Р	Р	5.0	0.19	-40°F	+200°F	Air and Multi-Purpose	28
	Adapta Flex Red Cover - UPS Shippable Reels	200	25.0	0.81	Р	Р	5.0	0.19	-40°F	+200°F	Air and Multi-Purpose	29
	Creamery/Paper Mill Washdown	200	25.0	0.91	Р	Р	5.0	0.28	-40°F		Pressure Washer	119
	Tufflex Food	200	_	0.75	G	G	_	0.13	-10°F		Food and Beverage	50
	119B Plant Master	250	25.0	0.84	С	Α	5.0	0.21	-40°F		Air and Multi-Purpose	21
	19B Plant Master	250	25.0	0.84	С	C ₂	5.0	0.20	-40°F		Air and Multi-Purpose	20
	205MB Steam King	250	25.0	1.06	P ₂	P ₂	7.0	0.40	-40°F	+450°F	l	120
	232MB Steam Queen	250	25.0	1.02	P ₂	B ₁	7.0		-40°F	+450°F	l	121
	6B Dura Master	250	25.0	0.84	B ₁	Р	5.0		-40°F		Air and Multi-Purpose	26
	Adapta Flex Blue, Crase & Valley, Caver	250	25.0	0.81	P P	P P	5.0		-40°F		Air and Multi-Purpose	30
	Adapta Flex Blue, Green & Yellow Cover Adapta Flex Red	250 250	25.0 25.0	0.81 0.81	P	P	5.0 5.0	0.19 0.19	-40°F -40°F		Air and Multi-Purpose Air and Multi-Purpose	31 28
	Duro Flex	250	25.0	0.81	r B₁	Р	4.0	0.19	-40°F		Air and Multi-Purpose	27
	Premo Flex	250	25.0	0.85	C	C ₂	4.0	0.13	-40°F		Air and Multi-Purpose	25
	Adapta Flex Blue, Green & Yellow Cover	300	25.0	0.83	Р	P	5.0	0.20	-40°F		Air and Multi-Purpose	31
1/2	Adapta Flex Red	300	25.0	0.83	P	P	5.0		-40°F		Air and Multi-Purpose	28
	Duro Flex	300	25.0	0.84	B₁	Р	4.0		-40°F		Air and Multi-Purpose	27
	LOL Plus (Lock-On Hose)	300	27.9	0.77	C	Α	5.0	0.15	-40°F		Air and Multi-Purpose	23
	Ohmega (Pot Room)	300	25.0	0.88	Р	Р	5.0	0.24	-20°F	+150°F	Air and Multi-Purpose	36
	Python Plus (Lock-On Hose)	300	30.0	0.81	С	Α	5.0	0.18	-20°F	+212°F	Air and Multi-Purpose	24
	Tufflex Plus	300	25.0	0.79	G_1	G₁	1.3	0.13	-15°F	+150°F	Air and Multi-Purpose	32
	6B Dura Master	315	25.0	0.88	B ₁	Р	5.0	0.25	-40°F	+200°F	Air and Multi-Purpose	26
	Premo Flex	315	25.0	0.88		C ₂	4.0	0.24	-40°F		Air and Multi-Purpose	25
	LP350X (Butane-Propane)	350	25.0	0.91		Α	5.0		-40°F		Petroleum Transfer	112
	119B Plant Master	500	25.0	0.88		A	5.0		-40°F		Air and Multi-Purpose	21
	19B Plant Master	500	25.0	0.88		C ₂	5.0		-40°F		Air and Multi-Purpose	20
	C5M Fuel Line	500	20.0	0.92	С	C ₂	2.3		-4°F	+212°F	l	60
	Terminator Thermo AG 570 (Ag Spray)	501 570	25.0 25.0	0.89 0.81	C G	C₄ G	5.0 5.0		-40°F -10°F		Air and Multi-Purpose Acid-Chemical	17
	77B (Paint Spray and Chemical)	750	25.0 25.0	0.87	Z	A	5.0	0.17	-10°F		Acid-Chemical	19
	Thermo AG 800 (Ag Spray)	800	25.0	0.84	G	G	5.0		-40 F		Acid-Chemical	18
	1000 MP/Mine Spray	1000	30.0	0.84	Р	C ₂	5.0		-40°F	+212°F	1	74
	319MB Gold Master	1000	30.0	0.92		M	5.0		-40°F		Air and Multi-Purpose	33
	33HB (Divers' Air)	1000	30.0	0.94		Α	5.0		-40°F		Air and Multi-Purpose	37
	Cyclone	1000	30.0	0.94		C_2	5.0		-40°F		Pressure Washer	118
	PowerClean - 1 Wire Braid	2500	30.0	0.80	С	C ₂	7.0	0.28	-40°F	+250°F	Pressure Washer	115
	Pressure Washer Assemblies	3000	30.0	0.76	С	C_2	7.0	11.50	-40°F	+250°F	Pressure Washer	117
	PowerClean - 2 Wire Braid	4000	30.0	0.86	С	C_2	7.0	0.42	-40°F		Pressure Washer	116
	63SB (Air & Vapor Duct)	10	5.0	0.81	Α	Α	1.0		-30°F		Air and Multi-Purpose	34
5/8	4219G (Fuel Line & Tank Vent)	35	10.0	0.94	С	C ₂	6.0		-40°F	+257°F	1	63
	Fuel Line (USCG Type A1)	40	28.0	1.01	С	Α	6.0	15.57	-40°F	+212°F	Marine	61



Data Pages

(ln.)		V.P.		0.D.	be	ype	nd (ln.)	ب نے	Tem	p (°F)		
Hose I.D (In.)	Name	Rated W.P. (psi)	Suction (In. Hg.)	Hose (In.)	Tube Type	Cover Type	Min. Bend Radius (In.)	Hose Wt. (Lbs./Ft.)	Min.	Мах.	Hose Categories	Catalog Page No.
	Fuel Line (USCG Type A1)	40	28.0	1.01	С	Α	6.0	8.61	-40°F	+212°F		61
	Fuel Line (USCG Type A1)	40	28.0	1.01	С	A	6.0	86.10	-40°F	+212°F		61
	Heater Hose	75	25.0	0.94	Р	Р	4.0	0.23	-40°F	+257°F		56
	Engine Coolant (Silicone)	110	_	0.99	MQ	MQ	-	0.27	-65°F	+347°F		55
	Blacksnake (Curb Pump - Hardwall)	150	30.0	1.00	С	J	6.0	0.37	-40°F		Petroleum Transfer	114
	Adapta Flex Black	200	20.0	0.97	Р	Р	6.0	0.26	-40°F		Air and Multi-Purpose	30
	Adapta Flex Red	200	20.0	0.97	Р	Р	6.0	0.26	-40°F		Air and Multi-Purpose	28
	Adapta Flex Red Cover - UPS Shippable Reels	200	20.0	0.97	Р	Р	6.0	0.26	-40°F		Air and Multi-Purpose	29
	Tufflex Food	200	_	0.88	G	G	-	0.15	-10°F		Food and Beverage	50
5/8	119B Plant Master	250	20.0	0.94	С	Α	6.0	0.23	-40°F	+212°F	Air and Multi-Purpose	21
0,0	19B Plant Master	250	20.0	0.94	С	C ₂	6.0	0.22	-40°F	+212°F	Air and Multi-Purpose	20
	Adapta Flex Red	250	20.0	0.97	Р	Р	6.0	0.26	-40°F	+200°F	Air and Multi-Purpose	28
	Duro Flex	250	20.0	0.98	B ₁	Р	5.0	0.27	-40°F	+200°F	Air and Multi-Purpose	27
	Premo Flex	250	20.0	0.98	С	C_2	5.0	0.27	-40°F	+212°F	Air and Multi-Purpose	25
	Duro Flex	300	20.0	0.98	B ₁	Р	5.0	0.27	-40°F	+200°F	Air and Multi-Purpose	27
	LOL Plus (Lock-On Hose)	300	27.9	0.94	С	Α	6.0	0.20	-40°F	+212°F	Air and Multi-Purpose	23
	Tufflex Plus	300	20.0	0.92	G₁	G₁	1.8	0.20	-15°F	+150°F	Air and Multi-Purpose	32
	Premo Flex	315	20.0	0.98	С	C ₂	5.0	0.27	-40°F	+212°F	Air and Multi-Purpose	25
	19B Plant Master	500	20.0	1.00	С	C ₂	6.0	0.27	-40°F	+212°F	Air and Multi-Purpose	20
	C5M Fuel Line	500	20.0	1.08	С	C ₂	2.8	0.51	-4°F	+212°F	Marine	60
	63SB (Air & Vapor Duct)	10	5.0	0.94	Α	A	1.0	0.14	-30°F	+250°F	Air and Multi-Purpose	34
	163SB (Air & Vapor Duct - Heavy Duty)	20	15.0	1.00	Α	Α	1.0	0.20	-30°F	+250°F	Air and Multi-Purpose	35
	Heater Hose	75	25.0	1.06	Р	Р	5.0	0.26	-40°F	+257°F	Marine	56
	75W (Standard Wall Coolant)	80	5.0	1.17	Р	Р	6.0	0.37	-40°F	+257°F	Marine	51
	Engine Coolant (Silicone)	110	_	1.12	MQ	MQ	_	0.31	-65°F	+347°F	Marine	55
	429W (Sand Blast)	150	15.0	1.50	D_3	D	8.0	0.70	-40°F	+150°F	Material Handling	71
	Blacksnake (Curb Pump - Hardwall)	150	30.0	1.13	C	J	6.0	0.42	-40°F		Petroleum Transfer	114
	Colt	150	30.0	1.27	P	P	3.0	0.50	-40°F		Acid-Chemical	16
	Creamery/Paper Mill Washdown	150	25.0	1.25	D	D	6.0	27.50	-20°F		Pressure Washer	119
	Engine Coolant (Oil Resistant - Softwall)	150	_	1.17	С	A	6.0	0.34	-40°F	+212°F		53
	Food Master Lite	150	30.0	1.33	C_2	C ₂	2.0	0.65	-40°F		Food and Beverage	41
	Tufflex Food	150	_	1.03	G	G		0.20	-10°F		Food and Beverage	50
	Adapta Flex Black	200	15.0	1.11	Р	P	6.0	0.32	-40°F		Air and Multi-Purpose	30
	Adapta Flex Red	200	15.0	1.11	Р	P .	6.0		-40°F			28
	Adapta Flex Red Cover - UPS Shippable Reels		15.0	1.11	р.	P	6.0		-40°F		· '	29
	Creamery/Paper Mill Washdown	200	15.0	1.25	P	' P	6.0	0.49	-40°F		Pressure Washer	119
3/4	Mustang	200	30.0	1.25		' P	4.0	0.45	-40°F		Acid-Chemical	12
3/4	Mustang Crush Resistant	200	20.0	1.36		' P	4.0	0.43	-40°F		Acid-Chemical	13
		200	30.0	1.22	ı	P	4.0		-40°F		Acid-Chemical	15
	Renegade Stallion	200	30.0	1.22	T	P P	I 1		-40°F		Acid-Chemical	10
						P P	4.0		-40°F			
	Stallion Crush Resistant	200	20.0	1.33		Ι΄.	4.0	0.53			Acid-Chemical	11
	119B Plant Master	250	20.0	1.09		A	6.0	0.29	-40°F		Air and Multi-Purpose	21
	19B Plant Master	250	20.0	1.09		C ₂	6.0	0.28	-40°F		Air and Multi-Purpose	20
	205MB Steam King	250	20.0	1.28	_	P ₂	9.0	0.49	-40°F	+450°F		120
	205MB Steam King	250	20.0	1.27		P ₂	9.0	0.57	-40°F	+450°F		120
	232MB Steam Queen	250	20.0	1.27	P ₂	B ₁	9.0	0.60	-40°F	+450°F		121
	6B Dura Master	250	20.0	1.09	' '	P	6.0		-40°F		Air and Multi-Purpose	26
	Adapta Flex Black	250	20.0	1.15		P	6.0		-40°F		Air and Multi-Purpose	30
	Adapta Flex Blue, Green & Yellow Cover	250	20.0	1.15		P	6.0		-40°F		l '	31
	Adapta Flex Red	250	20.0	1.11		P	6.0		-40°F			28
	Adapta Flex Red	250	20.0	1.15		P	6.0	0.35	-40°F		l '	28
	Duro Flex	250	20.0	1.15	' '	Р	5.0	0.36	-40°F			27
	Food & Beverage Master	250	30.0	1.22	S	Р	2.0	0.42	-40°F	+230°F	Food and Beverage	38



Data Pages

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Hose I.D. (In.)		W.P.	ر :	0.D.	ype	Туре	Bend us (In.)	Vt. t.)	Tem	p (°F)		
Hose	Name	Rated W.P. (psi)	Suction (In. Hg.)	Hose (In.)	Tube Type	Cover Type	Min. Bend Radius (In.)	Hose Wt. (Lbs./Ft.)	Min.	Мах.	Hose Categories	Catalog Page No.
	Premo Flex	250	20.0	1.15	С	C ₂	5.0	0.36	-40°F		Air and Multi-Purpose	25
	Adapta Flex Blue, Green & Yellow Cover	300	15.0	1.15	Р	P	6.0	0.35	-40°F		Air and Multi-Purpose	31
	Adapta Flex Red	300	15.0	1.15	Р	Р	6.0	0.35	-40°F		Air and Multi-Purpose	28
	Duro Flex	300	20.0	1.15	B ₁	Р	5.0	0.36	-40°F	+200°F	Air and Multi-Purpose	27
	LOL Plus (Lock-On Hose)	300	15.0	1.06	C	Α	7.0	0.24	-40°F	+212°F	Air and Multi-Purpose	23
	Ohmega (Pot Room)	300	20.0	1.16	Р	Р	6.0	0.36	-20°F	+150°F	Air and Multi-Purpose	36
	Tufflex Plus	300	15.0	1.07	G₁	G₁	2.5	0.29	-15°F	+150°F	Air and Multi-Purpose	32
	6B Dura Master	315	20.0	1.19	B₁	Р	6.0	0.40	-40°F		Air and Multi-Purpose	26
	Premo Flex	315	20.0	1.19	C	C ₂	5.0	0.40	-40°F		Air and Multi-Purpose	25
	LP350X (Butane-Propane)	350	20.0	1.23	С	A	6.0	0.44	-40°F	+180°F	Petroleum Transfer	112
0/4	119B Plant Master	500	20.0	1.19	С	Α	6.0	0.42	-40°F	+212°F	Air and Multi-Purpose	21
3/4	18MB Air Drill	500	25.0	1.28	Α	C ₂	6.0	0.60	-30°F	+212°F	· '	78
	19B Plant Master	500	20.0	1.19	С	C ₂	6.0	0.38	-40°F		Air and Multi-Purpose	20
	500 MP Air Drill	500	25.0	1.11	С	D_3	6.0	0.41	-22°F	+180°F		79
	500 MP Air Drill	500	25.0	1.11	С	C ₂	6.0	0.41	-22°F	+180°F	*	79
	Terminator	501	15.0	1.22	С	C ₄	6.0	0.42	-40°F	+212°F	Air and Multi-Purpose	22
	Thermo AG 570 (Ag Spray)	570	25.0	1.08	G	G	6.0	0.27	-10°F		Acid-Chemical	17
	77B (Paint Spray and Chemical)	750	25.0	1.16	Z	Α	6.0	0.35	-40°F	+150°F	Acid-Chemical	19
	Thermo AG 800 (Ag Spray)	800	25.0	1.41	G	G	6.0	0.30	-10°F	+130°F	Acid-Chemical	18
	1000 MP/Mine Spray	1000	25.0	1.10	Р	C ₂	8.0	0.43	-40°F	+212°F	Mining	74
	319MB Gold Master	1000	25.0	1.21	Α	M	8.0	0.60	-40°F		Air and Multi-Purpose	33
	Cyclone	1000	30.0	1.20	C_2	C ₂	6.0	0.41	-40°F		Pressure Washer	118
	63SB (Air & Vapor Duct)	10	5.0	1.06	A	A	1.0	0.17	-30°F		Air and Multi-Purpose	34
	75W (Standard Wall Coolant)	75	7.0	1.25	Р	Р	7.0	0.39	-40°F	+257°F		51
	Engine Coolant (Silicone)	110	_	1.24	MQ	MQ	_	0.35	-65°F	+347°F		55
7/8	Engine Coolant (Oil Resistant - Softwall)	150	_	1.30	С	A	7.0	0.38	-40°F	+212°F		53
	76W (Heavy Wall Coolant)	175	15.0	1.38	Р	Р	7.0	0.58	-40°F	+257°F		52
	C5M Fuel Line	500	20.0	1.23	С	C ₂	3.5	0.51	-4°F	+212°F		60
	63SB (Air & Vapor Duct)	10	5.0	1.19	A	A	1.0	0.20	-30°F		Air and Multi-Purpose	34
	163SB (Air & Vapor Duct - Heavy Duty)	20	15.0	1.25	Α	A	1.0	0.26	-30°F		Air and Multi-Purpose	35
	Fuel Fill (USCG Type A1 and B1)	35	20.0	1.40	С	A	4.0	27.01	-40°F	+212°F	l '	64
	Master-Flex 101CL	35	28.0	1.26	G	_	2.0	0.14	-10°F	+130°F		131
	Master-Flex 201CR	40	28.0	1.26	G	G	2.0	0.14	-10°F		Food and Beverage	48
	770SB	50	20.0	1.39	D_3	D	5.0	0.49	-40°F		Material Handling	70
	Heater Hose	75	25.0	1.34	-	P	7.0	0.37	-40°F	+257°F	ľ	56
	Master-Flex 300 EPDM	80	28.0	1.34	P	G	4.0	0.23	-30°F		Material Handling	72
	Engine Coolant (Silicone)	90		1.37		MQ	_	0.40		+347°F	ľ	55
	Master-Flex 100GR	90	28.0	1.27	G	G	3.0	0.27	-10°F	+130°F	l	130
	Master-Flex 101CL	90	28.0	1.27	G	_	3.0		-10°F	+130°F	l	131
	4684CF (Wet Exhaust - Corrugated)	100	25.0	1.44	С	Α	3.0	0.51	-40°F	+212°F	l	59
	Engine Coolant (Wire Inserted - Hardwall)	100	25.0	1.46	Р	P	2.0	2.50		+257°F	l	54
	Master-Flex 200CL	100	28.0	1.29	G	G	3.0	0.30			Food and Beverage	47
	Tufflex Food	125	20.0	1.31	G	G	0.0	0.32	-10°F		Food and Beverage	50
	Engine Coolant (Oil Resistant - Softwall)	135		1.42	С	A	8.0	0.32	-40°F	+130 F +212°F	·	53
	75W (Standard Wall Coolant)	140	7.0	1.42	Р	P	8.0	0.43	-40°F	+212 F +257°F		51
	429W (Sand Blast)	150	7.0 5.0	1.63		D	12.0				Material Handling	71
	429W (Sand Blast)	150	5.0	1.87	D_3	D	12.0	1.01	-40°F		Material Handling	71
	Adapta Flex Black	l		1.40	D ₃	P			-40°F		· ·	30
		150	10.0	1.40	P	P	8.0	0.44			Air and Multi-Purpose	1
	Adapta Flex Red Barracuda	150	10.0	1.39	P	P	8.0 5.0	0.43			Air and Multi-Purpose	28 125
		150	30.0			· ·	5.0	0.39	-40°F	+180°F	Petroleum Transfer	114
	Blacksnake (Curb Pump - Hardwall)	150	30.0	1.38	C P	J	8.0	0.57	-40°F		Acid-Chemical	l
	Colt	150	30.0	1.52		Р	3.5	0.61	-40°F			16
	Creamery/Paper Mill Washdown	150	15.0	1.50	D	D	8.0	33.50	-20°F	+180 _. F	Pressure Washer	119



Data Pages

I.D.		W.P.	_	0.D.	be	ype	nd (In.)	- t	Tem	p (°F)		
Hose I.D (In.)	Name	Rated (psi)	Suction (In. Hg.)	Hose (In.)	Tube Type	Cover Type	Min. Bend Radius (In.)	Hose Wt. (Lbs./Ft.)	Min.	Мах.	Hose Categories	Catalog Page No.
	Food Master Lite	150	30.0	1.58	C ₂	C ₂	3.0	0.79	-40°F		Food and Beverage	41
	Longhorn	150	30.0	1.50	С	Α	3.0	0.60	-40°F		Petroleum Transfer	97
	Longhorn AF (Alternative Fuel-Corrugated)	150	30.0	1.50	С	C_2	3.0	0.53	-30°F		Petroleum Transfer	98
	Longhorn AF (Alternative Fuel-Corrugated)	150	30.0	1.50	С	C_2	3.0	0.59	-30°F		Petroleum Transfer	98
	Shark	150	30.0	1.45	Р	D	5.0	0.53	-40°F	+180°F		124
	Super-Vac	150	30.0	1.42	С	D	3.0	0.52	-40°F		Petroleum Transfer	101
	76W (Heavy Wall Coolant)	175	10.0	1.50	Р	Р	8.0	0.59	-40°F	+257°F		52
	Adapta Flex Black	200	10.0	1.40	Р	Р	8.0	0.45	-40°F		Air and Multi-Purpose	30
	Adapta Flex Red	200	10.0	1.39	Р	Р	8.0	0.45	-40°F		Air and Multi-Purpose	28
	Adapta Flex Red Cover - UPS Shippable Reels	200	10.0	1.40	Р	Р	8.0	0.45	-40°F		Air and Multi-Purpose	29
	Creamery/Paper Mill Washdown	200	15.0	1.52	Р	Р	8.0	0.65	-40°F	+212°F	Pressure Washer	119
	Fuel Oil Delivery	200	10.0	1.50	С	C_4	8.0	0.58	-40°F	+180°F	Petroleum Transfer	110
	Mustang	200	30.0	1.50	K	Р	5.0	0.56	-40°F	+250°F	Acid-Chemical	12
	Mustang Crush Resistant	200	20.0	1.61	K	Р	5.0	0.64	-40°F	+250°F	Acid-Chemical	13
	Renegade	200	30.0	1.47	L	Р	5.0	0.51	-40°F	+212°F	Acid-Chemical	15
	Stallion	200	30.0	1.56	Т	Р	5.0	0.63	-40°F	+300°F	Acid-Chemical	10
	Stallion Crush Resistant	200	20.0	1.58	Т	Р	5.0	0.63	-40°F	+300°F	Acid-Chemical	11
	Tufflex Plus	200	15.0	1.44	G₁	G₁	3.5	0.44	-15°F	+150°F	Air and Multi-Purpose	32
	119B Plant Master	250	10.0	1.38	С	Α	8.0	0.42	-40°F	+212°F	Air and Multi-Purpose	21
	19B Plant Master	250	10.0	1.38	С	C_2	8.0	0.41	-40°F	+212°F	Air and Multi-Purpose	20
	205MB Steam King	250	20.0	1.52	P ₂	P_2	11.0	0.70	-40°F	+450°F	Steam	120
1	205MB Steam King	250	20.0	1.63		P ₂	11.0	0.78	-40°F	+450°F	Steam	120
	232MB Steam Queen	250	20.0	1.52		B ₁	11.0	0.73	-40°F	+450°F	Steam	121
	6B Dura Master	250	10.0	1.38		P	8.0	0.42	-40°F	+200°F	Air and Multi-Purpose	26
	Cellar Master	250	30.0	1.48	s	Р	3.0	0.52	-40°F		Food and Beverage	39
	Duro Flex	250	10.0	1.47	B₁	Р	8.0	0.54	-40°F		Air and Multi-Purpose	27
	Food & Beverage Master	250	30.0	1.48	S	Р	3.0	0.52	-40°F		Food and Beverage	38
	Premo Flex	250	10.0	1.47	C	C_2	8.0	0.54	-40°F		Air and Multi-Purpose	25
	Adapta Flex Red	300	10.0	1.47	P	P	8.0	0.54	-40°F		Air and Multi-Purpose	28
	Aquarius Potable Water	300	15.0	1.53	D ₂	P	10.0	0.61	-40°F		Food and Beverage	43
	6B Dura Master	315	20.0	1.50	B₁	P	8.0	0.59	-40°F		Air and Multi-Purpose	26
	LP350X (Butane-Propane)	350	15.0	1.51	C	A	8.0	0.60	-40°F		Petroleum Transfer	112
	119B Plant Master	500	20.0	1.50		A	8.0	0.62	-40°F		Air and Multi-Purpose	21
	18MB Air Drill	500	25.0	1.55	•	C ₂	8.0	0.80	-30°F	+212°F		78
	19B Plant Master	500	20.0	1.50		C_2	8.0		-40°F		*	20
	500 MP Air Drill	500	25.0	1.45		C_2	8.0	0.65	-22°F	+180°F		79
	500 MP Air Drill	500	25.0	1.45		D_3	8.0	0.66	-22°F	+180°F	_ ~	79
	Terminator	501	10.0	1.51			8.0	0.57	-40°F		Air and Multi-Purpose	22
					Р	C ₄	1 1		-40°F			74
	1000 MP/Mine Spray	1000	25.0	1.42		C ₂	11.0	0.66	-40°F	+212°F	l *	
	319MB Gold Master	1000	25.0	1.46		M	11.0	0.77			Air and Multi-Purpose	33
	16 EFBOP Blow-Out Preventer	5000	_	1.53		A	12.0	1.49	-40°F	+250°F		96
	Powerbraid Plus (Slim Hole Rotary)	5000	_	1.53		A	12.0	1.49	-40°F	+180°F		95
	16 EFBOP Blow-Out Preventer	6000		1.53	-	A	12.0	1.49	-40°F	+250°F		96
	Engine Coolant (Silicone)	90	-	1.50		MQ	_	0.44	-65°F	+347°F		55
	4684CF (Wet Exhaust - Corrugated)	100	25.0	1.56		A	4.0	0.56	-40°F	+212°F		59
	Engine Coolant (Wire Inserted - Hardwall)	100	25.0	1.58		Р	2.5	2.75	-40°F		Marine	54
1 1/8	Wet Exhaust (Hardwall)	100	25.0	1.50	Р	Р	2.5	7.40	-40°F	+257°F		58
	Wet Exhaust (Softwall)	100	_	1.40	P	P	-	5.59	-40°F	+257°F		57
	75W (Standard Wall Coolant)	125	6.0	1.50		Р	8.0	0.47	-40°F	+257°F		51
	Engine Coolant (Oil Resistant - Softwall)	135	-	1.55		Α	8.0	0.48	-40°F	+212°F		53
-	76W (Heavy Wall Coolant)	175	10.0	1.63	Р	Р	8.0	0.64	-40°F	+257°F		52
1 1/4	63SB (Air & Vapor Duct)	10	5.0	1.44	Α	Α	1.0	0.22	-30°F		Air and Multi-Purpose	34
' '/*	163SB (Air & Vapor Duct - Heavy Duty)	20	15.0	1.50	Α	Α	1.0	0.34	-30°F	+250°F	Air and Multi-Purpose	35



Data Pages

Hose I.D. (In.)		Rated W.P. (psi)	Suction (In. Hg.)	e O.D.	Tube Type	Cover Type	Min. Bend Radius (In.)	Hose Wt. (Lbs./Ft.)		p (°F)		Catalog
ř	Nama	Rate (psi)	suct In. I	Hose (In.)	-qn	Ş	Min. Radi	Hose (Lbs./	Min.	Мах.	Hose	Page No.
	Name 770SB	50	20.0	1.64	D ₃	D	5.0	0.59	-40°F		Categories Material Handling	70
	Master-Flex 101CL	50	28.0	1.61	ت G	_	3.0	0.31	-10°F	+130°F	l *	131
	Master-Flex 201CR	50	28.0	1.61	G	G	3.0	0.31	-10°F		Food and Beverage	48
	Master-Flex 300 EPDM	70	28.0	1.61	Р	G	5.0	0.30	-30°F		Material Handling	72
	Engine Coolant (Silicone)	85	_	1.63	MQ	MQ	_	0.48	-65°F	+347°F	1 *	55
	Master-Flex 100GR	90	28.0	1.53	G	G	4.0	0.36	-10°F	+130°F	Water	130
	Master-Flex 101CL	90	28.0	1.53	G	_	4.0	0.34	-10°F	+130°F	Water	131
	Master-Flex 200CL	90	28.0	1.56	G	G	4.0	0.38	-10°F	+130°F	Food and Beverage	47
	4684CF (Wet Exhaust - Corrugated)	100	25.0	1.69	С	Α	4.0	0.61	-40°F	+212°F	Marine	59
	75W (Standard Wall Coolant)	100	5.0	1.63	Р	Р	12.0	0.51	-40°F	+257°F	Marine	51
	Engine Coolant (Wire Inserted - Hardwall)	100	25.0	1.71	Р	Р	2.5	3.00	-40°F	+257°F	Marine	54
	Tufflex Food	100	_	1.75	G	G	-	0.63	-10°F	+130°F	Food and Beverage	50
	Wet Exhaust (Hardwall)	100	25.0	1.63	Р	Р	2.5	8.03	-40°F	+257°F		58
	Wet Exhaust (Softwall)	100	_	1.53	Р	Р	-	6.07	-40°F	+257°F	l	57
	76W (Heavy Wall Coolant)	125	10.0	1.74	Р	Р	12.0	0.70	-40°F	+257°F		52
	Engine Coolant (Oil Resistant - Softwall)	135	_	1.67	С	A	10.0	0.51	-40°F	+212°F		53
	429W (Sand Blast)	150	5.0	2.16	D_3	D	12.0	1.22	-40°F		Material Handling	71
	Barracuda	150	30.0	1.61	Р	Р	5.0	0.51	-40°F	+180°F		125
	Colt	150	30.0	1.79	Р	Р	4.0	0.77	-40°F		Acid-Chemical	16
	Creamery/Paper Mill Washdown	150	15.0	1.75	D P	D P	10.0	39.50	-20°F		Pressure Washer	119
	Dolphin	150 150	20.0	1.53 1.75	C	٠.	4.0	0.37 0.72	-40°F -40°F	+180°F	Petroleum Transfer	128 97
1 1/41	Longhorn Longhorn AF (Alternative Fuel-Corrugated)	150	30.0 30.0	1.75	С	A C ₂	4.0	0.72	-40°F		Petroleum Transfer	98
	Shark	150	30.0	1.73	Р	D ₂	6.0	0.70	-40°F	+180°F		124
	Super-Vac	150	30.0	1.68	C	D	3.0	0.67	-40°F		Petroleum Transfer	101
	6B Dura Master	200	10.0	1.73	B₁	P	10.0	0.67	-40°F		Air and Multi-Purpose	26
	Fuel Oil Delivery	200	10.0	1.75	C	C₄	10.0	0.75	-40°F		Petroleum Transfer	110
	Mustang	200	30.0	1.75	K	P	6.0	0.66	-40°F		Acid-Chemical	12
	Renegade	200	30.0	1.72	L	Р	6.0	0.60	-40°F	+212°F	Acid-Chemical	15
	119B Plant Master	250	10.0	1.75	С	Α	10.0	0.69	-40°F	+212°F	Air and Multi-Purpose	21
	19B Plant Master	250	10.0	1.75	С	C_2	10.0	0.67	-40°F	+212°F	Air and Multi-Purpose	20
	205MB Steam King	250	20.0	1.81	P_2	P ₂	16.0	0.90	-40°F	+450°F	Steam	120
	Adapta Flex Black	250	10.0	1.73	Р	Р	10.0	0.68	-40°F	+200°F	Air and Multi-Purpose	30
	Duro Flex	250	10.0	1.73	B_1	Р	10.0	0.67	-40°F	+200°F	Air and Multi-Purpose	27
	Premo Flex	250	10.0	1.75	С	C_2	10.0	0.67	-40°F	+212°F	Air and Multi-Purpose	25
	LP350 (Butane-Propane)	350	10.0	1.85	С	Α	10.0	0.89	-40°F	+180°F	Petroleum Transfer	111
	18MB Air Drill	500	15.0	1.80		C_2	10.0	0.95	-30°F	+212°F	l °	78
	19B Plant Master	500	10.0	1.75		C ₂	10.0	0.76	-40°F		Air and Multi-Purpose	20
	500 MP Air Drill	500	15.0	1.74		C ₂	10.0	0.85	-22°F	+180°F	ľ	79
	500 MP Air Drill	500	15.0	1.74		D ₃	10.0	0.86	-22°F	+180°F	*	79
	Terminator	501	10.0	1.78		C ₄	10.0	0.73	-40°F		Air and Multi-Purpose	22
	1000 MP/Mine Spray	1000	20.0	1.69	P	C ₂	16.0	0.81	-40°F	+212°F	l °	74
	319MB Gold Master	1000	20.0	1.69	A	M	16.0	0.87	-40°F		Air and Multi-Purpose	33
	Powerbraid Plus (Slim Hole Rotary)	5000		1.97	C	A	16.5	2.67	-40°F	+180°F		95
	63SB (Air & Vapor Duct) 163SB (Air & Vapor Duct - Heavy Duty)	10	5.0 15.0	1.52 1.63	A	A	1.5 1.5	0.24 0.44	-30°F -30°F		Air and Multi-Purpose Air and Multi-Purpose	34 35
	4663K (Fuel Fill - Corrugated)	15 20	30.0	1.63	A C	A A	5.0	0.44	-30°F	+250°F +212°F		65
	4684CF (Wet Exhaust - Corrugated)	85	25.0	1.81	С	A	4.0	0.38	-40°F	+212°F	1	59
	Engine Coolant (Silicone)	85	20.0	1.75	-	MQ	4.0	0.52	-65°F	+347°F	l	55
	Engine Coolant (Gincone) Engine Coolant (Wire Inserted - Hardwall)	85	25.0	1.83	P	P	3.0	3.25	-40°F	+257°F		54
	75W (Standard Wall Coolant)	100	4.0	1.75	P	P	12.0	0.55	-40°F	+257°F		51
	1 ,	ı	ı .									1
	Engine Coolant (Oil Resistant - Softwall)	100		1.80	С	Α	12.0	0.56	-40°F	+212°F	Marine	53



Data Pages

I.D. (In.)		٥.		<u>.</u>	ø)	e C	۳ ج		_	(0=)		
Hose I.D. (In.)		Ν.	on lg.)	0.D.	Typ	r Z	Bend us (II	Wt.	iem	p (°F)		Catalog
을 보	Name	Rated W.P. (psi)	Suction (In. Hg.)	Hose (In.)	Tube Type	Cover Type	Min. Bend Radius (In.)	Hose Wt. (Lbs./Ft.)	Min.	Мах.	Hose Categories	Page No.
	Wet Exhaust (Softwall)	100	_	1.69	Р	Р	_	6.58	-40°F	+257°F		57
	76W (Heavy Wall Coolant)	110	10.0	1.88	Р	Р	12.0	0.76	-40°F	+257°F	Marine	52
1 3/8	Fuel Oil Delivery	200	10.0	1.87	С	C ₄	10.0	0.80	-40°F	+180°F	Petroleum Transfer	110
	19B Plant Master	250	10.0	1.87	С	C_2	10.0	0.71	-40°F		Air and Multi-Purpose	20
	19B Plant Master	500	10.0	1.88	С	C_2	10.0	0.73	-40°F		Air and Multi-Purpose	20
	Master-Flex Vapor Recovery	5	_	1.88	U	G	1.5	0.36	-30°F		Petroleum Transfer	109
	63SB (Air & Vapor Duct)	10	5.0	1.69	Α	Α	1.5	0.26	-30°F		Air and Multi-Purpose	34
	163SB (Air & Vapor Duct - Heavy Duty)	15	15.0	1.75	Α	Α	1.5	0.48	-30°F		Air and Multi-Purpose	35
	Fuel Fill (USCG Type A1 and B1)	18	20.0	1.90	С	Α	7.0	37.74	-40°F	+212°F		64
	Fuel Fill (USCG Type A1 and B1)	18	20.0	1.90	С	A	7.0	9.44	-40°F	+212°F		64
	4663K (Fuel Fill - Corrugated)	20	30.0	1.77	С	A	5.0	0.41	-40°F	+212°F		65
	Master-Flex 400	40	28.0	1.88	С	G	3.0	0.38	-30°F		Material Handling	73
	770SB	50	20.0	1.89	D ₃	D	6.0	0.68	-40°F		Material Handling	70
	Master-Flex 101CL	50	28.0	1.86	G	_	3.0	0.37	-10°F	+130°F		131
	Master-Flex 201CR Master-Flex 300 EPDM	50 60	28.0 28.0	1.82 1.96	G P	G G	3.0 6.0	0.37 0.49	-10°F -30°F		Food and Beverage Material Handling	48 72
	Master-Flex 500 EFDINI	75		1.67	G	G		0.49	+25°F	+140 F +120°F	· ·	129
	Tufflex Food	75	_	2.00	G	G	-	0.17	-10°F		Food and Beverage	50
	4684CF (Wet Exhaust - Corrugated)	85	25.0	1.94	С	A	4.0	0.74	-40°F	+212°F	ľ	59
	Engine Coolant (Silicone)	85	25.0	1.88		MQ	4.0	0.70	-65°F	+347°F		55
	Engine Coolant (Wire Inserted - Hardwall)	85	20.0	1.96	P	P	3.5	3.50		+257°F		54
	Master-Flex 100GR	90	28.0	1.82	G	G	5.0	0.47	-10°F	+130°F		130
	Master-Flex 101CL	90	28.0	1.82	G	_	5.0	0.47	-10°F	+130°F		131
	Master-Flex 200CL	90	28.0	1.84	G	G	5.0	0.48	-10°F		Food and Beverage	47
	75W (Standard Wall Coolant)	100	3.0	1.88	Р	P	12.0	0.51	-40°F	+257°F		51
	Engine Coolant (Oil Resistant - Softwall)	100	_	1.92	C	A	12.0	0.60	-40°F	+212°F		53
	Wet Exhaust (Hardwall)	100	20.0	1.88	Р	Р	3.5	9.31	-40°F	+257°F	Marine	58
	Wet Exhaust (Softwall)	100	_	1.78	Р	Р	_	7.12	-40°F	+257°F	Marine	57
4 4 10	76W (Heavy Wall Coolant)	112	10.0	2.00	Р	Р	12.0	0.81	-40°F	+257°F	Marine	52
1 1/2	Hot Air Blower	130	30.0	2.08	Р	Р	8.0	0.89	-40°F	+350°F	Material Handling	69
	429W (Sand Blast)	135	5.0	2.37	D_3	D	18.0	1.37	-40°F	+150°F	Material Handling	71
	690SB (Bulk Commodity)	150	30.0	2.23	D_2	D_3	10.0	1.41	-40°F	+150°F	Food and Beverage	44
	692SB (Bulk Commodity)	150	30.0	2.07	С	Р	9.0	1.13	-40°F	+180°F	Food and Beverage	45
	Barracuda	150	30.0	1.86	Р	Р	6.0	0.60	-40°F	+180°F	Water	125
	Cellar Master Light	150	30.0	2.00	S	Р	6.0	0.77	-40°F	+212°F	Food and Beverage	40
	Colt	150	30.0			Р	5.0			+250°F	Acid-Chemical	16
	Dolphin	150	_	1.78		Р	-	0.43		+180°F		128
	Food Master Lite	150	30.0	2.10	C_2	C_2	4.5	1.14			Food and Beverage	41
	Longhorn	150	30.0		С	Α	4.0	0.88	-40°F		Petroleum Transfer	97
	Longhorn AF (Alternative Fuel-Corrugated)	150	30.0		С	C ₂	4.0	0.87	-30°F		Petroleum Transfer	98
	Marlin	150		1.82	P	D	12.0	0.47	-40°F	+180°F		127
	Marlin	150		1.90	Р	D	12.0	0.63	-40°F	+180°F		127
	Sani-Pure	150		2.07	C ₂	C ₂	18.0	0.97	-40°F		Food and Beverage	42
	Shark	150			Р	D	8.0			+180°F		124
	Steelhead Super Vee	150		1.98		D	12.0	0.70		+150°F		126
	Super-Vac	150	30.0		С	D	3.0	0.77	-40°F		Petroleum Transfer	101
	6B Dura Master	200	10.0			Р	12.0	0.79	-40°F		Air and Multi-Purpose	26 14
	Appaloosa	200 200	30.0	1.97	K	L	8.0	0.76 0.95	-40°F -40°F		Acid-Chemical Petroleum Transfer	110
	Fuel Oil Delivery	l	10.0	2.08	C	C ₂	12.0 8.0	0.95	-40°F		Acid-Chemical	110
	Mustang	200 200	30.0	2.04 2.04	K K	P	8.0	0.87			Acid-Chemical	12
	Mustang Mustang Crush Resistant	200	30.0 20.0	2.04	K	P	8.0	0.88			Acid-Chemical	13
	l -					l '						1
	Renegade	200	30.0	2.00	L	Р	8.0	0.78	-40°F	+212°F	Acid-Chemical	15



Data Pages

												1y 30, 2007
Hose I.D. (In.)		W.P.	n (-£	0.D.	Гуре	Туре	Bend us (In.)	Wt. Ft.)	Tem	p (°F)		Catalog
Ноѕ	Name	Rated W.P. (psi)	Suction (In. Hg.)	Hose (In.)	Tube Type	Cover Type	Min. Bend Radius (In.)	Hose Wt. (Lbs./Ft.)	Min.	Мах.	Hose Categories	Page No.
	Stallion	200	30.0	2.05	Т	Р	8.0	0.89	-40°F	+300°F	Acid-Chemical	10
	Stallion	200	30.0	2.05	Τ	Р	8.0	0.93	-40°F	+300°F	Acid-Chemical	10
	Stallion Crush Resistant	200	20.0	2.08	Τ	Р	8.0	0.86	-40°F	+300°F	Acid-Chemical	11
	119B Plant Master	250	10.0	2.00	С	Α	12.0	0.81	-40°F	+212°F	Air and Multi-Purpose	21
	19B Plant Master	250	10.0	2.00	С	C_2	12.0	0.78	-40°F	+212°F	Air and Multi-Purpose	20
	205MB Steam King	250	10.0	2.14	P_2	P ₂	20.0	1.21	-40°F	+450°F	Steam	120
	232MB Steam Queen	250	10.0	2.18	P_2	B ₁	20.0	1.24	-40°F	+450°F	Steam	121
	Adapta Flex Black	250	10.0	1.98	Р	Р	12.0	0.79	-40°F	+200°F	Air and Multi-Purpose	30
	Cellar Master	250	30.0	2.07	S	Р	4.5	0.90	-40°F	+230°F	Food and Beverage	39
	Duro Flex	250	10.0	1.98	B ₁	Р	12.0	0.79	-40°F	+200°F	Air and Multi-Purpose	27
	Food & Beverage Master	250	30.0	2.07	S	Р	4.5	0.90	-40°F	+230°F	Food and Beverage	38
1 1/2	Premo Flex	250	10.0	2.00	С	C ₂	12.0	0.78	-40°F	+212°F	Air and Multi-Purpose	25
	LP350 (Butane-Propane)	350	10.0	2.25	Α	A	12.0	1.35	-40°F	+180°F	Petroleum Transfer	111
	18MB Air Drill	500	15.0	2.21	Α	D_3	12.0	1.26	-30°F	+212°F	Mining	78
	19B Plant Master	500	10.0	2.00	С	C ₂	12.0	0.78	-40°F	+212°F	Air and Multi-Purpose	20
	500 MP Air Drill	500	15.0	1.99	С	C_2	12.0	0.96	-22°F	+180°F	Mining	79
	500 MP Air Drill	500	15.0	1.99	С	D_3	12.0	0.98	-22°F	+180°F	*	79
	Terminator	501	10.0	2.09	С	C ₄	12.0	0.96	-40°F	+212°F	Air and Multi-Purpose	22
	Scorpion	600	_	2.02	J	J	12.0	1.13	-40°F	+275°F		76
	Scorpion X-Treme	600	_	2.02	B₁	J	12.0	1.07	-40°F	+300°F	ľ	77
	1000 MP/Mine Spray	1000	15.0	1.92	P	C ₂	18.0	0.98	-40°F	+212°F	*	74
	319MB Gold Master	1000	15.0	1.94	Α	M	18.0	1.06	-40°F		Air and Multi-Purpose	33
	Powerbraid Plus (Slim Hole Rotary)	5000	_	2.26	Α	A	20.0	3.22	-40°F	+180°F		95
	63SB (Air & Vapor Duct)	10	5.0	1.81	Α	A	2.0	0.28	-30°F		Air and Multi-Purpose	34
	163SB (Air & Vapor Duct - Heavy Duty)	15	15.0	1.88	Α	A	1.8	0.51	-30°F		Air and Multi-Purpose	35
	Fuel Fill (USCG Type A1 and B1)	18	20.0	2.03	С	A	8.0	10.06	-40°F	+212°F	l '	64
	Fuel Fill (USCG Type A1 and B1)	18	20.0	2.03	С	A	8.0	40.25	-40°F	+212°F		64
	4663K (Fuel Fill - Corrugated)	20	30.0	1.90	С	A	5.5	0.44	-40°F	+212°F		65
	4684CF (Wet Exhaust - Corrugated)	75	20.0	2.06	С	A	5.0	0.75	-40°F	+212°F		59
	Engine Coolant (Wire Inserted - Hardwall)	75	20.0	2.08	Р	P	3.5	3.75	-40°F	+257°F		54
1 5/8	Engine Coolant (Silicone)	80		2.00	MQ	MQ	_	0.61	-65°F	+347°F	l	55
	Engine Coolant (Oil Resistant - Softwall)	85	_	2.05	С	A	15.0	0.63	-40°F	+212°F		53
	75W (Standard Wall Coolant)	90	2.0	2.00	Р	P	15.0	0.63	-40°F	+257°F		51
	Wet Exhaust (Hardwall)	100	20.0	2.00	Р	P.	3.5	9.81	-40°F	+257°F		58
	Wet Exhaust (Fidewall)	100	20.0	1.91	_	P	0.5	7.63	-40°F	+257°F	l	57
	76W (Heavy Wall Coolant)	106	7.0	2.13		P	14.0	0.87	-40°F	+257°F	1	52
	Steelhead	150	7.0	2.10	D	D	15.0	0.74	-40°F	+150°F		126
	63SB (Air & Vapor Duct)	10	5.0	1.94	A	A	2.0	0.30	-30°F		Air and Multi-Purpose	34
	163SB (Air & Vapor Duct - Heavy Duty)	15	15.0	2.00	A	A	1.8	0.54	-30°F		Air and Multi-Purpose	35
	4663K (Fuel Fill - Corrugated)	20	30.0	2.02	C	A	6.0	0.47	-40°F	+212°F	l '	65
	4684CF (Wet Exhaust - Corrugated)	75	20.0	2.19	С	A	5.0	0.80		+212°F		59
	75W (Standard Wall Coolant)	75	1.0	2.13	Р	P	15.0	0.67	-40°F	+257°F	l	51
1 2//	Engine Coolant (Oil Resistant - Softwall)	75	1.0	2.13	С	· .	15.0	0.68	-40°F		Marine	53
1 3/4	Engine Coolant (Oil Resistant - Softwall) Engine Coolant (Wire Inserted - Hardwall)	75	20.0	2.17	Р	A P	4.0	4.00	-40°F	+212°F +257°F	l	54
	Engine Coolant (Wire inserted - Hardwaii) Engine Coolant (Silicone)	80	20.0	2.21		MQ	4.0	4.00 0.65	-40°F	+257°F +347°F	l	55
	, ,	100	5.0	2.13	MQ P	INIQ P	15.0	0.65		+347°F +257°F	l	52
	76W (Heavy Wall Coolant)	I .				P			-40°F		l	1
	Wet Exhaust (Hardwall)	100	20.0	2.12		٠.	4.0	10.57		+257°F	l	58
	Wet Exhaust (Softwall)	100		2.03		Р		8.15		+257°F		57
	63SB (Air & Vapor Duct)	10	5.0	2.06	A	A	2.0	0.32	-30°F		Air and Multi-Purpose	34
4 7/6	163SB (Air & Vapor Duct - Heavy Duty)	15	15.0	2.13	A	A	1.8	0.58	-30°F		Air and Multi-Purpose	35
1 7/8	Fuel Fill (USCG Type A1 and B1)	18	20.0	2.28	С	A	9.0	11.34	-40°F	+212°F	l	64
	Fuel Fill (USCG Type A1 and B1)	18	20.0	2.28	С	A	9.0	45.37	-40°F	+212°F	1	64
	4663K (Fuel Fill - Corrugated)	20	30.0	2.14	С	Α	6.0	0.50	-40°F	+212°F	Marine	65



Data Pages

(ln.)		А. О.		0.D.	-jbe	ype	nd (ln.)	ا نځ	Tem	p (°F)		
Hose I.D (In.)	Name	Rated W.P. (psi)	Suction (In. Hg.)	Hose (In.)	Tube Type		Min. Bend Radius (In.)	Hose Wt. (Lbs./Ft.)	Min.	Мах.	Hose Categories	Catalog Page No.
	4684CF (Wet Exhaust - Corrugated)	60	20.0	2.31	С	Α	5.0	0.83	-40°F	+212°F		59
	Engine Coolant (Wire Inserted - Hardwall)	60	20.0	2.33	Р	Р	4.5	4.25	-40°F	+257°F		54
	75W (Standard Wall Coolant)	75	-	2.25	Р	Р	-	0.72	-40°F	+257°F		51
1 7/8	Engine Coolant (Oil Resistant - Softwall)	75	-	2.30	C	Α	-	0.73	-40°F	+212°F		53
' ''	76W (Heavy Wall Coolant)	94	4.0	2.38	Р	Р	-	0.98	-40°F	+257°F		52
	Wet Exhaust (Hardwall)	100	20.0	2.24	Р	Р	4.5	11.23	-40°F	+257°F		58
	Wet Exhaust (Softwall)	100	_	2.19	Р	Р	-	8.63	-40°F	+257°F		57
	Steelhead	150	_	2.35	D	D	15.0	0.88	-40°F	+150°F	Water	126
	63SB (Air & Vapor Duct)	5	3.0	2.19	Α	Α	2.0	0.33	-30°F	+250°F	Air and Multi-Purpose	34
	Master-Flex Vapor Recovery	5	_	2.43	U	G	2.0	0.48	-30°F	+140°F	Petroleum Transfer	109
	163SB (Air & Vapor Duct - Heavy Duty)	15	15.0	2.25	Α	Α	2.0	0.60	-30°F	+250°F	Air and Multi-Purpose	35
	Fuel Fill (USCG Type A1 and B1)	18	20.0	2.40	С	Α	9.5	12.03	-40°F	+212°F	Marine	64
	Fuel Fill (USCG Type A1 and B1)	18	20.0	2.40	С	Α	9.5	48.13	-40°F	+212°F	Marine	64
	4663K (Fuel Fill - Corrugated)	20	30.0	2.25	С	Α	7.0	0.53	-40°F	+212°F	Marine	65
	Master-Flex 400	35	28.0	2.41	С	G	4.0	0.54	-30°F	+140°F	Material Handling	73
	Master-Flex 101CL	40	28.0	2.44	G	_	4.0	0.57	-10°F	+130°F	Water	131
	Master-Flex 201CR	40	28.0	2.44	G	G	4.0	0.57	-10°F	+130°F	Food and Beverage	48
	Master-Flex 202SW	40	28.0	2.37	G	G	4.0	0.58	-10°F	+130°F	Food and Beverage	49
	770SB	50	20.0	2.39	D_3	D	8.0	0.75	-40°F	+150°F	Material Handling	70
	4684CF (Wet Exhaust - Corrugated)	60	20.0	2.44	C	Α	5.0	0.88	-40°F	+212°F	Marine	59
	688SB (Bulk Commodity)	60	30.0	2.77	D_3	D	16.0	1.65	-40°F	+150°F	Material Handling	68
	75W (Standard Wall Coolant)	60	_	2.39	P	Р	_	0.76	-40°F	+257°F	· ·	51
	Engine Coolant (Oil Resistant - Softwall)	60	_	2.42	c	Α	_	0.77	-40°F	+212°F	Marine	53
	Engine Coolant (Wire Inserted - Hardwall)	60	20.0	2.46	P	Р	5.0		-40°F	+257°F		54
	Master-Flex 300 EPDM	60	28.0	2.49	Р	G	9.0	0.69	-30°F	+140°F	Material Handling	72
	Master-Flex 500	65	_	2.16	G	G	_	0.21	+25°F	+120°F		129
	Master-Flex 100GR	70	28.0	2.36	G	G	6.0	0.66	-10°F	+130°F		130
	Master-Flex 101CL	70	28.0	2.36	G	_	6.0	0.66	-10°F	+130°F		131
	Master-Flex 200CL	70	28.0	2.39	G	G	6.0	0.71	-10°F		Food and Beverage	47
	Engine Coolant (Silicone)	75	_	2.38	MQ	MQ	_	0.73	-65°F	+347°F	1 *	55
2	Tufflex Food	75	_	2.50	G	G	_	0.95	-10°F		Food and Beverage	50
_	76W (Heavy Wall Coolant)	88	3.0	2.50	Р	P	_	1.04	-40°F	+257°F	· ·	52
	Mayerick	100	30.0	2.48	c	C_2	4.0	1.08	-40°F		Petroleum Transfer	100
	Wet Exhaust (Hardwall)	100	20.0	2.36	P	P	5.0	11.90	-40°F	+257°F		58
	Wet Exhaust (Softwall)	100		2.32	Р.	P		9.18	-40°F	+257°F		57
	429W (Sand Blast)	120	5.0	2.94	ا _ب ا	D	20.0	1.82	-40°F		Material Handling	71
	Hot Air Blower	125	30.0	2.58		Р	9.0	1.13			Material Handling	69
	690SB (Bulk Commodity)	150	30.0	2.75		D ₃	12.0	1.88			Food and Beverage	44
	692SB (Bulk Commodity)	150	30.0	2.60	C	P	12.0	1.46			Food and Beverage	45
	Barracuda	150	30.0	2.36	P	r P	8.0		-	+180°F	· · ·	125
	Cellar Master Light	150	30.0	2.50	S	Р	12.0		-40°F		Food and Beverage	40
	Colt	150		2.54		P			-40°F		Acid-Chemical	16
			30.0				6.0		-40°F	+230 F +180°F		128
	Dolphin Food Master Lite	150	20.0	2.32	Р	Р	-	0.65				
		150	30.0	2.60		C ₂	6.0	1.50	-40°F -40°F		Food and Beverage	41
	Longhorn	150	30.0	2.52	C	A	5.0	1.13			Petroleum Transfer	97
	Longhorn AF (Alternative Firel Corrugated)	150	30.0	2.52		A	6.0	1.12	-40°F -30°F		Petroleum Transfer Petroleum Transfer	97
	Longhorn AF (Alternative Fuel-Corrugated)	150	30.0	2.52	С	C_2	6.0					98
	Marlin	150	-	2.33		D	20.0	0.65		+180°F		127
	Marlin	150	_	2.41	P	D	20.0	0.84		+180°F		127
	Sani-Pure	150		2.57	C ₂	C ₂	24.0	1.25	-40°F		Food and Beverage	42
	Shark	150	30.0	2.46	P	D	10.0	1.01	-40°F	+180°F		124
	Steelhead	150	_	2.48	D	D	20.0	0.93	-40°F	+150°F		126
	Steer	150	_	2.44	С	Α	_	0.93	-40°F	+180°F	Petroleum Transfer	99



Data Pages

				0.D.	ď	Ϋ́	밀민	ب نے	Tem	p (°F)		
	Name	Rated W.P. (psi)	Suction (In. Hg.)	Hose (In.)	Tube Type	Cover Type	Min. Bend Radius (In.)	Hose Wt. (Lbs./Ft.)	Min.	Мах.	Hose Categories	Catalog Page No.
	Super-Vac	150	30.0	2.47	С	D	4.0	0.99	-40°F		Petroleum Transfer	101
	6B Dura Master	200	4.0	2.56	B ₁	B ₂	16.5	0.99	-22°F		Air and Multi-Purpose	26
	Appaloosa	200	30.0	2.47	K	L	9.0	0.97	-40°F		Acid-Chemical	14
	Mustang	200	30.0	2.54	K	P	9.0	1.10	-40°F		Acid-Chemical	12
	Mustang	200	30.0	2.54	K	P	9.0	1.11	-40°F		Acid-Chemical	12
	Mustang Crush Resistant	200	20.0	2.63	K	P	9.0	1.13	-40°F		Acid-Chemical	13
	Renegade	200	30.0	2.50	L	P	9.0	0.99	-40°F		Acid-Chemical	15
l ľ	Stallion	200	30.0	2.55	T	P	9.0	1.18	-40°F		Acid-Chemical	10
I I	Stallion Crush Resistant	200	20.0	2.58	Τ	Р	9.0	1.09	-40°F		Acid-Chemical	11
	205MB Steam King	250	10.0	2.66	P ₂	P ₂	25.0	1.57	-40°F	+450°F	l	120
	232MB Steam Queen	250	10.0	2.66	P ₂	B ₁	25.0	1.64	-40°F	+450°F	l	121
I I '	Cellar Master	250	30.0	2.62	S	Р	6.0	1.20	-40°F		Food and Beverage	39
	Food & Beverage Master	250	30.0	2.62	S	Р	6.0	1.19	-40°F		Food and Beverage	38
	Food & Beverage Master	250	30.0	2.62	S	Р	6.0	1.20	-40°F		Food and Beverage	38
	Aquarius Potable Water	300	10.0	2.70	D_2	Р	14.0	1.46	-40°F		Food and Beverage	43
	Sea Horse (Fuel Transfer)	300	10.0	2.66	С	Α	14.0	1.40	-40°F		Petroleum Transfer	105
	Sea Horse HW (Fuel Transfer Suction/Discharge - Hardwall)	300	30.0	2.78	С	Α	10.0	1.87	-40°F		Petroleum Transfer	106
	_P350 (Butane-Propane)	350	10.0	2.86	Α	Α	14.0	2.01	-40°F		Petroleum Transfer	111
	Sea Horse 400 (Fuel Transfer)	400	10.0	2.70	С	Α	17.0	1.51	-40°F		Petroleum Transfer	103
Se	Sea Horse 400 HW (Fuel Transfer Suction/Discharge - Hardwall)	400	30.0	2.84	С	Α	15.0	2.03	-40°F		Petroleum Transfer	104
T	Trident 400	400	10.0	2.71	Α	Α	16.0	1.50	-30°F		Petroleum Transfer	107
5/	500 MP Air Drill	500	15.0	2.50	С	D_3	14.0	1.40	-22°F	+180°F	Mining	79
5/	500 MP Air Drill	500	15.0	2.50	С	C_2	14.0	1.43	-22°F	+180°F	Mining	79
Tr	Terminator	501	10.0	2.64	С	C_4	14.0	1.35	-40°F	+212°F	Air and Multi-Purpose	22
18	8MB Air Drill	600	15.0	2.77	Α	D_3	14.0	1.99	-30°F	+212°F	Mining	78
s	Scorpion	600	_	2.62	J	J	16.0	1.51	-40°F	+275°F	"	76
s	Scorpion X-Treme	600	_	2.62	B ₁	J	16.0	1.46	-40°F	+300°F	Mining	77
1/	000 MP/Mine Spray	1000	10.0	2.45	Р	C_2	25.0	1.36	-40°F	+212°F	Mining	74
3.	319MB Gold Master	1000	10.0	2.46	Α	М	25.0	1.48	-40°F	+212°F	Air and Multi-Purpose	33
P	Powerbraid Plus (Slim Hole Rotary)	3000	_	2.63	Α	Α	25.0	2.95	-40°F	+180°F	Oilfield	95
P	Powerbraid Plus (Slim Hole Rotary)	5000	_	2.80	Α	Α	25.0	4.72	-40°F	+180°F	Oilfield	95
6:	S3SB (Air & Vapor Duct)	5	3.0	2.31	Α	Α	2.5	0.35	-30°F	+250°F	Air and Multi-Purpose	34
1/	63SB (Air & Vapor Duct - Heavy Duty)	10	15.0	2.40	Α	Α	2.5	0.74	-30°F	+250°F	Air and Multi-Purpose	35
4	1684CF (Wet Exhaust - Corrugated)	55	20.0	2.56	С	Α	6.0	0.93	-40°F	+212°F	l	59
E	Engine Coolant (Wire Inserted - Hardwall)	55	20.0	2.58	Р	Р	5.5	5.05	-40°F	+257°F	Marine	54
2 1/8 7	75W (Standard Wall Coolant)	60	_	2.51	Р	Р	-	0.79	-40°F	+257°F	Marine	51
E	Engine Coolant (Oil Resistant - Softwall)	60	-	2.55	С	Α	-	0.82	-40°F	+212°F	Marine	53
E	Engine Coolant (Silicone)	75	_	2.51	MQ	MQ	-	0.77	-65°F	+347°F	Marine	55
W	Vet Exhaust (Hardwall)	100	20.0	2.49	Р	Р	5.5	12.56	-40°F	+257°F	Marine	58
W	Vet Exhaust (Softwall)	100	_	2.45	Р	Р	_	9.69	-40°F	+257°F	Marine	57
6	63SB (Air & Vapor Duct)	5	3.0	2.44	Α	Α	2.5	0.37	-30°F	+250°F	Air and Multi-Purpose	34
10	63SB (Air & Vapor Duct - Heavy Duty)	10	15.0	2.50	Α	Α	2.5	0.88	-30°F	+250°F	Air and Multi-Purpose	35
4	1663K (Fuel Fill - Corrugated)	20	30.0	2.50		Α	8.0	0.54	-40°F	+212°F	Marine	65
	1684CF (Wet Exhaust - Corrugated)	55	20.0	2.69		Α	6.0	0.98	-40°F	+212°F	Marine	59
	Engine Coolant (Wire Inserted - Hardwall)	55	20.0	2.71	Р	Р	6.0	5.30	-40°F	+257°F		54
	75W (Standard Wall Coolant)	60	_	2.64	Р	Р	_	0.84	-40°F	+257°F	Marine	51
	Engine Coolant (Oil Resistant - Softwall)	60	_	2.67	С	Α	_	0.85	-40°F		Marine	53
	Engine Coolant (Silicone)	75	_	2.63		MQ	_	0.81	-65°F	+347°F		55
	76W (Heavy Wall Coolant)	88	1.0	2.74	Р	Р	_	1.15	-40°F	+257°F		52
	Wet Exhaust (Hardwall)	100	20.0	2.63		P	6.0	13.20	-40°F	+257°F		58
	Wet Exhaust (Natiowall) Net Exhaust (Softwall)	100		2.57	P	P	5.5	10.19	-40°F	+257°F		57
6:	63SB (Air & Vapor Duct)	5	3.0	2.56	A	A	2.5	0.39	-30°F		Air and Multi-Purpose	34
1 7 3/XI	163SB (Air & Vapor Duct - Heavy Duty)	10	15.0	2.63	A	A	2.5	0.33	-30°F		Air and Multi-Purpose	35



Data Pages

(ln.)		œ;		C.	e	-pe	р (- П		Tem	p (°F)		
Hose I.D. (In.)	Name	Rated W.P. (psi)	Suction (In. Hg.)	Hose O.D. (In.)	Tube Type	Cover Type	Min. Bend Radius (In.)	Hose Wt. (Lbs./Ft.)	Min.	Max.	Hose Categories	Catalog Page No.
	Fuel Fill (USCG Type A1 and B1)	18	20.0	2.78	С	Α	10.0	14.02	-40°F	+212°F	_	64
	Fuel Fill (USCG Type A1 and B1)	18	20.0	2.78	С	Α	10.0	56.08	-40°F	+212°F	Marine	64
	4684CF (Wet Exhaust - Corrugated)	50	20.0	2.81	С	Α	7.0	1.03	-40°F	+212°F	Marine	59
	Engine Coolant (Wire Inserted - Hardwall)	50	20.0	2.83	Р	Р	6.5	5.55	-40°F	+257°F	Marine	54
2 3/8	75W (Standard Wall Coolant)	60	_	2.76	Р	Р	_	0.88	-40°F	+257°F	Marine	51
2 3/6	Engine Coolant (Oil Resistant - Softwall)	60	_	2.80	С	Α	_	0.89	-40°F	+212°F	Marine	53
	Engine Coolant (Silicone)	65	_	2.75	MQ	MQ	-	0.85	-65°F	+347°F	Marine	55
	76W (Heavy Wall Coolant)	81	_	2.88	Р	Р	_	1.21	-40°F	+257°F	Marine	52
	Wet Exhaust (Hardwall)	100	20.0	2.75	Р	Р	6.5	14.62	-40°F	+257°F	Marine	58
	Wet Exhaust (Softwall)	100		2.69	Р	Р		10.70	-40°F	+257°F		57
	63SB (Air & Vapor Duct)	5	3.0	2.69	Α	Α	2.5	0.41	-30°F		Air and Multi-Purpose	34
	163SB (Air & Vapor Duct - Heavy Duty)	10	15.0	2.75	Α	Α	2.5	0.74	-30°F		Air and Multi-Purpose	35
	4663K (Fuel Fill - Corrugated)	20	30.0	2.75	С	Α	12.0	0.65	-40°F	+212°F		65
	Master-Flex 400	35	28.0	2.98	С	G	5.0	0.77	-30°F		Material Handling	73
	Master-Flex 201CR	40	28.0	2.98	G	G	5.0	0.77	-10°F		Food and Beverage	48
	Master-Flex 202SW	40	28.0	3.01	G	G	4.0	0.79	-10°F		Food and Beverage	49
	4684CF (Wet Exhaust - Corrugated)	50	20.0	2.94	С	A	7.0	1.08	-40°F	+212°F		59 70
	770SB	50 50	20.0 20.0	2.89 2.96	D ₃	D P	9.0 6.5	0.91 5.80	-40°F -40°F	+150°F +257°F	Material Handling	70 54
	Engine Coolant (Wire Inserted - Hardwall) Master-Flex 300 EPDM	50	28.0	3.00	P	G	11.0	0.91	-40°F		Material Handling	72
	75W (Standard Wall Coolant)	60	20.0	2.89	Р	P	11.0	0.91	-30 F	+140 F +257°F	1 *	51
	Engine Coolant (Oil Resistant - Softwall)	60		2.09	С	A		0.92	-40°F	+212°F		53
	Master-Flex 500	60		2.55	G	G		0.34	+25°F	+120°F		129
	Engine Coolant (Silicone)	65	_	2.88	MQ	MQ	_	0.89	-65°F	+347°F		55
	Master-Flex 100GR	65	28.0	2.90	G	G	8.0	0.92	-10°F	+130°F		130
	Master-Flex 101CL	65	28.0	2.90	G	_	8.0	0.92	-10°F	+130°F		131
	Master-Flex 200CL	65	28.0	2.92	G	G	8.0	0.97	-10°F		Food and Beverage	47
	76W (Heavy Wall Coolant)	75	_	3.00	Р	Р	_	1.27	-40°F	+257°F	1 *	52
	Wet Exhaust (Hardwall)	100	20.0	2.90	Р	Р	6.5	15.33	-40°F	+257°F		58
	Wet Exhaust (Softwall)	100	_	2.82	Р	Р	_	11.24	-40°F	+257°F		57
	Hot Air Blower	110	30.0	3.08	Р	Р	14.0	1.43	-40°F		Material Handling	69
2 1/2	690SB (Bulk Commodity)	125	30.0	3.23	D_2	D_3	15.0	2.25	-40°F		Food and Beverage	44
	692SB (Bulk Commodity)	125	30.0	2.85	С	P	15.0	1.77	-40°F	+180°F	Food and Beverage	45
	Barracuda	150	30.0	2.96	Р	Р	10.0	1.06	-40°F	+180°F	Water	125
	Barracuda	150	30.0	2.96	Р	Р	10.0	1.06	-32°F	+200°F	Water	125
	Cellar Master Light	150	30.0	3.11	S	Р	22.0	1.53	-40°F	+212°F	Food and Beverage	40
	Colt	150	30.0	3.05	Р	Р	9.0	1.48	-40°F	+250°F	Acid-Chemical	16
	Dolphin	150	_	2.82	Р	Р	-	0.80		+180°F	Water	128
	Food Master Lite	150	30.0	3.13	C_2	C_2	12.0	1.98	-40°F	+230°F	Food and Beverage	41
	Longhorn	150	30.0	3.05	С	Α	8.0	1.50	-40°F		Petroleum Transfer	97
	Longhorn AF (Alternative Fuel-Corrugated)	150	30.0	3.05	С	C_2	8.0	1.47	-30°F		Petroleum Transfer	98
	Marlin	150	_	2.83	Р	D	25.0	1.02	-40°F	+180°F		127
	Marlin	150	_	2.91	Р	D	25.0	1.02	-40°F	+180°F		127
	Mustang	150	30.0	3.05	K	Р	12.0	1.40	-40°F		Acid-Chemical	12
	Renegade	150	30.0	3.01	L	Р	12.0	1.28	-40°F		Acid-Chemical	15
	Sani-Pure	150	_	3.08	_	C ₂	30.0	1.65	-40°F		Food and Beverage	42
	Shark	150	30.0	3.02	P	D	12.0	1.46	-40°F	+180°F		124
	Stallion	150	30.0	3.07	T	Р	12.0	1.49	-40°F		Acid-Chemical	10
	Steelhead	150	-	2.99	D	D	25.0	1.14	-40°F	+150°F		126
	Super-Vac	150	30.0	2.99	С	D	5.0	1.46	-40°F		Petroleum Transfer	101
	Cellar Master	250	30.0	3.25	S	Р	12.0	1.81	-40°F		Food and Beverage	39
	Food & Beverage Master	250	30.0	3.25	S	Р	12.0	1.81	-40°F		Food and Beverage	38
	Sea Horse (Fuel Transfer)	300	10.0	3.16	С	Α	17.0	1.70	-40°F	+180°F	Petroleum Transfer	105



Data Pages

Hose I.D. (In.)		Rated W.P. (psi)	on g.)	0.D.	Туре	Cover Type	Min. Bend Radius (In.)	Wt. /Ft.)	Tem	p (°F)		Catalog
Н	Name	Ratec (psi)	Suction (In. Hg.)	Hose (In.)	Tube Type	Cove	Min. I Radiu	Hose Wt. (Lbs./Ft.)	Min.	Мах.	Hose Categories	Page No.
	Trident 400	400	10.0	3.20	Α	Α	20.0	1.82	-30°F	+158°F	Petroleum Transfer	107
	18MB Air Drill	500	10.0	3.46	Α	D_3	30.0	3.04	-30°F	+212°F	Mining	78
	500 MP Air Drill	500	10.0	3.14	С	D_3	30.0	2.16	-22°F	+180°F	Mining	79
2 1/2	500 MP Air Drill	500	10.0	3.14	С	C ₂	30.0	2.19	-22°F	+180°F	Mining	79
- ''-	Scorpion	600	-	3.12	J	J	18.0	1.89	-40°F	+275°F	Mining	76
	Scorpion X-Treme	600	–	3.12	B ₁	J	18.0	1.81	-40°F	+300°F	Mining	77
	Longwall Mine Emulsion	1000	10.0	3.34	Α	C_2	20.0	2.90	-40°F	+212°F	Mining	75
	Powerbraid Plus (Slim Hole Rotary)	2500	_	3.38	С	Α	30.0	4.00	-40°F	+180°F	Oilfield	95
	63SB (Air & Vapor Duct)	5	3.0	2.81	Α	Α	2.8	0.43	-30°F	+250°F	Air and Multi-Purpose	34
	163SB (Air & Vapor Duct - Heavy Duty)	10	15.0	2.88	Α	Α	3.0	0.78	-30°F	+250°F	Air and Multi-Purpose	35
	4684CF (Wet Exhaust - Corrugated)	40	15.0	3.06	С	Α	9.0	1.12	-40°F	+212°F	Marine	59
	Engine Coolant (Wire Inserted - Hardwall)	40	15.0	3.08	Р	Р	7.0	6.05	-40°F	+257°F	Marine	54
2 5/8	75W (Standard Wall Coolant)	60	–	3.02	Р	Р	-	0.96	-40°F	+257°F	Marine	51
	Engine Coolant (Oil Resistant - Softwall)	60	–	3.05	С	Α	-	0.98	-40°F	+212°F	Marine	53
	76W (Heavy Wall Coolant)	69	–	3.13	Р	Р	-	1.32	-40°F	+257°F	Marine	52
	Wet Exhaust (Hardwall)	100	15.0	3.02	Р	Р	7.0	16.00	-40°F	+257°F	Marine	58
	Wet Exhaust (Softwall)	100	–	2.95	Р	Р	-	11.79	-40°F	+257°F	Marine	57
	63SB (Air & Vapor Duct)	5	3.0	2.94	Α	Α	2.8	0.44	-30°F	+250°F	Air and Multi-Purpose	34
	163SB (Air & Vapor Duct - Heavy Duty)	10	15.0	3.00	Α	Α	7.0	0.81	-30°F	+250°F	Air and Multi-Purpose	35
	4684CF (Wet Exhaust - Corrugated)	40	15.0	3.19	С	Α	10.0	1.17	-40°F	+212°F	Marine	59
	Engine Coolant (Wire Inserted - Hardwall)	40	15.0	3.21	Р	Р	7.5	6.30	-40°F	+257°F	Marine	54
0.04	Engine Coolant (Silicone)	50	_	3.13	MQ	MQ	_	0.97	-65°F	+347°F	Marine	55
2 3/4	75W (Standard Wall Coolant)	60	_	3.14	Р	Р	_	1.00	-40°F	+257°F	Marine	51
	Engine Coolant (Oil Resistant - Softwall)	60	_	3.17	С	Α	_	1.03	-40°F	+212°F	Marine	53
	76W (Heavy Wall Coolant)	63	_	3.25	Р	Р	_	1.37	-40°F	+257°F	Marine	52
	Wet Exhaust (Hardwall)	100	15.0	3.22	Р	Р	7.5	16.69	-40°F	+257°F	Marine	58
	Wet Exhaust (Softwall)	100	_	3.09	Р	Р	_	12.29	-40°F	+257°F	Marine	57
	4684CF (Wet Exhaust - Corrugated)	40	15.0	3.31	С	Α	11.0	1.21	-40°F	+212°F	Marine	59
	Engine Coolant (Wire Inserted - Hardwall)	40	15.0	3.33	Р	Р	9.0	6.60	-40°F	+257°F	Marine	54
	Engine Coolant (Oil Resistant - Softwall)	55	_	3.30	С	A	l _	1.07	-40°F	+212°F	Marine	53
2 7/8	75W (Standard Wall Coolant)	60	_	3.26	Р	Р	l _	1.04	-40°F	+257°F	1	51
	76W (Heavy Wall Coolant)	63	I .	3.38	Р	Р	l _	1.43	-40°F	+257°F	l	52
	Wet Exhaust (Hardwall)	100	15.0	3.42	Р	Р	8.0	17.35	-40°F	+257°F	Marine	58
	Wet Exhaust (Softwall)	100	_	3.23	Р	P	_	12.80	-40°F	+257°F	1	57
	63SB (Air & Vapor Duct)	5	3.0	3.19	Α	A	3.0		-30°F		Air and Multi-Purpose	34
	Master-Flex Vapor Recovery	5	I .	3.54	U	G	3.0	0.69	-30°F		Petroleum Transfer	109
	163SB (Air & Vapor Duct - Heavy Duty)	10	I .	3.25	A	A	10.0		-30°F	_	Air and Multi-Purpose	35
	4663K (Fuel Fill - Corrugated)	20	I .	3.27	С	A	_	0.84	-40°F	+212°F		65
	Master-Flex 400	30		3.87	С	G	6.0		-30°F		Material Handling	73
	Master-Flex 101CL	35	28.0	3.54	G	<u> </u>	6.0		-10°F	+130°F	ľ	131
	Master-Flex 201CR	35	28.0	3.54	G	G	6.0		-10°F		Food and Beverage	48
	Master-Flex 202SW	35	28.0	3.05	G	G	6.0		-10°F		Food and Beverage	49
	4684CF (Wet Exhaust - Corrugated)	40	15.0	3.44	С	A	12.0		-40°F	+130 F +212°F	1	59
2	609W (Dry Cement Delivery)	40	15.0	3.47	D_3	D	36.0		-40°F		Material Handling	67
	Engine Coolant (Wire Inserted - Hardwall)	40	15.0	3.43	D ₃	P	9.0		-40°F	+150°F +257°F	ı	54
	, ,	50	15.0	3.43	P	P	9.0	1.10		+257°F +257°F	l	51
	75W (Standard Wall Coolant) 770SB	ı	I .				10.0		-40°F		l	ı
		50	I .	3.39	-	D	10.0				Material Handling	70
	Engine Coolant (Oil Resistant - Softwall)	50	I .	3.42	C	A MO		1.10		+212°F	l	53
	Engine Coolant (Silicone)	50	I .	3.38		MQ	40.0	1.05	-65°F	+347°F	l	55
	Master-Flex 300 EPDM	50	I .	3.60	P	G	12.0		-30°F		Material Handling	72
	Master-Flex 101CL	55	28.0	3.44	G	_	9.0	1.20	-10°F	+130°F	l	131
	688SB (Bulk Commodity)	60	30.0	3.81	0	D	24.0	2.54	-40°F		Material Handling	68
	Master-Flex 100GR	60	28.0	3.44	G	G	9.0	1.20	-10°F	+130°F	water	130



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Hose I.D. (In.)		W.P.	۲ (:	0.D.	Туре	Туре	end (In.)	Wt. Ft.)	Tem	p (°F)		
Hose	Name	Rated W.P. (psi)	Suction (In. Hg.)	Hose (In.)	Tube T	Cover Type	Min. Bend Radius (In.)	Hose (Lbs./	Min.	Мах.	Hose Categories	Catalog Page No.
	Master-Flex 200CL	60	28.0	3.46	G	G	9.0	1.27	-10°F	+130°F	Food and Beverage	47
	Master-Flex 500	60	_	3.17	G	G	-	0.39	+25°F	+120°F		129
	76W (Heavy Wall Coolant)	63	-	3.50	Р	Р	-	1.49	-40°F	+257°F		52
	Master-Flex Fuel Delivery	65	28.0	3.76	C ₃	G	6.0	1.71	-30°F		Petroleum Transfer	108
	690SB (Bulk Commodity)	100	30.0	3.75	D_2	D_3	18.0	2.73	-40°F		Food and Beverage	44
	Hot Air Blower	100	30.0	3.64	Р	Р	18.0	1.89	-40°F		Material Handling	69
	Maverick	100	30.0	3.50	С	C_2	6.0	1.73	-40°F		Petroleum Transfer	100
	Wet Exhaust (Hardwall)	100	15.0	3.54	Р	Р	9.0	19.41	-40°F	+257°F	Marine	58
	Wet Exhaust (Softwall)	100	–	3.36	Р	Р	-	14.45	-40°F	+257°F	Marine	57
	692SB (Bulk Commodity)	125	30.0	3.52	С	Р	18.0	2.20	-40°F	+180°F	Food and Beverage	45
	Appaloosa	150	30.0	3.51	K	L	18.0	1.58	-40°F	+225°F	Acid-Chemical	14
	Barracuda	150	30.0	3.54	Р	Р	14.0	1.74	-40°F	+180°F	Water	125
	Cellar Master Light	150	30.0	3.75	S	Р	20.0	2.13	-40°F	+212°F	Food and Beverage	40
	Colt	150	30.0	3.60	Р	Р	11.0	1.94	-40°F	+250°F	Acid-Chemical	16
	Dolphin	150	_	3.36	Р	Р		1.08	-40°F	+180°F	Water	128
	Food Master Lite	150	30.0	3.63	C_2	C ₂	18.0	2.35	-40°F	+230°F	Food and Beverage	41
	Longhorn	150	30.0	3.58	c	Ā	8.0	1.78	-40°F		Petroleum Transfer	97
	Longhorn	150	30.0	3.58	С	Α	9.0	1.90	-40°F	+180°F	Petroleum Transfer	97
	Longhorn AF (Alternative Fuel-Corrugated)	150	30.0	3.53	C	C ₂	9.0	1.86	-30°F	+180°F	Petroleum Transfer	98
	Marlin	150	_	3.33	P	D	36.0	1.21	-40°F	+180°F		127
	Marlin	150	_	3.41	P	D	36.0	1.21	-40°F	+180°F		127
	Mustang	150	30.0	3.58	Ιĸ	P	18.0	1.79	-40°F		Acid-Chemical	12
	Mustang	150	30.0	3.58	Ιĸ	P .	18.0	1.81	-40°F		Acid-Chemical	12
	Renegade	150	30.0		Ľ	' P	18.0	1.63	-40°F		Acid-Chemical	15
	Sani-Pure	150	30.0	3.58	C ₂	C ₂	36.0	1.90	-40°F		Food and Beverage	42
3		150	30.0		P	D ₂	15.0	2.01	-40°F	+180°F	1 *	124
3	Stallion	150	30.0	3.59	T	P	1 1	1.83	-40°F		Acid-Chemical	10
			30.0		D	D	18.0	1.85				126
	Steelhead	150	_	3.49	l -	D D	36.0		-40°F	+150°F		
	Steelhead	150	_	3.49	D	_	36.0	1.64	-40°F	+150°F		126
	Steer	150		3.45	C	A	_	1.39	-40°F		Petroleum Transfer	99
	Super-Vac	150	30.0		C	D	6.0	1.76	-40°F		Petroleum Transfer	101
	Aquarius Potable Water	200	10.0		-	Р	21.0	2.15	-40°F		Food and Beverage	43
	Cellar Master	250	30.0		ı	Р	18.0	2.46	-40°F		Food and Beverage	39
	Food & Beverage Master	250	30.0			P	18.0	2.46	-40°F		Food and Beverage	38
	Food & Beverage Master	250	l .		ı	Р	18.0	2.47	-40°F		Food and Beverage	38
	Sea Horse (Fuel Transfer)	300	10.0		ı	A	21.0	2.17	-40°F		Petroleum Transfer	105
	Sea Horse HW (Fuel Transfer Suction/Discharge - Hardwall)	300	30.0	3.86	ı	A	18.0	3.14	-40°F		Petroleum Transfer	106
	LP350 (Butane-Propane)	350	10.0	3.88	l	A	24.0	2.77	-40°F		Petroleum Transfer	111
	Sea Horse 400 (Fuel Transfer)	400	l .		С	A	22.0	2.14	-40°F		Petroleum Transfer	103
	Sea Horse 400 HW (Fuel Transfer Suction/Discharge - Hardwall)	400	30.0		С	Α	20.0	3.66	-40°F		Petroleum Transfer	104
	Trident 400	400	10.0	3.71	Α	Α	24.0	2.23	-30°F	+158°F	Petroleum Transfer	107
	18MB Air Drill	500	10.0		Α	D ₃	36.0	3.69	-30°F	+212°F	_ ~	78
	500 MP Air Drill	500	10.0	3.67	С	D_3	36.0	2.73	-22°F	+180°F	l *	79
	500 MP Air Drill	500	10.0	3.67	С	C ₂	36.0	2.78	-22°F	+180°F	Mining	79
	Scorpion	600	-	3.64	J	J	20.0	2.46	-40°F	+275°F	Mining	76
	Scorpion X-Treme	600	-	3.77	B ₁	J	20.0	2.83	-40°F	+300°F		77
	Longwall Mine Emulsion	1000	10.0	3.91	Α	C ₄	20.0	4.05	-40°F	+212°F	Mining	75
	Longwall Mine Emulsion	1000	10.0	3.91	Α	C ₂	20.0	4.05	-40°F	+212°F	Mining	75
	Longwall Mine Emulsion	1000	10.0		Α	C ₄	20.0	4.05	-40°F	+212°F	Mining	75
	Longwall Mine Emulsion	1000	10.0	3.91	Α	C ₂	20.0	4.05	-40°F	+212°F	Mining	75
	Powerbraid Plus (Slim Hole Rotary)	2000	_	3.90	С	Ā	36.0	4.33	-40°F	+180°F	ľ	95
3 1/8	163SB (Air & Vapor Duct - Heavy Duty)	10	7.0	3.35	Α	Α	10.0	0.84	-30°F		Air and Multi-Purpose	35
	Engine Coolant (Oil Resistant - Softwall)	35	_	3.67	С	Α		1.19	-40°F	+212°F	· ·	53
	Engine Coolant (Silicone)	40		3.63	_	MQ		1.14	-65°F	+347°F		55



Data Pages

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e I.D.		W.P	<u>.</u> ت	0.D.	Type	Тур	end (In	ن بٍ	Tem	p (°F)		
Hose I.D. (In.)	Name	Rated W.P. (psi)	Suction (In. Hg.)	Hose (In.)	Tube T	Cover Type	Min. Bend Radius (In.)	Hose Wt. (Lbs./Ft.)	Min.	Мах.	Hose Categories	Catalog Page No.
	63SB (Air & Vapor Duct)	5	3.0	3.69	Α	Α	3.5	0.57	-30°F		Air and Multi-Purpose	34
	163SB (Air & Vapor Duct - Heavy Duty)	10	7.0	3.75	Α	Α	10.0	1.01	-30°F		Air and Multi-Purpose	35
	Engine Coolant (Oil Resistant - Softwall)	10	_	3.92	С	Α	-	1.28	-40°F	+212°F	Marine	53
	75W (Standard Wall Coolant)	20	_	3.89	Р	Р	-	1.26	-40°F	+257°F		51
	4684CF (Wet Exhaust - Corrugated)	35	15.0	4.06	С	Α	17.0	1.45	-40°F	+212°F		59
	Engine Coolant (Silicone)	35	–	3.88	MQ	MQ	-	1.23	-65°F	+347°F	l " '	55
3 1/2	Engine Coolant (Wire Inserted - Hardwall)	35	15.0	3.93	Р	Р	12.0	7.90	-40°F	+257°F	1 1	54
	76W (Heavy Wall Coolant)	50	_	4.00	Р	Р	-	1.71	-40°F	+257°F		52
	Hot Air Blower	85	30.0	4.14	Р	Р	21.0	2.17	-40°F		Material Handling	69
	Wet Exhaust (Hardwall)	100	15.0	4.04	Р	Р	12.0	22.31	-40°F	+257°F		58
	Wet Exhaust (Softwall)	100	-	3.86	Р	Р	-	16.63	-40°F	+257°F		57
	Marlin	150	_	3.91	P	D	42.0	1.47	-40°F	+180°F		127
0.5/2	Steelhead	150		3.99	D	D	42.0	1.35	-40°F	+150°F		126
	63SB (Air & Vapor Duct)	5	3.0	3.81	A	A	4.0	0.59	-30°F		Air and Multi-Purpose	34
3 3/4	Engine Coolant (Silicone)	35		4.13 4.19	MQ	MQ	_	1.32	-65°F	+347°F		55
	63SB (Air & Vapor Duct)	5	3.0		A	A G	4.0	0.80	-30°F		Air and Multi-Purpose	34
	Master-Flex Vapor Recovery	5	7.0	4.56	U		4.0	0.92	-30°F		Petroleum Transfer	109
	163SB (Air & Vapor Duct - Heavy Duty)	10	7.0	4.25	A	A	12.0	1.15	-30°F		Air and Multi-Purpose	35
	Engine Coolant (Oil Resistant - Softwall)	10	_	4.42 4.39	C P	A P		1.46 1.43	-40°F -40°F	+212°F +257°F		53 51
	75W (Standard Wall Coolant) 4684CF (Wet Exhaust - Corrugated)	12 30	10.0	4.44	C	A	24.0	1.64	-40°F	+257°F +212°F	1 1	59
	Engine Coolant (Wire Inserted - Hardwall)	30	10.0	4.44	Р	P	20.0	8.95	-40°F	+212 F +257°F	1 1	59 54
	Master-Flex 400	30	28.0	4.43	C	G	8.0	1.68	-40 F	-	Material Handling	73
	Engine Coolant (Silicone)	35	20.0	4.38	MQ	MQ	- 0.0	1.40	-65°F	+347°F	l *	55
	Master-Flex 101CL	35	28.0	4.65	G	- IVIQ	8.0	1.65	-10°F	+130°F		131
	Master-Flex 201CR	35	28.0	4.65	G	G	8.0	1.65	-10°F		Food and Beverage	48
	Master-Flex 202SW	35	28.0	4.54	G	G	8.0	1.68	-10°F		Food and Beverage	49
	76W (Heavy Wall Coolant)	38		4.50	Р	P		1.95	-40°F	+257°F	·	52
	609W (Dry Cement Delivery)	40	_	4.47	D ₃	D D	48.0	1.69	-40°F	_	Material Handling	67
	610W (Bulk Commodity)	40	_	4.56	D_2	D_3	48.0	2.22	-40°F		Food and Beverage	46
	688SB (Bulk Commodity)	45	30.0	4.77	D_3	D	32.0	3.21	-40°F		Material Handling	68
	Master-Flex 300 EPDM	45	28.0	4.69	P	G	17.0	1.81	-30°F		Material Handling	72
	770SB	50	20.0	4.39	D_3	D	15.0	1.49	-40°F		Material Handling	70
4	Master-Flex 100GR	50	28.0		_ ~	G	13.0	1.87	-10°F			130
	Master-Flex 101CL	50	28.0	4.52	G	_	13.0	1.87	-10°F		l	131
	Master-Flex 200CL	50	28.0	4.56		G	12.0	2.01	-10°F		Food and Beverage	47
	609W (Dry Cement Delivery)	60	_	4.61	D_3	D	48.0	2.21	-40°F		Material Handling	67
	609W (Dry Cement Delivery)	60	_	4.73	D_3	D	48.0	2.69	-40°F	+150°F	Material Handling	67
	Master-Flex 500	60	_	4.20	Ğ	G	-	0.53	+25°F	+120°F	Water	129
	Master-Flex Fuel Delivery	65	28.0	4.79	C ₃	G	8.0	2.44	-30°F	+130°F	Petroleum Transfer	108
	690SB (Bulk Commodity)	75	30.0	4.71	D_2	D ₃	24.0	3.51	-40°F	+150°F	Food and Beverage	44
	692SB (Bulk Commodity)	75	30.0	I .		P	24.0	2.96	-40°F		Food and Beverage	45
	Hot Air Blower	75	30.0	4.64	Р	Р	24.0	2.44	-40°F	+350°F	Material Handling	69
	Maverick	100	30.0	4.50	С	C ₂	11.0	2.25	-40°F	+180°F	Petroleum Transfer	100
	Super-Vac	100	30.0	4.52	С	D	8.0	2.29	-40°F	+150°F	Petroleum Transfer	101
	Wet Exhaust (Hardwall)	100	10.0	4.54	Р	Р	20.0	27.60	-40°F	+257°F	1	58
	Wet Exhaust (Softwall)	100	–	4.36	Р	Р	-	18.57	-40°F	+257°F	Marine	57
	Colt	125	30.0	4.60	Р	Р	16.0	2.52	-40°F		Acid-Chemical	16
	Mustang	125	30.0	l .		Р	24.0	2.72	-40°F		Acid-Chemical	12
	Renegade	125	30.0	4.53	L	Р	24.0	2.11	-40°F		Acid-Chemical	15
	Stallion	125	30.0	l .		Р	24.0	2.74	-40°F		Acid-Chemical	10
	Aquarius Potable Water	150	10.0	4.70	D_2	Р	28.0	2.70	-40°F	+150°F	Food and Beverage	43



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(jr.)		<u>a</u> .		Ö.	ec o	/pe	рц (.п	٠. د	Tem	p (°F)		
Hose I.D (In.)	Name	Rated W.P. (psi)	Suction (In. Hg.)	Hose O.D. (In.)	Tube Type	Cover Type	Min. Bend Radius (In.)	Hose Wt. (Lbs./Ft.)	Min.	Мах.	Hose Categories	Catalog Page No.
	Barracuda	150	30.0	4.54	Р	Р	18.0	2.25	-40°F	+180°F	Water	125
	Blender Transfer	150	_	4.73	С	Α	_	3.07	-40°F	+180°F	Petroleum Transfer	102
	Cellar Master Light	150	30.0	4.76	S	Р	28.0	2.82	-40°F	+212°F	Food and Beverage	40
	Dolphin	150	_	4.36	Р	Р	–	1.41	-40°F	+180°F	Water	128
	Food Master Lite	150	30.0	4.65	C_2	C_2	24.0	3.12	-40°F	+230°F	Food and Beverage	41
	Longhorn	150	30.0	4.64	С	Α	11.0	2.65	-40°F	+180°F	Petroleum Transfer	97
	Longhorn	150	30.0	4.62	С	Α	12.0	2.65	-40°F	+180°F	Petroleum Transfer	97
	Longhorn AF (Alternative Fuel-Corrugated)	150	30.0	4.57	С	C_2	12.0	2.59	-30°F	+180°F	Petroleum Transfer	98
	Marlin	150	_	4.33	Р	D	48.0	1.32	-40°F	+180°F	Water	127
	Marlin	150	_	4.41	Р	D	48.0	1.67	-40°F	+180°F	Water	127
	Sani-Pure	150	_	4.61	C_2	C_2	48.0	2.77	-40°F	+230°F	Food and Beverage	42
ا ا	Shark	150	30.0	4.58	Р	D	20.0	2.62	-40°F	+180°F	Water	124
4	Steelhead	150	_	4.49	D	D	48.0	1.85	-40°F	+150°F	Water	126
	Steer	150	_	4.51	С	Α	_	2.03	-40°F	+180°F	Petroleum Transfer	99
	Cellar Master	250	30.0	4.88	S	Р	36.0		-40°F		Food and Beverage	39
	Food & Beverage Master	250	30.0	4.88	S	P	36.0	1 1	-40°F		Food and Beverage	38
	Sea Horse (Fuel Transfer)	300	10.0	4.70	С	Α	28.0	2.80	-40°F		Petroleum Transfer	105
	Sea Horse HW (Fuel Transfer Suction/Discharge - Hardwall)	300	30.0	4.87	C	Α	24.0	1 1	-40°F	+180°F	Petroleum Transfer	106
	Sea Horse 400 (Fuel Transfer)	400	10.0	4.83	C	Α	30.0	3.43	-40°F		Petroleum Transfer	103
	Sea Horse 400 HW (Fuel Transfer Suction/Discharge - Hardwall)	400	30.0	4.99	C	A	25.0	4.64	-40°F		Petroleum Transfer	104
	Trident 400	400	10.0	4.84	A	A	32.0	3.49	-30°F		Petroleum Transfer	107
1 1	18MB Air Drill	500	10.0	5.06	A	D_3	47.6	5.77	-30°F	+212°F		78
1	Scorpion	600	- 10.0	4.79	J	J	25.0		-40°F	+275°F	ľ	76
	Scorpion X-Treme	600		4.79	B₁	J	25.6	3.96	-40°F	+300°F	_ ~	77
	63SB (Air & Vapor Duct)	5	3.0	4.69	A A	A	5.0	0.89	-30°F		Air and Multi-Purpose	34
	163SB (Air & Vapor Duct - Heavy Duty)	10	7.0	4.75	A	A	12.0	1 1	-30°F		Air and Multi-Purpose	35
	Engine Coolant (Oil Resistant - Softwall)	10		4.75	C	A	12.0	1.62	-40°F	+212°F		53
	- '	12	_	4.89	Р	P	_	1 1	-40°F	+212 F +257°F		51
	75W (Standard Wall Coolant)	25	_ F 0	4.89	C		27.0	1.60 1.84	-40°F	+257°F +212°F		59
	4684CF (Wet Exhaust - Corrugated)		5.0		- 1	A	27.0		-	+212°F +347°F		1
	Engine Coolant (Silicone)	25	_	4.88		MQ	-	1.56	-65°F			55
	609W (Dry Cement Delivery)	35	-	4.97	D ₃	D	54.0	1 1	-40°F		Material Handling	67
	688SB (Bulk Commodity)	40	30.0	5.27	D ₃	D	36.0	1 1	-40°F		Material Handling	68
	Wet Exhaust (Hardwall)	100	10.0	5.04	Р	Р	22.0	30.89	-40°F	+257°F		58
	Wet Exhaust (Softwall)	100	_	4.86	Р	Р		21.14	-40°F	+257°F		57
	Steelhead	150		5.01	D	D	54.0					126
	63SB (Air & Vapor Duct)	5	3.0	5.19	A	Α	6.0	0.99	-30°F		Air and Multi-Purpose	34
	Master-Flex Vapor Recovery	5	_	5.51	U	G	5.0		-30°F		Petroleum Transfer	109
	163SB (Air & Vapor Duct - Heavy Duty)	10	6.0	5.25	Α	Α	12.0		-30°F		Air and Multi-Purpose	35
	4684CF (Wet Exhaust - Corrugated)	15	5.0	5.44	С	Α	30.0		-40°F	+212°F		59
	Engine Coolant (Wire Inserted - Hardwall)	15	5.0	5.43	Р	Р	24.0		-40°F	+257°F		54
	609W (Dry Cement Delivery)	30	_	5.47	D_3	D	60.0		-40°F		Material Handling	67
	610W (Bulk Commodity)	30	-	5.56	D ₂	D_3	60.0		-40°F		Food and Beverage	46
	Master-Flex 101CL	30	28.0	5.73	G	_	11.0		-10°F	+130°F		131
1 51	Master-Flex 400	30	28.0	5.77	С	G	9.0		-30°F		Material Handling	73
	688SB (Bulk Commodity)	40	30.0	5.77	D_3	D	40.0	3.93	-40°F		Material Handling	68
	Master-Flex 100GR	45	28.0	5.65	G	G	21.0		-10°F	+130°F		130
	Master-Flex 101CL	45	28.0	5.65	G	_	21.0	3.00	-10°F	+130°F	Water	131
	770SB	50	20.0	5.53	D_3	D	20.0	2.73	-40°F	+150°F	Material Handling	70
	690SB (Bulk Commodity)	55	30.0	5.75	D_2	D_3	30.0	4.30	-40°F	+150°F	Food and Beverage	44
	Hot Air Blower	55	30.0	5.74	Р	P	30.0	3.82	-40°F	+350°F	Material Handling	69
	Shark	100	30.0	5.60	Р	D	25.0		-40°F	+180°F	1	124
1	Wet Exhaust (Hardwall)	100	5.0	5.54	Р	Р	24.0		-40°F	+257°F	Marine	58



Data Pages

I.D. (In.)		.Р.		D.	эе	Туре	nd In.)	t. (Tem	p (°F)		
Hose I.D. (In.)	Name	Rated W.P. (psi)	Suction (In. Hg.)	Hose O.D. (In.)	Tube Type	Cover Ty	Min. Bend Radius (In.)	Hose Wt. (Lbs./Ft.)	Min.	Мах.	Hose Categories	Catalog Page No.
	Blender Transfer	150	-	5.73	С	Α	-	3.77	-40°F	+180°F	Petroleum Transfer	102
5	Marlin	150	-	5.44	Р	D	60.0	2.17	-40°F	+180°F	Water	127
	Sea Horse (Fuel Transfer)	300	10.0	5.84	С	Α	35.0	4.14	-40°F	+180°F	Petroleum Transfer	105
	63SB (Air & Vapor Duct)	5	3.0	5.69	Α	Α	6.0	1.08	-30°F	+250°F	Air and Multi-Purpose	34
5 1/2	163SB (Air & Vapor Duct - Heavy Duty)	10	6.0	5.75	Α	Α	12.0	1.51	-30°F	+250°F	Air and Multi-Purpose	35
	Wet Exhaust (Hardwall)	100	5.0	6.04	Р	Р	_	39.29	-40°F	+257°F	Marine	58
	Master-Flex Vapor Recovery	5	_	6.52	U	G	6.0	1.24	-30°F	+140°F	Petroleum Transfer	109
	163SB (Air & Vapor Duct - Heavy Duty)	8	6.0	6.25	Α	Α	15.0	1.64	-30°F	+250°F	Air and Multi-Purpose	35
	4684CF (Wet Exhaust - Corrugated)	15	5.0	6.46	С	Α	36.0	2.42	-40°F	+212°F	Marine	59
	Engine Coolant (Wire Inserted - Hardwall)	15	5.0	6.43	Р	Р	-	16.00	-40°F	+257°F	Marine	54
	609W (Dry Cement Delivery)	25	-	6.47	D_3	D	72.0	2.48	-40°F	+150°F	Material Handling	67
	610W (Bulk Commodity)	25	-	6.56	D_2	D ₃	72.0	3.25	-40°F	+150°F	Food and Beverage	46
	Master-Flex 400	25	28.0	6.86	С	G	12.0	3.18	-30°F	+140°F	Material Handling	73
	Master-Flex 101CL	35	28.0	6.98	G	_	15.0	4.08	-10°F	+130°F	Water	131
	Master-Flex 300 EPDM	35	28.0	6.86	Р	G	27.0	3.84	-30°F	+140°F	Material Handling	72
	688SB (Bulk Commodity)	40	30.0	6.76	D_3	D	48.0	4.65	-40°F	+150°F	Material Handling	68
	Hot Air Blower	40	30.0	6.74	Р	Р	36.0	4.52	-40°F		Material Handling	69
	Master-Flex 100GR	45	28.0	6.80	G	G	24.0	4.56	-10°F	+130°F	Water	130
	Master-Flex 101CL	45	28.0	6.80	G	_	24.0	4.42	-10°F	+130°F	Water	131
	Master-Flex 500	45	-	6.20	G	G	-	0.88	+25°F	+120°F	Water	129
	690SB (Bulk Commodity)	50	30.0	6.91	D_2	D ₃	36.0	7.08	-40°F	+150°F	Food and Beverage	44
6	692SB (Bulk Commodity)	50	25.0	6.74	С	Р	36.0	5.61	-40°F		Food and Beverage	45
	770SB	50	20.0	6.53	D_3	D	24.0	3.24	-40°F		Material Handling	70
	Super-Vac	60	30.0	6.67	С	D	18.0	4.37	-40°F	+150°F	Petroleum Transfer	101
	Barracuda	100	30.0	6.68	Р	Р	28.0	3.94	-32°F	+200°F	Water	125
	Shark	100	30.0	6.65	Р	D	30.0	4.84	-40°F	+180°F	Water	124
	Wet Exhaust (Hardwall)	100	5.0	6.68	Р	Р	-	40.37	-40°F	+257°F	Marine	58
	Wet Exhaust (Softwall)	100	-	6.38	Р	Р	-	27.14	-40°F	+257°F	Marine	57
	Colt	125	30.0	6.78	Р	Р	24.0	4.95	-40°F		Acid-Chemical	16
	Dolphin	125	-	6.38	Р	Р	-	2.09	-40°F	+180°F		128
	Food Master Lite	150	30.0	6.74	C_2	C ₂	36.0		-40°F		Food and Beverage	41
	Longhorn	150	30.0	6.87	С	Α	17.0	5.91	-40°F		Petroleum Transfer	97
	Marlin	150	-	6.40	Р	D	72.0	2.32	-40°F	+180°F	l	127
	Marlin	150		6.49	Р	D	72.0		-40°F	+180°F	l	127
	Sani-Pure	150		6.64		C ₂	72.0	4.10	-40°F		Food and Beverage	42
	Steelhead	150		6.51		D	72.0			+150°F	1	126
	Sea Horse HW (Fuel Transfer Suction/Discharge - Hardwall)	200		7.07	С	Α	36.0	-			Petroleum Transfer	106
6 5/8	609W (Dry Cement Delivery)	20	-	7.10	ŭ	D	72.0	-			Material Handling	67
	Master-Flex 400	25		9.10	С	G	16.0		-30°F		Material Handling	73
8	Master-Flex 500	45		8.16	G	G	-	1.27	+25°F	+120°F	1	129
	Barracuda	100	_	9.00	Р	Р	40.0	8.81	-32°F	+200°F		125
	Barracuda	100	_	11.27	Р	Р	50.0		-32°F	+200°F		125
12	Barracuda	100	30.0	13.27	Р	Р	60.0	18.63	-32°F	+200°F	Water	125

Chemical Resistance Table

The Chemical Resistance Table was compiled for use as a guide in selecting the most satisfactory hose tube and cover stocks for specific chemical applications. The data included are the best available to us at this time and will be revised as additional test information is obtained. It is always advisable to test rubber stocks under actual application conditions whenever possible.

We recognize that much of the material contained in this resistance table must be, to a degree, general in nature. Factors such as method of compounding, temperature, chemical concentrations, conditions of exposure, etc., can appreciably affect polymer behavior.

For certain applications, hoses designed for these applications must be used; therefore, the choice of tube stocks is restricted. These applications are:

Steam — Hose from the Steam Hose line

Edible Products — FDA, 3A, USDA

Concentrated Chemicals — Hose from the Acid-Chemical Hose line

L.P Gas — LP Gas Hose only

Gasoline and Petroleum Products — Hoses from the Petroleum Transfer Hose line

Hydraulic — Hoses from Hydraulic Products Catalog

The nature of certain chemicals is such that Gates cannot offer a suitable hose to handle them.

Many of the common chemicals are included in the Chemical Resistance Table. If they are not listed, please contact Hose/Connectors Product Application, Denver.

NOTE: Before using a Gates hose to convey a chemical not listed in this Chemical Resistance Table, contact Denver Product Application for a recommendation. Phone (303) 744-5070.

Hose Selection Procedure:

1. Identify the...

Size of Hose required.

Temperature of material being conveyed and environmental temperature.

Application conditions/requirements such as vibration, flexing, abrasion.

Material Being Conveyed

Pressure of operation and maximum obtainable in the system including "spikes" and pump/valve ratings.

Locate the material being conveyed in the chemical resistance chart and identify potential tube materials: For intermittent contact or transfer service, make note of all tube materials

with a 1 or 2 rating. For continuous contact applications make note of tube materials with a 1 rating only.

- Use the Industrial Hose Catalog, Industrial Hose Finder, or Hydraulic Hose Catalog to select hoses that have satisfactory working pressure ratings.
- Verify maximum and minimum operating temperatures.
- Select the hose that has the best chemical resistance rating (i.e. 1 is Preferred, 2 is Acceptable).
- Select the proper coupling for the hose chosen from the Industrial Hose Catalog.

NOTE: For Gates Acid/Chemical Hose, permanent style Couplings must be used for service temperatures above 125°F (52°C).



LISTING OF GATES HOSE STOCK TYPES

Stock Type	Composition
Α	Polychloroprene (Neoprene)
A_2	Similar to Type A except it is white and is used primarily for edible products
B_1 B_2	Proprietary for special applications. Contact Denver Hose Product Application
С	Acrylonitrile Butadiene (NBR)
C_2	A blend of Type C and plastic. Used primarily as hose cover material
C ₃	Modification to Nitrile tube
C ₄	Modification of Nitrile with excellent abrasion, tearing and gouging resistance (cover)
D	Natural Rubber (NR) and Styrene Butadiene (SBR)
D_2	Similar to Type D, except it is white and compounded to handle food products
D_3	Natural Rubber
G	PolyVinyl Chloride (PVC)
G ₁	Modified PVC
н	Isobutylene and Isoprene (Butyl)
J	Chlorinated Polyethylene (CPE)
K	Specially compounded Cross-Linked Polyethylene (Gatron [™])
L	Ultra High Molecular Weight Polyethylene Ethylene (UHMWPE)
M	Chlorosulfonated Polyethylene (Hypalon®)
MQ	Silicone Rubber
P	Ethylene, Propylene Diene (EPDM)
P_2	Special for Steam Hose applications
s	Specially Compounded Thermoplastic Vulcanizate (Sanitron $^{^{\mathrm{TM}}}$)
т	Fluorinated Polyethylene (Teflon® or Neoflon®)
U	Urethane
V	Fluorocarbon (FKM)
z	Polyamide Resins (Nylon)

NOTE: Tube and cover compounds with the same name or Gates Type can differ between hoses. Compounds are designed for specific hose application requirements. Refer to the hose product sheet for recommended applications and restrictions. Example: Petroleum Transfer Hose Longhorn (Type C Nitrile) has a different Nitrile tube compound than Fuel Line 4219G (Type C Nitrile). Please read and observe all warnings on the back of the front cover of this catalog.



CHARACTERISTICS AND RESISTANCE INFORMATION FOR HOSE TUBE AND COVER COMPOUNDS

These ratings are for normal or usual range of the specified compounds. Many are also modified to meet the needs of specific applications. See notes below.

GAIES ITPE	4	ر	n	פ	E	2	۷	7	M	7	-	0	۸	7
Elastomer	Poly Chloroprene	Acrylonitrile Butadiene	Natural Rubber or Styrene Butadiene	Polyvinyl Chloride (plasticized)	Isobutylene and Iso- prene	Chlorinated Polyethylene	Cross Linked Polyethylene	Ultra High Molecular Weight Polyethylene	Chloro- sulfonated Polyethylene	Ethylene Propylene Diene	Fluorinated Polyethylene	Polyure- thane	Fluoro- Carbon Fluoro- elastomer	Polyamide Resins
Common Name or Trade Name	Neoprene	Buna-N Nitrile	Gum Rubber, Buna-S	DVC	Butyl	CPE	™ Gatron	UHMWPE	Hypalon®	EPDM	Neoflon [®] or Teflon [®]	Urethane	FKM Viton® Fluorel®	Nylon
ASTM	CR	NBR	NR or SBR	ı	IIR	CM	XLPE	UHPE	CSM	EPDM	d∃J	Π∃	FKM	PA
Physical Strength	Good	Good	Excellent	Fair to Good	Fair to Good	Good	Good	Very Good	Good to Excellent	Good	Very Good	Excellent	Good	Good
RESISTANCE TO: Abrasion	Good to Excellent	Fair to Good	Excellent	Good to Excellent	Fair to Good	Good	Good	Excellent	Good to Excellent	Good	Excellent	Excellent	Good to Excellent	Good to Excellent
Weather/Ozone	Good to Excellent	Poor	Poor to Fair	Excellent	Excellent	Good	Excellent	Good	Excellent	Excellent	Excellent	Fair to Good	Excellent	Excellent
Gas Permeation	Good	Good to Excellent	Good	рооб	Excellent	Good	Good	Excellent	Good to Excellent	Fair to Good	Excellent	Fair to Good	Good	Excellent
Petroleum Oils	Excellent	Excellent	Poor	Good to Excellent	Poor	Good	Excellent	Excellent	Good to Excellent	Poor	Excellent	booə	Excellent	Excellent
Gasolines	Fair to Good	Excellent	Poor	Fair	Poor	Good	Excellent	Excellent	Fair	Poor	Excellent	Fair	Excellent	Excellent
High Temperatures	Good	Good To Excellent	Fair	Poor	Excellent	Excellent	Good	Fair	Good to Excellent	Excellent	Excellent	Fair	Excellent	Good
Low Temperatures	Fair to Good	Fair to Good	Good	Poor	Good	Good	Fair to Good	Fair	Fair	Fair to Good	Good	Excellent	Good	Excellent

Proprietary for special applications. Contact Denver Hose Product Application White food grade Neoprene, complies with FDA (tube)

 ${\bf B}_2$

Modification of Nitrile with increased ozone resistance (tube and cover) Modification to Nitrile tube

Modification of Nitrile with excellent abrasion, tearing and gouging resistance (cover) White food grade Natural Rubber, complies with FDA (tube)

Natural Rubber

Modified PVC Silicone Rubber Special for Steam Hose applications

NOTE: Tube and cover compounds with the same name or Gates Type can differ between hoses. Compounds are designed for specific hose application requirements. Refer to the hose product sheet for recommended applications and restrictions. Example: Petroleum Transfer Hose Longhorn (Type C Nitrile) has a different Nitrile tube compound than Fuel Line 4219G (Type C Nitrile). Please read and observe all warnings on the back of the front cover of this catalog.



Gates Chemical Rating System

NOTE: Ratings are for the effect on the **polymer only**.

"1" Preferred: Constant Contact — This chemical is expected to have minor or no effect on the Polymer. Hose approved for continuous contact. Environmental changes such as temperature, concentration, etc., may promote increased degradation.

"2" Acceptable: Intermittent Contact — This polymer should give reasonably satisfactory service. Due to the nature of this chemical, and under prolonged continuous exposure, the rubber may show minor to moderate deterioration and/or solution discoloration. Hose in-tended for transfer service only. Environmental changes such as temperature, concentration, etc., may promote increased degradation.

"X" Not Recommended — The polymer is unsatisfactory for this chemical and should not be used.

"-" (**Dash**) — Insufficient or no data available for this material. Testing is advised.

- NOTE 1. The above ratings as applied to the Chemical Resistance Table are intended as guides only. They are compiled from the best data available to us. Ratings shown in the table are based on 100% concentrated or saturated solutions, unless otherwise noted, and up to 100 F (+38°C), unless otherwise stated.
- **NOTE 2.** If unusual conditions exist, a polymer test in the fluid is suggested.
- **NOTE 3.** Where a chemical listed in the Resistance Table is soluble in a solvent other than water, the solvent should also be checked for its suitability with the polymer.
- NOTE 4. Discoloration of fluids conveyed in the hose. There are no generally accepted standard tests for measuring or rating discoloration of fluids passing through a hose. The amount of discoloration that can be tolerated is usually established by the user on the basis of application. Obviously, products such

as paint must be conveyed through a hose that has very good non-discoloring characteristics. If the product is not visually affected, then the hose is satisfactory. For some products, the discoloration may be objectionable from a visual standpoint. Also, the concentration of the particles causing the discoloration may be objectionable if they affect the final use of the product.

Some of the more common methods of checking discoloration are:

- Allowing the fluid to remain in a sample piece of hose for a specific period and expected operating temperature, then inspecting visually for discoloration.
- 2. Testing fluid as in No. 1 above and then passing it through filter paper to check foreign content.
- A more refined test can be made with a spectrophotometer. This instrument measures light transmission through the fluid before and after immersion tests with rubber stocks. This gives a relative rating expressed in percent, the original fluid being rated at 100%.

If discoloration of the product becomes a serious problem for a specific application, contact Denver Product Application for a recommendation. Phone (303) 744-5070.

NOTE 5. Fluid permeation through the tube wall needs to be considered. A tube material may show no sign of degradation, however hose failure can occur if material permeates through the tube to degrade adhesive layers or reinforcement.

Hose Coupling Material — Gates recommends hose couplings made of six materials: Iron or Carbon Steel, 304SS, 316SS, Aluminum, Brass and Polypropylene. The Chemical Resistance Table includes columns showing the suitability of a specific coupling material for the chemicals listed. In most instances, at least one coupling material is rated for each chemical. For certain chemicals, other metallic alloys or plastics than those shown in the table are required. These are generally available from other coupling manufacturers, but are not stocked by Gates.



Contact Denver Product Application for recommendations for chemicals not listed.					G	ate	es l	Но	se	/ P	oly	me	ers					Cou Ac			gs ers	7
Phone (303) 744-5070 1 = Preferred - Constant Contact 2 = Acceptable - Intermittent Contact X = Not Recommended - = No Data		⊣ Stallion ຶ	⊼ Mustang [®]	∽ Renegade [™]	ഗ Food & Bev. Mstr.	P	С	D	D	A	Н	V	M	J	Z	G						
NOTE: Ratings are for the effect on the <i>polymer only</i> !		oflon®															Steel	sel 304	Steel 316			ene
Chemical	Form (at room temperature unless otherwise stated)	Teflon [®] /Neoflon [®]	Gatron"	JHMWPE	Sanitron	EPDM	NBR	SBR	N.	Veoprene	Butyl	Fluorocarbon	Hypalon®	CPE	Nylon	PVC	ron/Carbon Steel	Stainless Steel 304	Stainless Ste	Aluminum	Brass	Polypropylene
Α					0)			0,		_			_				_	0)	0)	_		
Absorption Oil Acetal Acetaldehyde Acetamide Acetic Acid (40% or less)	Liquid Colorless Liquid Colorless Liquid Liquid above 176°F(80°C) Clear Colorless Liquid	1 1 1 1	2 1 1 1	2 1 1 2	X 1 1 1	X 1 1 2	1 X 2 X	X - 2 X 2	X - 2 X X	2 X 2 2	X 1 1 2	1 X X X X	2 - X - 2	1 1 1 1	1 - 2	- X -	- 1 - X	- 1 2 2	- 1 - 2	- 1 1 2	1 1 1 X X	- 1 - 2
Acetic Acid (56% or less) Acetic Acid (85% or less) Acetic Acid (Glacial - 99.4%) Acetic Acid, Anhydride Acetic Anhydride (Acetic Oxide)	Clear Colorless Liquid Clear Colorless Liquid Clear Colorless Liquid Clear Colorless Liquid Colorless Liquid	1 1 1 1	1 1 1 -	1 1 X X	1 X X -	1 2 X -	X X X X	2 2 2 X X	X X X X	2 X X X	1 X X 2 2	X X X	2 X X 2 2	1 X 1 1	X X X X	2 X X X	X - - X	2 2 2 2 2	2 2 2 2	2 2	X - - - X	2 X X X
Acetic Ether (Ethyl Acetate) Acetic Oxide (Acetic Anhydride) Acetone (Dimethylketone) Acetone Cyanohydrin Acetonitrile (Methyl Cyanide)	Colorless Liquid Colorless Liquid Colorless Liquid Colorless Liquid Colorless Liquid Colorless Liquid	1 1 1 1	1 1 1 1	1 1 X 2 2	2 1 1 2 1	2 1 2 2 X	X - X - X	X X X X 2	X X X X Z	X - X - 2	2 2 2 2 2	X X X	X 2 X -	2 1 1 2 1	1 X 1	X X X -	1 X 1	1 2 1	1 2 1	1 2 1 -	1 X 1	2 X 2
Acetophenone Acetyl Chloride Acetyl Oxide (Acetic Anhydride) Acetyl-P-Toluidine (In Ether or Alcohols) Acetylene	Colorless Liquid Colorless Liquid Colorless Liquid In Alcohol or Ether Gas	1 1 1	2 - 1 1	2 - 1 1	2 - 1 1	1 - 1 1	X - X -	X X X	X - X X	X - - -	1 - 2 2 ABLE	X 1 X X	- - 2 -	- 1 1	- X -	- X -	- X -	- 2 -	- 2 -	- - 2 -	- X -	2 - X -
Acetylene Dichloride (Dichloroethylene)	Colorless Liquid	1	Χ	Χ	Х	Х	-	Х	X		X	1	-	Χ	1	Χ	-	-	-	-	-	X
Acetylene Tetrachloride (Tetrachloroethane) Acrolein (Hydroquinone Inhibited) Acrylamide Acrylates (HEA or HPA)	Colorless Liquid Colorless to Yellow Liquid Colorless Crystals Colorless Liquid	1 1 1	X 1 1	X 1 2 1	X 2 2 1	X X - X	-	X -	X - -	-	X 2 -	1 X 1	- - -	X - - 1	1 -	X -	-	-		-	-	
Acrylic Acid Acrylic Acid (Glacial 97%) Acrylic Emulsion	Colorless Liquid Colorless Liquid Liquid	1 1 1	1 1 1	1 1 1	1 X X	X X	- X -	- X -	- X -	- X -	- Х -	1 1 1	Х	- X	- Х	Х	-	-		-	-	
Acrylonitrile Adipic Acid (70°F)	Colorless Liquid White Crystals	1	2 1	2 X	1	X 1	X	2 X	2 1	X X	X -	X 1	Χ -	1 -	X	1 X	1 -	1	1	-	-	-
Aeroshell 7A, 17 Grease Air, 212°F (100°C) Air, 257°F (125°C) Air, 300°F (149°C)	Liquid Colorless Gas Colorless Gas Colorless Gas	1 1 1 1	- 1 1	2 X X	1 1 1	- 1 1	1 1 X X	2 X X	X X X	2 1 2 X	- 1 1	- 1 1	1 1 X	1 1 X	X X X	2 X X	1 1 -	1 1 -	1 1 -	1 1 -	- 1 -	
Air, Ambient Aircraft Hyd. Oil AA Alachlor (Lasso) Alkaline Liquid (NOS)	Colorless Gas Liquid Colorless Crystals In Water Solutions	1 1 1	1 1 1 1	1 - - 1	- - 1	1 X - 1	1	- - -	1 - 1 -	1 - -	1 X - 1	- - 2	1 - - -	1 - - 1	- - -	<u>-</u> -	1 -	1 1 1	1 1 -	1 1 - -	1	- - -
Alkyaryl Polyether Alcohol Alkyd Resin (Thermosetting Polymer)	- Varies	1 1	1 1	1	-	-	-	-	-	-	-	1	-	1 -	-	-	-	-	-	-	-	-
Alkylaryl Sulfonate (Alkylbenzene Sulfonate) Allomalaic Acid (Fumaric Acid) Solution Allyl Alcohol Allyl Bromide Allyl Chloride	Powder Liquid Colorless Liquid Colorless to Yellow Liquid Colorless Liquid	1 1 1 1 1	1 1 1 -	1 - 1 - X	- 1 - X	2 1 - X	1 1 1 - X	- 2 - X	1 2 1 - X	- 1 - X	1 - X	1 1 1 -	X - 1	1 - 1 - 2	- X - 1	X X X	1	1 1	- 1 - - 1		-	- - - 2
Alpha Methylstyrene Alpha Olefin Sulfonate	Colorless Liquid Colorless Liquid Powder	1 -	2	2	X	X	X	X	X 1	X	X	1 -	-	X -	1 -	X	-	-	-	-	-	-
Alpha Picoline Alum (Aluminum Sulphate or Other) Alum, Potash (Aluminum Potassium Sulfate)	Colorless Liquid White Crystals White Crystals	1 1 1	1 1 -	-	1	- 1 -	- 1 -	-	1	- 1 -	- - -	-	- - -	-	-	-	- X X	- X 2	- 2 2	X X		- 1 1



Contact Denver Product Application for recommendations for chemicals not listed.					G	ate	es I	Ho	se	/ P	oly	me	ers				(upl lap		gs :rs	1
Phone (303) 744-5070 1 = Preferred - Constant Contact 2 = Acceptable - Intermittent Contact X = Not Recommended - = No Data		Stallion®	Mustang [®]	Renegade [™]	Food & Bev. Mstr.																	
NOTE: Ratings are for the effect		T	K	Ĺ	S	Р	С	D	D	Α	Н	V	M	J	Z	G	100	4	91			
on the <i>polymer only</i> ! Chemical	Form (at room temperature unless otherwise stated)	Teflon [®] /Neoflon [®]	Gatron™	UHMWPE	Sanitron"	EPDM	NBR	SBR	NR	Neoprene	Butyl	Fluorocarbon	Hypalon [®]	CPE	Nylon	PVC	Iron/Carbon Steel	Stainless Steel 304	Stainless Steel 316	Aluminum	Brass	Polypropylene
Alumina Trihydrate (Conveyed Pnuematically) Aluminum Acetate Aluminum Alkyl (ie Triethylaluminum) Aluminum Bromide	White Powder Colorless Liquid White to Yellow Crystals	- 1 X 1	- 1 X 1	- - X -	- - X -	- - X 1	- - X 1	- 1 X 1	1 1 1 X 1	- - X 1	- - X 1	- - 1 1	- - X 1	- - X -	- - X -	- - X	- - - X	- 1 - 2	- 1 - 2		- X - X	1 1 1 1
Aluminum Chloride Solution Aluminum Chloride, Anhydrous Aluminum Chlorohydrate Solution (Up to 50%) Aluminum Fluoride Aluminum Formate (Di & Tri In Water)	White to Yellow Solution White to Yellow Crystals White Solution White Crystals In Hot Water	1 - 1 1	1 1 1 1	X - 1 - 1	1 - 1 - 1	1 - 1 - 1	1 - 1 - 1	1 - - X	1 1 - 1 X	- - 1	1 - 1 - 1	1 - 1 -	-	1 - 1 - 1	-	- - - 1	X - X -	2 - - 2 -	2 - - 2 -	X - - 2 -	X - X -	1 - - 1 -
Aluminum Hydroxide (Alumina Trihydrate) Aluminum Nitrate Aluminum Phosphate Solution Aluminum Salts Aluminum Sulfate	In Mineral Acid or Caustic Soda In Cold Water In HCl or HNO3 (slightly soluble) Varies White Crystals	1 1 1 1	1 1 1 1	1 1 1 -	1 1 - - 1	- 1 - 1 1	X 1 X 1	X 1 X 1	X 1 X 1	1 X 1	1 1 - 1	1 1 1 -	1 - 1 -	1	X - X -	X 1 X 1	X - - X	1 1 - 2 X	1 1 - 2 2	2 - 2 X	1 - - X	1 - 1 1
Aluminum Sulfate Solution Aluminum Sulfate Solution (49.7% H ₂ O) Amines (A class of Organic Compounds) Amines (Aromatic - IE P-Toluidine) Amines (Mixed)	In Water Liquid Varies White Plates (Solid) Varies	1 1 1 1	1 1 1 - 2	1 1 1 -	1 1	1 1 - - 2	1 1 - - 2	1 1 - 2	1 1 - 1 2	1 2	1 1 - - 2	1 1 - X		1	1	1 - - -	X - -	X X - 1	2 2	X	X X - X	1 1
Amines (Primary, Secondary, Tertiary, Etc) Aminodiphenylamine Aminoethanol (Ethanolamine) Aminoethylethanolamine Ammonia (Anhydrous)	Varies Purple Powder Colorless Viscous Liquid Liquid Gas or liquid	1 1 1	2 2 2 2	1 - 1 1	- 1 2	- 2 2	- 2 -	- 2 -	- 2 -	- 2 -	- 2 1 ABLE	X - X -	- X -	- 1 1	- 1 1	- - 2 -	1	- 1 -	- 1 -		- 1 -	-
Ammonia (Aqueous up to 30% NH₃) Ammonia Liquor	Colorless Liquid Colorless Liquid Liquid above 167°F (75°C) In Water White Crystals	1 1 1 1	1 - 1 1	1 1 1	1 - - 1	1 - - 1	1 - 1	1 - 1	1 - - 1 1	1 - 2 -	1 - - 1	2 - 1 1	1	1 - - 1	1 - 2	1 - - 1	-	1 - 1	1 - 1		X - - X	1 - 1
Ammonium Bisulfate (50%) Ammonium Carbonate Ammonium Chloride Ammonium Chloride Solution Ammonium Flouride	Colorless Liquid Colorless to White Powder White Crystals Liquid White Crystals	1 1 1 1	1 1 - 1	1 - X -	1	1 - 1	X - 2	- - 1	1 1 1 1	2 - X	1 - 1	1	- - - 1	1 - 1	- - X	1 - 1	1 -	1 2 2	1 2 2	-	- X X	1 1
Ammonium Hydroxide (16%, 20%, 26%, & 30%) Ammonium Hydroxide (up to 30% NH ₃) Ammonium Metaphosphate Ammonium Nitrate Ammonium Nitrate Ammonium Nitrate Fertilizer (20.5% N,or 33.5% N)	Colorless Liquid Colorless Liquid White powder Colorless Crystals	1 1 1 1	1 1 1	1 1	1 1	1 1 -	2 2	X 2	2 2 1	2 2	2 1 -	2 2 -	1 2 -	1 -	X -	X 2	2 2 1 1	1 1 1 1	1 1 1 1	- X 2	X X - X	1 1 1 1
Ammonium Nitrate Priliza (20.5/8 N,0 35.5/8 N) Ammonium Nitrate Solution (up to 83%) Ammonium Nitrite Ammonium Persulfate Ammonium Phosphate	Aggregate Aggregate Liquid Colorless crystal Solution in Water White Crystals or Powder	1 1 1 1 1	1 1 1	1 -	1	1 -	1 1 X X	- X	1 1 X -	1 2 X	-	1 X	1	1 1 -	1	-	1 1 - - X	1 1 1 1 1 2	1 1 1 1 1	2 2 - X	X X X	1 1 1 X
Ammonium Phosphate Solutions Ammonium Polysulfide Solution Ammonium Sulfate Ammonium Sulfide	Yillow Solution Gray to White Crystals Yellow Crystals Liquid In Water	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1	1 1	1 1 1	1 2 1	1 1 1	1 1 1 1 1	1 1	1 1	1 1 1	1 - - 1 1	1 - 1 1 1	-	1 1 - 1 -	X - 1 1 1	2 - 1 1 1 1 1	1 1 1 1 1	X - X X X X	- X X X	1 1 1 1 1



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Phone (303) 744-5070 1 = Preferred - Constant Contact 2 = Acceptable - Intermittent Contact X = Not Recommended - = No Data		Stallion [®]	Mustang [®]	Renegade [™]	Food & Bev. Mstr.																	
NOTE: Ratings are for the effect on the <i>polymer only</i> !		Т	K	L	S	Р	С	D	D	Α	Н	V	М	J	Z	G	teel	304	316			Ф
Chamical	Form (at room temperature	Teflon [®] /Neoflon [®]	Gatron "	JHMWPE	Sanitron	EPDM	NBR	SBR	٣	Veoprene	Butyl	Fluorocarbon	Hypalon®	CPE	Nylon	PVC	ron/Carbon Steel	Stainless Steel 304	Stainless Steel	Aluminum	Brass	Polypropylene
Chemical	unless otherwise stated)	-		_					N N			_					v Iro		Š	_	<u>p</u>	
Amyl Acetate (Banana or Pearl Oil) Amyl Alcohol	Colorless Liquid Colorless Liquid	1	1	1 2	2	2	X 2	X 2	X 2	X 2	2	X 1	X 2	X 1	1	X 2	X 1	1	1	X 1	1 1	X -
Amyl Chloride (Chloropentane)	Colorless Liquid	1	-	-	-	-	-	-	-	-	-	-	-	-	-	Χ	-	1	1	-	-	Χ
Amyl Chlorides (mixed)	Straw to Purple Liquid	1	2	2	X	X	X	X	X	X	X	1	X	2	1	Χ	-	1	1	-	-	Χ
Amyl Chloronaphthalene Amyl Naphthalene	-	1	1	2	X -	X	X	X	X	X	X	1	X	X	1	-	-	1	1	-	-	-
Amyl Phenol	- Clear Straw Colored Liquid	ľ	2	-	-	_	_	_	_	_	_	-	_	_	-	-	-	1	1	-	-	
Amylamine	Colorless Liquid	1	Χ	-	-	Χ	2	-	Χ	Χ	Χ	Χ	Χ	-	-	-	-	-	-	-	-	-
Amylbenzene (sec amylbenzene)	Clear Liquid	1	2	2	Χ	Χ	2	X	Χ	2	Χ	1	-	-	-	-	-	-	-	-	-	-
Anethole (anise camphor)	White Crystals/Liquid > 73°F(23°C)	1	2	-	-	-	X	X	X	X	X	1	Χ	Χ	Χ	-	2	1	1	2	Χ	1
Anhydrous Ammonia (R 717) Aniline	Gas or Liquid Colorless Oily Liquid	1	2	Х	1	2	X	X	X	VAILA X	2 2	1	Х	2	Х		2	1	1	2	X	1
Aniline Dyes	-	ľ	1	-	1	2	X	X	X	X	2	2	X	2	-	-	X	1	1	-	-	2
Aniline Hydrochloride	White Crystals	1	1	-	-	2	2	2	2	Χ	2	-	-	-	-	-	-	Χ	Χ	-	Χ	2
Aniline Oil (Aniline)	Colorless Oily Liquid	1	2	Χ	1	2	Χ	Χ	Χ	Χ	2	1	Χ	2	Χ	-	2	1	1	2	Χ	1
Animal Fat (Lard)	White Solid/Liquid > 108°F(42°C)	1	1	1	Χ	Χ	1	Х	Χ	2	Χ	1	Χ	1	1	-	1	1	1	1	Χ	-
Animal Gelatin Animal Grease, Inedible, Liquid	- Liquid	1	-	1	-	X	1	-	- X	1 2	- X	1	2	-	-	1		1	1	-	-	-
Animal Orease, medible, Elquid Animal Oils	Solid to Liquid	ľ	-	-	2	-	1	_	-	2	-	-	-	1	1	1	1	1	1	1	-	-
Ant Oil (Furfural)	Colorless to Reddish Brown Liquid	1	1	-	2	Χ	X	Χ	Χ	2	Χ	2	2	1	-	X	2	1	1	1	1	2
Antifreeze (Glycol Base)	Liquid	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Antimony Chloride (50%)	White Powder	1	1	1	-	-	-	-	-	-	2	1	-	-	1	1	Х	Χ	Χ	-	-	1
Antimony Pentachloride Antimony Salts	Reddish-yellow Liquid White Crystal	1	1	1	-	1	2	-	-	-	1	1	-	-	-	1	-	-	-	-	-	-
Aqua Ammonia (Ammonium Hydroxide) (30%)	Colorless Liquid	ľ	1	1	1	1	2	2	2	2	2	2	1	1	X	X	2	1	1	-	X	1
Aqua Regia (Nitrohydrochloric Acid)	Fuming Yellow Liquid	1	2	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	1	Х	2	Χ	Х	-	Χ	Χ	-	-	Χ
Argon, Compressed	Colorless Gas	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-
Aromatic Hydrocarbons	Typically Colorless Liquids	1	2	2	X	X	2	X	X	Χ	X	1	Χ	X	1	Χ	1	1	1	2	2	-
Arsenic Acid Arsenic Trioxide	In Water In Acid	1	1	1 1	2	2 X	2	X	X	2	2 X	1	X	1	-	- 1	2	-	1	2	-	2
Askarel (Transformer Oil)	Varies	1	2	2	X	X	X	Х	X	X	X	1	X	1	1	Х	1	1	1	-	1	2
Asphalt	Varies	1	2	Χ	Χ	Χ	2	Χ	Χ	-	Χ	1	-	-	Χ	Χ	1	1	1	-	1	-
Asphalt (Blown)	Black Solid	-	-	Χ	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Asphalt (Cut Back) Asphalt Emulsion	Black Liquid Black Liquid	1	X	X	X	X	2	X	X	2	X	1	Χ	Х	2	Х	1	1	1	-	1	-
Asphalt Paint	Black Liquid	1	2	X	X	X	2	X	X	-	X	1	X	Ė	2	X	H	÷	-	÷	÷	÷
Asphaltene	In Carbon Disulfide	i	2	Х	X	X	2	X	X	2	Χ	1	X	Χ	1	-	-	-	-	-	-	-
ASTM Oil No. 1	Brown Liquid	1	1	1	2	Χ	1	Χ	Χ	1	Χ	1	2	1	1	2	1	1	1	1	1	2
	Brown Liquid	1	1	1	X	X	1	X	X	2	X	1	2	1	1	X	1	1	1	1	1	X
ASTM Oil No. 3 ASTM Reference Fuel A	Brown Liquid	1	1	1	X	X	1	X	X	X 1	X	1	X 1	1	1	X	1	1	1	1	1	X
ASTM Reference Fuel A ASTM Reference Fuel B	Liquid Liquid	1	2	1	2 X	X	1	X	X	2	X X	1	X	1 2	1	2 X	1	1	1	1	1	X
ASTM Reference Fuel C	Liquid	1	2	2	Χ	Χ	2	X	X	X	X	1	X	2	1	X	1	1	1	-	1	X
ATF (Automatic Transmission Oil)	Liquid Liquid	1	1	1	Χ	Χ	1	-	-	-	Χ	1	-	1	-	-	-	-	-	-	-	-
В		_ ر	,													_						
Baltic Types 100, 150, 200, 300, 500	Liquid	1	1	-	-	Χ	1	-	-	-	Χ	-	-	-	- 1	2	-	-	-	-	-	2
Banvel (Ag Spray, Concentrated) Bardol B	Liquid Dark colored Liquid	1	1	-	-	X	- X	- X	X	X	- X	2	X	-	-	-	1	1	1 1	-	-	-
Barite (Natural Barium Sulfate)	White to Yellowish Powder	Ι΄.		_		^.	-	-	1	-	^.	-	^	1			ľ	1	1		2	1



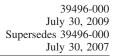
Contact Denver Product Application for recommendations for chemicals not listed.					G	ate	es l	Hos	se	/ P	oly	me	ers				(ing ote		1
Phone (303) 744-5070 1 = Preferred - Constant Contact				2	. Mstr.															1		
2 = Acceptable - Intermittent Contact X = Not Recommended		Stallion [®]	Mustang [®]	Renegade [†]	Food & Bev. Mstr.															Ī		
-= No Data NOTE: Ratings are for the effect		Т	<u>⋝</u> K	Ľ	S	Р	С	D	D	Α	Н	V	M	J	Z	G	_	4	9	Ī		
on the polymer only !	5	Teflon [®] /Neoflon [®]		핒	* (ЭС		arbon	@ _				ron/Carbon Steel	Steel 304	Steel 316	E		pylene
Chemical	Form (at room temperature unless otherwise stated)	Teflon [®] /	Gatron	UHMWPE	Sanitron	EPDM	NBR	SBR	N.	Neoprene	Butyl	Fluorocarbon	Hypalon [®]	CPE	Nylon	PVC	Iron/Car	Stainless	Stainless	Aluminum	Brass	Polypropylene
Barium Carbonate Barium Chloride Barium Hydroxide	White Powder Colorless Crystals White Powder	1 1 1	1 1 1	- 1 1	1	X 1 1	1 1 1	X 1 X	1 1 1	1 1 1	X 1 1	1 1 -	X 1 1	X 1 1	- X -	1 1 X	2 X 2	1 1 1	1		1 2 -	1
Barium Sulfate Barium Sulfide Basic Copper Arsenate	White to Yellowish Powder Yellowish Green to Gray Powder Blue to Green Powder	- 1 1	- 1	1	-	-	-	- - 2	1 1	-	-	- 1	- - 2	-	-	- - 1	1 X	1	1	-	2 X	1 1
BBP (Butyl Benzyl Phthalate) Beer Beet Sugar Liquors	Clear Oily Liquid Yellow Liquid Colorless Solution	1 - 1	- - 1	- - 1	- 1 1	- - 1	X - 1	- - 1	х - 1	- - 1	1 -	х - 1	X - 1	- - 1	- - 1	- - 1	- - X	- - X	- - X	- - X	-	- - X
Bellows 80-20 Hydraulic Oil Benzaldehyde (Benzoic Aldehyde)	Liquid Colorless to Yellow Liquid	1	1	1	2	X 2	1 X	- X	- X	- X	X 2	- X	- X	2	2	2 X	- 1	-	-	- 1	-	X 1
Benzene (Benzol) Benzenesulfonic Acid Benzidine	Colorless to Yellow Liquid Liquid above 151°F (66°C) Paste	1 1 1	2 1 2	1 -	X -	X	2 2	X X X	X X 1	X X X	X 2 X	1 1 - 1	X 2 -		1 - -	X X X	1 X 1	1 - 1	1 2 1	1 X 1	1 - 1	X 1 X
Benzoic Acid Benzoic Aldehyde (Benzaldehyde) Benzol (Benzene)	White Crystals Colorless to Yellow Liquid Colorless to Yellow Liquid	1	1 2	1 1 X	1 2 X	2 X	X X X	X X X	X	X X X	2 2 X	X 1	2 X X	1 2 X	2	X X X	1 1	- 1	- 1	1	- 1	1 X
Benzophenone Benzotrichloride Benzyl Acetate	White Powder Colorless to Yellow Liquid Water White Liquid	1 1 1	1 - 2	- - 2	- Х -	X -	X -	X -	1 X -	Х	- Х -	1 1 -	-	- X -	2	- Х -	-	-	-	- - -	-	-
Benzyl Alcohol Benzyl Alcohol, Photo Inhibited Benzyl Benzoate	Water White Liquid Water White Liquid Water White Liquid	1 1 1	1 - 1	1 - -	1 - -	2 - 2	X - -	X - -	X - -	X - -	1 - 2	1 - 1	X - -	1 - -	X - -	1 - -	- 1 1	- 1 1	1 1	- -	-	1
Benzyl Chloride Bicarbonate Of Soda Bio-Diesel (B100)	Colorless Liquid White Powder Liquid below 125°F (52°C)	1 - 1	2 -	2 -	- -	- -	2 2	- -	X 1	- -	X -	1 - 1	- - 2	2 2	2 - 1	X - X	1 - 2	- - 2	1	- - 1	2	- - 1
Bio-Diesel (B100) Bismuth Carbonate Bisphenol A	Liquid 125°F (52°C) and above White Powder White Flakes	1 1 -	X - -	X - -	- -	X - -	X - -	X - -	X 1 1	X X	X - -	1 -	X - -	- -	1 - -	X - -	2 1 -	2 1 -	1	1 -	2 -	1
Bitumastic Black Liquor (RXN Product Pulpwood+NaOH) Black Sulfate Liquor (See "Black Liquor")	Liquid Black Alkaline Liquid Black Alkaline Liquid	1 1 1	- 1 1	1 1	- 1 1	2 2	2 2 2	X X X	X X X	2 2 2	2 2	2 1 1	2 2	2 2 2	-	1 1	1 1 1	1 1 1	1 1 1	-	<u>1</u>	- 1 1
Blast Furnace Gas (Cooled) Bleach (Chlorinated Lime) Bleach Liquor (Calcium Hypochlorite/H ₂ O)	Gas White Powder (35-37% CI) Clear Solution	1 - 1	1 -	- 1	- - 1	- - 2	X -	X -	X 1	X -	X -	1 -	X -	- - 1	-	X -	1 -	1	1	-	1	-
Borax (Sodium Borate) Bordeaux Mixture (Slaked Lime &Copper Sulfate) Boric Acid	White Crystals In Water White Powder or Colorless Scale	1	1 1 1	1	1	1 1 1	1 1 1	2	1 2 1	1 2 1	1 1 1	1 1 1	1 - 1	1 - 1	1 - X	1 1 1	2 - X	1 1 2	1 1 1	- - 1	2 - X	1 - 1
Boric Oxide Brake Fluid (Petroleum Base) Brake Fluid (Synthetic Base)	Colorless Powder Liquid Liquid	1 1 1	1 1 1	-	- X 1	- X 1	1	- X	1 X	2	- X	- 1	- X	1	1	1 2	- 1	- 1 1	1 1 1	-	1	- X
Brine (Salt) Bromine	Liquid Dark Reddish Brown Liquid	1 1 1	1 -	1 -	1 X	1 X	1 X	1 -	1 -	1 X	1 -	1 1	1 -	1 -	1 X	1 X	2	1 1 1	1	- 1	2	1 -
Bromobenzene Bromochloroethane Bromochloromethane (Chlorobromomethane)	Colorless Liquid Colorless Liquid Clear Liquid	1 - 1	2	X X	X X X	X X X	- X	X X X	X X X	- X	X X X	1 X X	- X	X X	X X	X - X	- 1	- 1	- 1	- -	- - 1	- X
Bromotoluene Bubble Bath Compounds Bunker Oil	Clear Liquid Liquid Liquid	1 1 1	2	1 2	X - X	X - X	- 1	X - X	X - X	2	X - X	1 1	- X	- -	- - 1	X - X	- 1	- - 1	- 1	- - 1	- - 1	-
Butadiene (1,3) Butanal (Butyraldehyde)	Gas Water White Liquid	1 1	1 2	-	X -	X X	2 X	X X	X	X X	X	1 X	X X	2	1 -	X -	- -	1 -	1	- -	1	1



Contact Denver Product Application for recommendations for chemicals not listed.					G	ate	es l	Hos	se	/ P	oly	me	ers				(line ote	gs rs	<i>_</i>
Phone (303) 744-5070 1 = Preferred - Constant Contact				2	Mstr.																	
2 = Acceptable - Intermittent Contact		®u°		Renegade [™]	Food & Bev. Mstr.															1		
X = Not Recommended - = No Data		Stallion	Mustang	Rene	Food															1		
NOTE: Ratings are for the effect on the <i>polymer only</i> !		T _® uc	K	L	S	Р	С	D	D	Α	Н	V	М	J	Z	G	eel	304	316	Ī		0
an and polymon emy.	Form	Teflon [®] /Neoflon [®]	2	PE	"Lu					aue		Fluorocarbon	®_L				Iron/Carbon Steel	Stainless Steel 304	Stainless Steel (Шn		Polypropylene
Chemical	(at room temperature unless otherwise stated)	eflon®	Gatron	UHMWPE	Sanitron	EPDM	NBR	SBR	N.	Neoprene	Butyl	luoroc	Hypalon®	CPE	Nylon	PVC	on/Ca	tainles	tainles	Aluminum	Brass	olypro
Butandiol (Butylene Glycol)	Colorless Oily Liquid	1	1	2	<i>-</i>	<u>ш</u>	<u> </u>	<i>-</i>	<u>z</u>	-	<u>m</u>	1	<u> </u>	-	X	-	=	<u>ن</u>	<i>S</i>	-	<u>m</u>	<u>-</u>
Butane (Gas)	Colorless Gas						US	E LP	G HC	OSE (ONLY				,,		۱.	-	-	-	-	-
Butane (Liquid)	Liquid							_		_	ONLY						-	-	-	- 1	-	-
Butanol (Butyl Alcohol) Butter	Colorless Liquid Yellow to white semi-Solid to Liquid	1	1	1	1	1	1	1	1	2	1	1	2	1 2	1	1	1	1	1	1	1	1
Butter Oil (Use FDA Hose)	Yellow to white Liquid	1	-	-	2	-	-	X	X	2	-	-	-	-	-	-	1	1	1	1	1	-
Butyric Acid	Colorless Liquid	1	1	1	1	2	-	2	2	Χ	2	1	Χ	1	Χ	-	-	-	-	-	-	-
Butyl Carbitol (Diethylene Glycol Butyl Ether)	Colorless Liquid	1	1	-	2	2	2	Χ	Χ	2	2	1	-	1	-	-	1	1	1	1	1	-
Butyl Cellosolve (EG Monobutyl Ether) Butyl "Oxitol™" for EG Monobutyl Ether	Colorless Liquid Colorless Liquid	1	1	-	1	1	-	-	-	-	-	-	-	1	-	1	-	-	-	-	-	-
Butyl Acetate	Colorless Liquid	i	2	2	1	X	X	X	X	Χ	2	X	Χ	2	1	1	2	1	1	1	1	X
Butyl Acrylate	Colorless Liquid	1	-	-	-	-	-	-	-	-	-	Χ	-	-	-	-	-	-	-	-	-	-
Butyl Alcohol (Butanol)	Colorless Liquid	1	1	1	1	1	1	1	1	2	1	1	2	1	1	1	1	1	1	1	1	1
Butyl Aldehyde Butyl Benzyl Phthalate (BBP)	Water White Liquid Clear Oily Liquid	1	-	-	-	2	X	-	X	Χ -	- 1	X	X	-	-	-	-	-	-	- 	-	-
Butyl Chloride	Colorless Liquid	1	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	- -	-	-
Butyl Ether	Colorless Liquid	1	1	-	-	-	2	Χ	Χ	2	2	Χ	-	1	-	-	1	1	1	1	1	-
Butyl Ethyl Ether (Ethyl-n-Butyl Ether)	Liquid	1	-	-	-	-	2	-	X	- Х	Χ	-	2	-	-	-	-	-	-	-	-	-
Butyl Formate Butyl Mercaptan (2-Methyl-2-Butanathiol)	Colorless Liquid Liquid	1	1	-	X	- Х	X	X	X	^	- X	1	-	-	-	X	-	1	1	- -	-	-
Butyl Methacrylate	Colorless Liquid	1	-	-	2	-	-	(-	-	-	ί.	-	-	-	-	-	-	-	-	<u> </u>	-	-
Butyl Stearate	Colorless Liquid	1	1	-	-	Χ	2	Χ	Χ	Χ	Χ	1	-	2	-	1	1	1	1	1	1	-
Butylamine	Colorless Liquid	1	1	-	-	-	X	X	X	X	X	X 1	X	2	- X	-	1	1	1	1	1	Χ
Butylene Glycol (Butandiol) Butyraldehyde (Butanal)	Colorless Oily Liquid Water White Liquid	1	2	2	-	X	X	X	X	X	X	X	X	2	-	-	-	-	-	- -	1	-
Butyric Acid	Colorless Liquid	1	1	1	1	1	-	-	-	-	1	1	Χ	1	1	1	Х	1	1	1	2	-
Butyric Anhydride	Water White Liquid	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	_
С																						
Cadmium Acetate (Soluble in H ₂ O & Alcohols)	In Water or Alcohol	1	-	-	-	-	Χ	-	Χ	-	1	Χ	-	-	-	-	-	-	-	-	-	-
Cake Alum (Aluminum Sulfate)	White Crystals	1	1	-	1	1	1	-	1	1	-	-	-	-	-	-	Χ	Χ	2	Χ	Χ	1
Cake Alum Solution (Al Sulphate up to 50%) Calcine Liquor (Radioactive Waste)	In Water In Water Solution		1	1	1	1 1	1 1	-	-	-	1 1	1 1	-	1	1	1	- 1	- 1	1	2	-	-
Calcium Acetate	Powder	i	1	-	-	1	X	2	2	X	1	X	Χ	1	-	-	i	1	1	1	1	-
Calcium Aluminate (Soluble in Acids)	In Acid	1	-	-	-	-	1	-	1	1	1	1	1	-	-	-	-	-	-	-	-	-
Calcium Aluminate (Tricalcium Aluminate)	Crystals or Powder	1	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Calcium Arsenate Calcium Bisulfide (Calcium Hydrosulfide)	In Dilute Acid In Alcohol or Water	1	1	-	-	-	- 1	2	2	- 1	1	1 1	- 1	1	-	1 2	1	2	1	- 	X	1
Calcium Bisulfite (Calcium Hydrogen Sulfite)	Yellow Liquid	i	1	-	-	-	1	2	2	1	1	1	1	1	-	1	-	1	1	- -	-	1
Calcium Bromide Solution	In Water or Alcohol	1	1	1	1	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-
Calcium Carbonate	Solid White Powder	1	1	-	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Calcium Carbonate Slurry Calcium Chlorate	Solid in H2O In Water or Alcohol	1	1	-	-	1 2	1 1	1 2	1 2	1	1 2	1	1 1	-	-	1]	2	1	- -	-	1
Calcium Chloride, Dry	White solid	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	Х	2	1	-	2	1
Calcium Chloride, Liquid (Not For Food)	In Water or Alcohol	1	1	-	1	1	1	1	1	1	1	1	1	1	Χ	1	-	-	-		-	-
Calcium Chloride, Liquid, Food Grade 33%	In Water	1	-	-	-	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-
Calcium Hydrogen Sulfite (Calcium Bisulfite) Calcium Hydrosulfide (Calcium Bisulfide)	Yellow Liquid In Alcohol or Water	1	1	-	-	-	1 1	2	2	1 1	1	1	1 1	1	-	1 2		1 2	1 1	-	X	1
	Solid White Powder	1	1	-	1	-	2	1	1	1	1	X	1	1	-	X	Х	X	1	-	2	1
Calcium Hydroxide Solutions	In Glycerol or Acids	1	1	X	-	-	2	-	-	-	-	-	-		X	-	2	1	1	Χ	Χ	-
Calcium Hypochlorite	Solid White Crystals	1	2	Χ	-	-	-	Χ	Χ	Χ	2	-	2	1	Χ	2	-	-	-		-	-



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NOTE: Ratings are for the effect on the <i>polymer only</i> !		@	K	L	S	Р	С	D	D	Α	Н	V	M	J	Z	G	Steel	304	316			e e
Chemical	Form (at room temperature unless otherwise stated)	Teflon [®] /Neoflon	Gatron 📱	UHMWPE	Sanitron"	EPDM	NBR	SBR	NR	Neoprene	Butyl	Fluorocarbon	Hypalon®	CPE	Nylon	PVC	Iron/Carbon S	Stainless Steel 304	Stainless Steel 316	Aluminum	Brass	Polypropylene
Calcium Hypochlorite Solutions Calcium Metasilicate (Calcium Silicate) Calcium Nitrate Solutions Calcium Oxide (Lime; quick,unslaked)	In Water or Alcohol White Powder In Water, Alcohol, or Acetone White to Gray Lumps	1 1 1 -	1 1 1	X - -		- - 1	2 1	X 2 1	X 1 1	X - 1	2 2 1	1 1	2 2 1	1 1 1 -	-	1 1 1	1 1	X 1 1	2 1 1 2	X 1 1	X 1 1	1 - 1 -
Calcium Silicate (Calcium Metasilicate) Calcium Stearate Calcium Sulfate	White Powder White Powder White Powder or Crystals	1 - 1	1 - 1	-	-	- - 1	2 - 1	2 -	1 1 1	- - 1	2 - 1	1 - 1	2 - 1	1 - 1	-	1 -	1 - 1	1 -	1 -	1 -	1 - 1	- - 1
Calcium Sulfide Calcium Sulfite (Soluble In Sulfurous Acid) Caliche Liquors (Sodium Nitrate)	Yellow to Gray Powder In Acid In Water	1 1 1	1 1	1	1	1	1 - 1	2 -	2	2 -	1 X	2 1 - 1	1 1	1	- -	2 - -	1 - -	1 1	1 - 1	2 -	- -	- - -
Camphene (Liquid above 115°F/46°C) Cane Sugar Liquors Caproic Acid Caprolactam	Liquid above 115°F (46°C) In Water Colorless or Yellow Liquid White Flakes	1 1 1 -	1 1 -	1	X 1 1	X 2 2	1 -	2 -	2 - 1	1 -	2 -	1 1 -	X 1 -	1 -	- - -	1 -	1 -	1 -	1 -	1 -	2	1 -
Caprolactam, Molten (Above 156°F/69°C) Caprylic Acid (Octanoic Acid) Carbamates Carbolic Acid	Liquid Colorless, Oily Liquid Crystals Liquid above 109°F (43°C)	1 1 1	- - 1 2	- - 2	- - - 2	- X 2	- X X	- X X	- X X	- X X	- X 2	- - 2 1	- X X	- 1 - 1	X - - X	- - X	- - X	- - 1	- - 1	- - - 2	- - X	- - -
Carbolic Acid (Phenol) Carbolic Acid (Phenol, 82-95% in Creosols) Carbon Dioxide (Dry)	White or Pink Crystals Liquid Gas	1 1 1	2 2 1	- - -	2 - -	2 2 1	X X 1	X X 1	X X 1	X X 1	2 2	2	X X 1	1 1 -	X	X X 1	X X 1	1 1 1	1 1 1	2	X X 1	- - 1
Carbon Dioxide (Wet) Carbon Disulfide Carbon Monoxide	Gas with Water Vapor Clear to Faint Yellow Liquid Gas	1 1 1	1 2 2	1 1 1	- - -	2 X 1	1 2 2	2 X X	2 X X	1 X 2	2 X X	1 1 1	1 X 1	2	- 1 -	1 X 1	1 2 1	1 1 1	1 1 1	1 2 1	1 2 1	1 X 1
Carbon Tetrachloride (Pyrene) Carbonic Acid Carbonyl Chloride (Phosgene) Casein (White amorphous solid)	Colorless Liquid Liquid Gas/ Liquid In Concentrated Acid	1 1 1 1	2 1 X	X 1 X	X 1 X	X 1 X	X 1 X	X 1 X	X 1 X	X 1 X	X 1 1	1 1 1	X 1 X	2 1	1 - 2 -	X X - 1	X X -	2 1 -	2 1 -	X 2 -	2 X -	X 1 -
Castor Oil Caustic Potash, Dry (Potassium Hydroxide) Caustic Potash, Liquid (up to 45%)	Pale Yellow or Colorless Liquid White pellets or flakes Solution in Water	1 1 1	1 1 1	- 1	- 1	2 2	1 X 2	2 2	1 2	2	2 1 1	1 1 2	1 -	1 1 1	X 1	1 X 1	<u>1</u> -	<u>1</u> - -	<u>1</u> - -	- -	1 - -	<u>1</u> - -
Caustic Soda, Dry (Sodium Hydroxide) Caustic Soda, Liquid (up to 73%) Cellosolve Acetate (Eg Ethyl Ether Acetate) Cellosolve Butyl (Eg Butyl Ether)	White beads or pellets Solution in Water Colorless Liquid Colorless Liquid	1 1 1	2 1	-	1 -	2 2	X X	1 -	1 1 -	2 -	2 -	X X X	1 -	1 1	2	X 1	- 1 1	- 1	- 1	- - -	- - -	- 1 1
Cellulose Cement, Portland China-Wood Oil (Tung Oil)	Solid, many forms Gray Powder Yellow Oil	1 1 1	1 - 2	1	1 - X	1 - X	1 - 2	1 - X	1 1 X	1 - X	1 - X	1 - 1	1 - 2	1 -	-	- - 2	- - 1	- - 1	- - 1	- - 1	- - 1	-
Chlordane Chlorinated Napthalene (Chloronapthalene) Chlorinated Solvents (ie Tetrchloroethane) Chlorine	Colorless Viscous Liquid Oily Liquid to Solid Colorless Liquid Gas	1	1 - X	- X	- X	X X X	X X -	X X	X X SE A	X X - VAIL	X X ABLE	1 1 1	X X X	- X	1 - 1	2 X		-	-	- - -	- - -	-
l .	Clear Amber Liquid Pale Green Liquid Clear, yellowish Liquid	1 1 1	- - 1	- - 1	-	X X X	- - -	-	- - -	- - -	- - -	1 1 1	- - -	-	X - -	X X -		- - X	- - X	- - -	- - -	- - 1
Chloroacetic Acid (Monochloroacetic Acid) Chloroacetic Acid (Under 100°F/38°C) Chloroacetic Acid Solution	Powder or White Crystals Solid In Water, Alcohol, Ether	1 1 1	1 1 1	X 1 X	X X 1	X X 2	X X -	X X -	X X -	X X	X X -	1 1 -	2 2 -	-	- - X	- - -	- - X	- - X	- - X	- - -	- - 2	- - 1
Chloroacetone Chloroacetyl Chloride	Colorless Liquid Water White Liquid	- 1	-	-	-	1	-	-	-	-	- -	X -	-	-	-	- 1	-	-	-	- -	-	-





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NOTE: Ratings are for the effect on the <i>polymer only</i> !		T _® u	K	L	S	Р	С	D	D	Α	Н	V	М	J	Z	G	eel	304	316			
Chemical	Form (at room temperature unless otherwise stated)	Teflon [®] /Neoflon	Gatron™	UHMWPE	Sanitron	EPDM	NBR	SBR	NR	Neoprene	Butyl	Fluorocarbon	Hypalon [®]	CPE	Nylon	PVC	ron/Carbon Steel	Stainless Steel 304	Stainless Steel	Aluminum	Brass	Polypropylene
Chloroaniline	Amber Liquid	1	-	-	-	-	-	-	-	-	-	-		-	-	-	F	-	-	-	-	-
Chlorobenzene (Phenyl Chloride) (Monochlorobenzene) Chlorobromomethane (Bromochloromethane)	Clear Liquid Clear Liquid	1	2	- X	X	X	X	X	X X	X X	X X	1 X	X	X	X	X X	1	1	1	1		X X
Chlorodifluoromethane (Freon 22)	Gas	l l		^	٨						QUIRI		٨	^	^	^	-	-	-	-	-	^
Chloroethane (Ethylene Dichloride)	Colorless Liquid	1	2	2	Χ	X	X	X	Х	Х	X	1	Χ	Χ	Χ	Χ	-	-	-	-	-	-
Chloroform	Colorless Liquid	1	2	2	Χ	Χ	Χ	Χ	Χ	Χ	Χ	1	Χ	Χ	2	Χ	1	1	1	1	1	Χ
Chloronapthalene (Chlorinated Napthalene) Chloropentane (n-amyl chloride)	Oily Liquid to Solid Colorless Liquid	1	-	-	-	X	X	X	X	Χ	Χ	1	Χ	-	-	- X	-	- 1	1	-	-	- X
Chlorophenol	In Benzene, Alcohol, Ether	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chloropicrin Mixture	Colorless Liquid	1	-	-	-	-	-	-	-	-	-	-	-	-	-	Χ	-	-	-	-	-	-
Chloropropylene Oxide (Epichlorohydrin)	Volatile Liquid	1	2	-	Χ	Χ	-	-	- \F A\	- / ^ / / /	-	Χ	-	-	-	-	1	-	-	-	-	1
Chlorosulfonic Acid Chlorothene (TM for chlorinated solvents)	Colorless to Light Yellow Liquid Colorless Liquid	1	1	Х	Ι.	_	X	HUS	- A	X	ABLE	2	_	-	_	-		1	1	-	1	-
Chlorotoluene	Colorless Liquid	i		-	Х	Χ	X	Χ	Χ	X	Χ	1	Χ	Х	-	Χ	1	1	1	1	1	-
Chlorox	Colorless Liquid	1	2	1	-	-	-	2	2	2	2	-	2	1	1	1	-	2	1	-	-	Χ
Chocolate Syrup Chrome Alum (Chromium Potassium Sulfate) Chromic Acid (100%) Chromic Acid (25% Solution or less) Chromic Acid (50% Solution with water)	Liquid In Water Dark Red Crystals In Water In Water	1 1 1 1	1 X 1	- 2 1	1 - 1 1	1 - 2 2	1 - X X	1 - X X	1 - X X	1 - X X	1 - X X	1 1 1 1 1	1 - 2 2	- - 1 1	1 1 - X X	1 1 X X X	X X X	X X X	- X 2	- X X X	X X X	1 - 1 1 1
Chromic Acid (Chromium Trioxide)	Purplish-Red Crystals	1	Х	2	-	-	-	-	-	-	-	1	-	-	-	X	Х	X	2	X	X	1
Chromic Chloride	In Water	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
Chromium Trioxide (Chromic Acid) Cider	Purplish-Red Crystals Liquid	1	X	2	- 1	-	-	-	-	-	-	1	-	-	-	X 2	Χ	Χ	2	Х	Χ	1
Cinene (Dipentene)	Colorless Liquid	1	2	-	X	X	X	X	X	-	-	1	-	-	-	-	-	-	-	-	-	-
Citgo FR Fuels	Liquid	1	1	-	-	1	Χ	-	-	-	1	-	-	-	-	2	-	-	-	-	-	-
Citric Acid Solution Coal Gas (Coke Oven Gas, Max 120°F/49°C)	In Water Gas	1	1	1	1 X	2	X	2	2	1	2	1	1	- 1	X	1	Χ	Χ	1	1	Χ	2
Coal Tar	Black, viscous Liquid	ľ	-	-	X	X	2	X	X	2	X	1	X	2	X	X	1	1	1	1	1	-
Coal Tar Pitch (Roofing)	Liquid above 212°F (100°C)	1	-	-	Χ	Χ	2	Χ	Χ	2	Χ	1	2	2	-	Χ	-	-	-	-	-	-
Cobalt Nickel Plating Solution	Liquid	1	1	-	-	-	-	-	- V	-	-	-	-	-	Χ	-	-	-	2	-	-	-
Cocoa Butter (Theobroma Oil) Coconut Oil	Liquid above 95°F (35°C) Liquid above 77°F (25°C)	1	1	2	2 X	2	2 1	X	X	2	2	1	2	-	1	2	1 -	1	1	-	-	-
Cod Liver Oil	Pale Yellow Liquid	1	1	-	2	2	Χ	Χ	Χ	Χ	2	1	Χ	-	-	-	1	1	1	1	1	-
Coke Oven Gas (Under 300°F/149°C)	Gas	1	1	-	Χ	Χ	Χ	Χ	Χ	Χ	Χ	1	2	-	-	-	1	1_	1	2	-	1
Copper Arsenate (Cupric Arsenate) Copper Chloride (Cupric Chloride)	In Dilute Acid In Water	1	1	-	-	-	2	2	2	2	2	1 1	2	2	X	1	X	1 X	1	-	X	1
Copper Cyanide (Cupric Cyanide)	In Dilute Acids or Alkalies	1	1	-	-	2	2	2	2	2	2	1	2	-	-	1	-	1	1	-		1
Copper Nitrate (Cupric Nitrate)	In Water	1	1	-	-	1	1	2	2	1	1	1	1	1	-	1	X	1	1	-	X	1
Copper Sulfate (Cupric Sulfate) Copper Sulfide (Soluble in Nitric Acid)	In Water In Nitric Acid	1	1	÷	-	2	1	2	2 X	1	2	1	1	1	X	1	X	1	1	X	X	1
Corn Oil	Pale Yellow Liquid	1	1	-	2	2	2	Χ	Χ	2	2	1	Χ	2	-	1	1	1	1	1	1	Χ
Corn Syrup (Glucose Syrup)	Clear Liquid	1	2	-	1	2	2	2	2	2	2	2	2	-	-	-	1	1	1	1	-	-
Cottonseed Oil Creosote (high Napthalene/Anthracene)	Liquid, several colors Liquid	1 X	1	X	2 X	2	2	- X	- X	1 X	2	1	2 X	2	-	X	1 2	1	1	1	1 X	1
Cresol (Methyl Phenol)	Liquid above 95°F (35°C)	1	2	-	-	-	X	X	X	X	2	1	X	1	Х	-	2	1	1	1	-	2
Cresylic Acid	Liquid	1	-	-	-	X	Χ	Х	Χ	Χ	Χ	1	Χ	-	Χ	-	-	-	-	-	-	-
Crotonic Acid (Methylacrylic Acid) Crude Oil (Crude Petroleum Oil)	White Crystalline Solid Liquid	1	1 1	1	1 X	2 X	2	X	X X	2	1 X	1	2	1	X	- 1	1	X 1	- 1	- 1	- 1	- 1
Crude Wax	Liquid Liquid above 200°F (93°C)	1	2	-	-	-	2	-	-	-	2	1	-	-	-	1	1	1	1	-	1	1
Cryolite (Greeland Spar)	In Sulfuric Acid	1	2	-	-	Χ	1	Χ	Χ	2	Χ	1	Χ	-	-	-	1	1	1	-	1	Χ



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-= No Data		⊣ Stal	SnW K	л Ren	S	Р	С	D	D	Α	Н	V	М	J	Z	G						
NOTE: Ratings are for the effect on the <i>polymer only</i> !		oflon®										L.					Steel	el 304	el 316			eue
	Form (at room temperature	reflon®/Neoflon®	Gatron [™]	UHMWPE	Sanitron™	EPDM	œ	œ		Neoprene	5	Fluorocarbon	Hypalon®	ш	u	C	ron/Carbon Steel	Stainless Steel 304	Stainless Steel	Aluminum	Brass	Polypropylene
Chemical	unless otherwise stated)	Tef		H		EPI	NBR	SBR	N.	Nec	Butyl		Ę		Nylon	PVC	Iron	Stai	Stai	Alu	Bra	Pol
Cumene (Isopropyl Benzene) Cupric Arsenate (Copper Arsenate)	Colorless Liquid In Dilute Acid	1	2	-	X	-	-	- 2	- 2	-	-	1	2	2	-	-	- 1	- 1	- 1	-	-	-
Cupric Alsenate (Copper Alsenate) Cupric Chloride (Copper Chloride)	In Water	1	1	-	-	-	2	2	2	2	2	1	2	2	X	1	X	X	1	-	X	1
Cupric Cyanide (Copper Cyanide)	In Dilute Acids or Alkalies	1	1	-	-	2	2	2	2	2	2	1	2	-	-	1	Ŀ	1	1	-	Χ	1
Cupric Nitrate (Copper Nitrate)	In Water	1	1	-	-	1	1	2	2	1	1	1	1	1	- X	1	X X	1	1		X	1
Cupric Sulfate (Copper Sulfate) Cutting Oil (Mineral Oil Base)	In Water Liquid	ľ	2	-	-	2 X	1	X	X	1	2 X	1	1 X	1 -	_	-	1	1	1	Χ -	X 1	1 X
Cutting Oil, Sulfur Base	Liquid	2	-	-	-	-	1	-	-	Χ	-	-	-	-	-	-	1	1	1	-	1	1
Cutting Oil, Water Soluble	Liquid	1	-	-	-	-	1	-	-	Χ	-	-	-	-	-	-	1	1	1	-	1	1
Cyanide, Copper (Cupric Cyanide) Cyanide, Mercuric	In Dilute Acids or Alkalies In Water	1	1	-	-	2	2	2	2	2	2	1	2	-	-	1	l -	1	1	- X	Χ	1
Cyanide, Mercuric Cyanide, Potassium	In Water	ľ	-	-	-	-	-	-	-	-	-	-	-	1	-	-	Ī.	-	-	-		_
Cyanide, Silver	In Nitric Acid	1	1	-	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	1
Cyanide, Sodium	In Water	1	1	-	-	1	1	1	1	1	1	1	1	1	1	1	2	1	1	Χ	Χ	-
Cyclohexane	Colorless Liquid	1	2	1	-	X	2	X	X	υX	X	1 1	X 2	1	-	X	1	1	1	-	1	X 1
Cyclohexanol Cyclohexanone	Colorless, oily Liquid Colorless to yellow Liquid	1	1	-	-	X	X	X	X	2 X	X	X	X	2	-	X	-	1	1	2	-	X
Cyclohexylamine	Colorless Liquid	-	-	-	-	1	-	X	-	-	1	X	-	-	-	-	۱.	-	-	-	-	-
Cyclopentane	Colorless Liquid	1	-	-	-	Χ	2	-	Χ	2	Χ	1	Χ	-	-	-	Ŀ		-	<u> </u>		-
Cyclopentanol	Colorless Liquid Water white Liquid	1	-	-	-	-	2 X	-	X	-	X	2 X	X X	-	-	-	l -	-	-	-	-	-
Cyclopentanone Cymene	Colorless Liquids	1	2	-	-	X	X	X	X	X	X	2	X	2	-	X	1	1	1	1	1	-
Cymene (Isopropyltoluene)	Colorless Liquid	1	-	-	-	-	-	-	-	-	-	1	-	-	1	-	1	1	1	1	<u>i</u>	-
D																						
Decalin (TM for decahydronapthalene)	Colorless Liquid	1	2	2	Χ	Χ	2	Χ	Χ	-	Χ	1	Χ	2	1	-	۱.	-	-	-	1	1
Decanal (Decyl Aldehyde)	Colorless to yellow Liquid	1	-	-	-	-	Χ	-	X	-	X	Χ	Χ	-	-	-	-	-	-	-	-	-
Decanol (Decyl Alcohol) Decyl Aldehyde (n-decanal)	Colorless, water white Liquid Colorless to yellow Liquid	1	-	-	-		1 X	-	X	X	X	2 X	2 X	-	-	Χ	l -	-	-	-	-	-
Deicing Fluid (ethylene or propylene glycol)	Orange Liquid	1	1	1	1	1	1	-	-	1	1	1	2	1	-	1	2	1	1	1	1	1
Denatured Alcohol	Colorless Liquid	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-
Detergent Sol. (Sodium dodcylbenzenesulfonate)	la a la companyone de l	1	2	1	1	1	1	X	X	2	1	-	1	-	-	1	2	1	1	1	1	1
Developing Solutions (Hypos) Dextron	Liquid Brown Liquid	1	1 X	-	-	X	1	2	2	2	2 X	-	2	1	1	1 2	1 -	1	1	-	•	-
Dextron Dextrin (Starch gum)	Yellow or White Powder	1	1	-	-	1	1	-	-	1	X	1	-	-	1	1	-	1	1	-		1
Diacetone	Colorless Liquid	1	1	-	-	2	Χ	Χ	Χ	Χ	2	Χ	Χ	1	1	Χ	1	1	1	-	1	1
Diacetone Alcohol	Colorless Liquid	1	1	-	-	-	X	2	2	-	2	Χ	2	1	-	X	1	1	1	1	1	1
Diammonium Phosphate Diazinon	In Water In Petroleum Solvents	1	1	-	-	1 1	1	1	1 1	1	1	- 1	1	-	-	1	Х	2	1	X	-	1 2
Dibenzyl Ether	Colorless Liquid	1	1	-	-	2	Χ	X	X	Χ	2	X	Χ	2	-	-	1	1	1	1	1	-
Dibutyl Ether	Colorless Liquid	1	1	-	-	-	Χ	Χ	Χ	Χ	2	Χ	Χ	1	-	-	1	1	1	1	1	ᄀ
Dibutyl Phthalate	Colorless Oily Liquid	1	1	-	-	1	X	X	X	X	2	2	X	2	-	1	1	1	1	1	1	2
Dibutylamine Dibutylsebacate	Colorless Liquid Clear Colorless Liquid	1	1	-	X	X	X	X	X	X	X 2	X 1	X	X 2	-	X		-	-	-	- 1	
Dichloroacetic Acid	Colorless Liquid	i	-	-	-	-	X	-	2	-	X	X	X	-	-	-	Í -	-	-	-	-	-
Dichloroaniline	In Alcohol or Benzene	1	-	-	-	Χ	Χ	Χ	-	Χ	Χ	2	-	-	-	-	Γ-	-	-	-	-	-
Dichlorobenzene (ortho)	Colorless Liquid	1	2	-	Χ	Х	X	X	X	X	X	1	X	Х	1	X	-	1	1	-	1	-
Dichlorobenzene (para) Dichlorobenzyl Chloride	White Crystals Colorless Liquid	1	2	-	- X	X	X	X	X	X	X	1 1	X	X	1	X	1 -	1	1	-	1	
Dichlorodifluoromethane (Freon 12)	Gas, Liquid @ 140 PSIG @ 100°F (38°C)	H		-	٨						QUIR		^	^	_	٨	1	-	-	- -	-	_ [
District of the Control of the Control	, (3 7 - 5 - 5 - 6 - 5 - 7 - 7 - 6 - 5 - 7 - 7 - 7 - 7 - 7 - 7 - 7 - 7 - 7							INE I	,001	- '\-	α∪II\						_	<u> </u>	-	Щ		



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NOTE: Ratings are for the effect on the <i>polymer only</i> !		/Neoflon [®] ⊣	K	Г	S	P	С	D	D	A	H	rbon <	M	J	Z	G	ron/Carbon Steel	Stainless Steel 304	Steel 316	٤		ylene
Chemical	Form (at room temperature unless otherwise stated)	. Teflon [®] /ľ	'Gatron"	UHMWPE	Sanitron	EPDM	NBR	SBR	Z Z	Neoprene	Butyl	Fluorocarbon	: Hypalon [®]	CPE	Nylon	PVC	Iron/Carb	Stainless	Stainless	Aluminum	Brass	Polypropylene
Dichloroethane (Ethylene Dichloride) Dichloroethyl Ether Dichloroethylene Dichloroethylene (Acetylene Dichloride)	Colorless Oily Liquid Colorless Liquid Colorless Liquid Colorless Liquid	1 1 1	2 - 2 X	2 - X X	X - - X	X - X X	X X X	X - X X	X X X	X - X -	X X X	2 - 1 1	X X X	X - - X	X - - 1	X - - X		-	-	-		- X X
Dichloromethane (Methylene Chloride) Dichloropentane Dichloropropane (Propylene Dichloride) Dicyclohexylamine	Colorless Liquid Light Yellow Liquid Colorless Liquid Colorless Liquid	1 1 1	1	2	X - -	X X X	X X X	X X X	X X X	X X X	X X X	2 1 2 X	X	X - -	X - -		1	1	1	- - -	1	
DIDA (Diisodecyl Adipate) Diesel Fuel Diethanolamine (20%) Diethanolamine	Light Colored Oily Liquid Liquid In Water or Alcohol Liquid above 83°F (29°C)	1 1 1 1	1 -	1 -	X 1 1	X 2	1 2	т Х 2	X 2 -	2 X	1 X 1	- - -	X X 2	- 1 -	1 - -	- 2 -	- 1 1 1	1 1 1	- 1 1	1 1 1	1 X X	2 -
Diethyl Ether (Ethyl Ether) Diethyl Ketone Diethyl Oxalate Diethyl Phthalate (Ethyl Phthalate)	Colorless Liquid Colorless Liquid Colorless Oily Liquid Water White Liquid	1 1 1	2 - 1	-	1 - -	X 2 X	X X X	- X	X X X	X X X	2 2 X 2	X X -	X X X	1 - 2	-	2 X X	2 - -	1 - - 1	1 - 1	1 - -	1 - 1	1 - -
Diethyl Sebacate Diethyl Sulfate Diethyl Sulfide (Ethyl Sulfide) Diethylacetaldehyde (Ethylbutyraldehyde)	Colorless Liquid Colorless Oily Liquid Colorless Liquid	1 1 1	1 - 1	-	-	1 -	X X -	X 1 -	X X -	X 1 -	2 2 -	2 X 1	X X -	2 -	-		-	1 - -	1 -	- - -	1	- - -
Diethylamine Diethylbenzene Diethylene Dioxide (1,4 Dioxane) Diethylene Ether (Dioxane)	Colorless Liquid Colorless Liquid Colorless Liquid Colorless Liquid	1 1 1	1 1 1	2 -	- - 1 1	X 2 2	- X X	X X X	X X X	- X X	X 2 2	1 X X	- X X	2 2 2	- 1 1	- X X	- 1 1	1 - 1 1	1 - 1 1	- - 1 1	1 - 1 1	1 - 1 1
Diethylene Glycol (Dihydroxydiethyl Ether) Diethylene Glycol Methyl Ether (Methyl Cellosolve) Diethylene Glycol Monobutyl Ether Diethylene Glycol Monobutyl Ether Acetate	Colorless Syrupy Liquid Colorless Liquid Colorless Liquid Colorless Liquid	1 1 1 1	1 1 1 1	-	1 1 1 1	1 1 1 1	1 -	1 X	1 X	1 -	1 X	1 1 1	X -	1 1 -	1 -	1 -	1 -	1 -	1 -	1 -	1 -	1 -
Diethylene Glycol Monoethyl Ether Diethylene Glycol Monomethyl Ether Diethylene Glycol Monomethyl Ether Acetate	Colorless Liquid Colorless Liquid Colorless Liquid	1 1 1	1 1 1 1	- - 1	1 1 1	1 1 1 1	-	- - X	<u>-</u> - -	- - X	- - 1	1 1 - X	- - X	- - -	<u>-</u> - -	-	- - -	<u>-</u> - -	- - -	<u>-</u> - -	<u>-</u> - -	-
Diethylenetriamine Dihydroxyacetone Dihydroxydiethyl ether (Diethylene glycol) Diisobutyl Ketone	Yellow Liquid In Water Colorless Syrupy Liquid Colorless Liquid	1 1	1 1 1	1	1 1	1 1 1	1 X	- 1 X	1 X	- 1 X	1 2	1 X	- X	1 2	1	1	- 1	1 1	- 1	- 1	- 1	- 1
Diisobutyl Phenol (Octyl Phenol) Diisobutyl Phthalate Diisobutylene Diisodecyl Adipate (DIDA)	White Flakes Liquid Colorless Liquids Light Colored Oily Liquid	1 1 1	- 1 1	-	- X -	- X -	- 2 X	- X -	1 - X X	- X -	- X 1	- 1 X	- X X	- 1 -	-			- - 1 -	- 1 -	- - -	- - 1 -	
Diisooctyl Phthalate (DIOP) Diisopropanolamine Diisopropyl Ketone Diisopropylamine	Nearly Colorless Liquid Liquid above 108°F (42°C) Colorless Liquid Colorless Liquid	1 1 1	- 1 1	-	1	1 - 1 -	X 2 X	- X -	X 2 X	- X -	1 1 2	X - X -	X - X	-	- - 1		-	- - 1	- - 1 -	-	- - 1 -	-
Diisopropylbenzene (meta) Diisopropylidene Acetone (Phorone) Dilauryl Ether Dimethyl Acetamide (DMAC)	Colorless Liquid Yellow Liquid Liquid above 92°F (33°C) Colorless Liquid	1 1 1 1	1 1 1	- - -	1 -	2 1	X -	- X -	X -	- X -	2 -	1 X X	X -	-	-	-	1 -	1 -	1 -	- - -	1 -	-
Dimethyl Aniline Dimethyl Ether Dimethyl Formamide	Yellow/brown Oily Liquid Liquid under Pressure Water White Liquid	1 1 1	1 1 1	1	1	X 1 2	X X -	X X	X X	X X	2 2	1 X X	X X	2	-	-	- 1 1	- 1 1	- 1 1	- 1 -	1 1 1	- - 1



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NOTE: Ratings are for the effect		T	K	L	S	Р	С	D	D	Α	Н	V	М	J	Z	G	_	4	9			
on the <i>polymer only</i> ! Chemical	Form (at room temperature unless otherwise stated)	Teflon [®] /Neoflon [®]	Gatron "	UHMWPE	Sanitron	EPDM	NBR	SBR	NR	Neoprene	Butyl	Fluorocarbon	Hypalon®	CPE	Nylon	PVC	Iron/Carbon Steel	Stainless Steel 304	Stainless Steel 316	Aluminum	Brass	Polypropylene
Dimethyl Phthalate	Colorless Oily Liquid	1	1	-	1	2	X	Χ	X	X	2	1	X	1	-	-	-	-	-	-	1	-
Dimethyl Sulfate (Methyl Sulfate) Dimethyl Sulfide	Colorless Liquid Colorless Liquid	1	1	-	-	X	X	X	X	X	2	X 1	X	-	1	1	-	-	-	-	-	-
Dimethyl Sulfoxide	Colorless Liquid	1	1	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-
Dimethyl Terephthalate	Colorless Crystals	-	-	-	-	-	Χ	Χ	-	Χ	Χ	1	-	-	-	-	-	-	-	-	-	_
Dimethylamine (DMA) Dimethylaminoethanol (Dimethylethanolamine)	Liquid @ 70 PSIG @ 120°F (49°C) Colorless Liquid	1 1	1	1	1	2	-	-	-	-	-	-	-	-	-	-	l -	-	-	-	-	-
Dimethylaminomethyl Phenol (DMP)	Dark Red Liquid	1	1	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-
Dimethylcarbinol (isopropyl alcohol)	Colorless Liquid	1	X	X 1	X 1	X 1	X 1	X 2	X 2	X 2	X 1	1	X 2	X 1	X 1	X 2	-	- 1	- 1	- 1	2	- 1
Dimethylcarbinol (isopropyl alcohol) Dimethylcyclohexylamine	Colorless Liquid Water White Liquid	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	l :	-	-	-	-	<u>-</u>
Dimethylformamide (DMF)	Water white Liquid	1	2	-	-	-	-	-	-	-	-	Χ	-	-	-	-	1	1	1	-	-	1
Dimethylketone (Acetone) Dimethylphenol (Xylenol)	Colorless Liquid White solid, liquid @ 68°F (20°C)	1 1	1	Χ	1	2	Χ	Х	Χ	X	2	X 1	X	1	1	Х	1	1	1	1	1	2
Dinitrobenzene (Soluble in Chloroform)	In Chloroform	1	2	-	X	X	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-
Dinitrogen Tetroxide (Nitrogen Dioxide)	Liquid @ 50 PSIG @ 120°F (49°C)	1	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	=
Dinitrotoluene, Solid	In Alcohol or Ether	1	1	1	1	1	-	-	-	-	-	X 1	-	-	-	-	-	-	-	-	-	-
Dioctyl Adipate di (2-ethylhexyl) adipate Dioctyl Phosphite, di-(2-ethylhexyl) phosphite	Light Colored Oily Liquid Colorless Liquid	1	1	-	1	X	-	-	-	-	-	1	-	-	-	X	l -	-	-	-	-	-
Dioctyl Phthalate, di-(2-ethylhexyl) phthalate	Light Colored Liquid	1	1	-	1	Χ	Χ	Χ	Χ	Χ	Χ	1	Χ	2	-	-	1	1	1	1	1	Χ
Dioctyl Sebacate, di-(2-ethylhexyl) sebacate	Pale Straw Colored Liquid	1	1	-	1	-	Χ	Χ	Χ	Χ	2	1	Χ	Х	-	-	-	-	-	-	-	-
Dioctylamine di-(2-ethylhexyl)amine DIOP (Diisooctyl Phthalate)	Water White Liquid Nearly Colorless Liquid	1	-	-	-	1	X	-	X	-	1	X	X	-	-	-	- -	-	-	-	-	-
Dioxane (Diethylene Dioxide)	Colorless Liquid	1	1	-	1	2	Χ	Χ	Χ	Χ	2	Χ	Χ	2	1	Χ	1	1	1	1	1	1
Dioxane (Diethylene Ether)	Colorless Liquid	1	1	-	1	2	Χ	Χ	Χ	Χ	2	Х	Χ	2	1	Χ	1	1	1	1	1	1
Dioxolane (Ethylene Glycol Formal) Dipentene (Cinene, Limonene)	Water White Liquid Colorless Liquid	1	2	-	X	X	X	X	X	-	-	X 1	-	-	1	-	1	1	1	1	1	-
Diphenyl Phthalate	Yellow White Powder	1	1	-	1	-	-	-	-	-	-	1	-	-	-	-	<u>-</u>	-	-	-	-	-
Dipropyl Ketone	Colorless Liquid	1	1	-	1	1	-	-	-	-	-	Χ	-	-	-	-	-	-	-	-	-	-
Dipropylamine Dipropylene Glycol	Water White Liquid Colorless Liquid	1	1	1	1	1	-	-	-	-	-	1	-	-	-	-	H	-	-	-	-	÷
	Colorless Liquid	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dirco Oils	Liquid	1	1	-	-	Χ	1	-	-	-	Χ	-	-	-	1	-	1	1	1	1	1	-
Disodium Phosphate (DSP soluble in H ₂ O) Disodium Phosphate Solution	Colorless or White Powder In Water	1	1	1	1	- 1	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-
Distillate Fuel Oil	Clear to Brown Liquid	1	2	-	Χ	X	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-
Divinylbenzene (20-25% or 50-60% Grades)	Water White to Straw Liquid	1	2	-	Χ	Χ	Χ	Χ	Χ	-	Χ	1	-	-	-	-	-	-	-	-	-	-
DMA (Dimethylamine) DMAC (Dimethyl Acetamide)	Gas Colorless Liquid	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	l -	-	-	-	-	-
DMB (Dimethylbenzene)	Colorless Liquid	1	X	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	1	Χ	Х	Χ	Χ	-	-	-	-	-	-
DMF (Dimethylformamide)	Water white Liquid	1	2	-	-	-	-	-	-	-	-	X	-	-	-	-	1	1	1	-	-	1
DMP (Dimethylaminomethyl phenol) Dodecylbenzene (Detergent Alkylate)	Dark Red Liquid Liquid	1	1	-	- X	- Х	-	-	-	-	-	1	-	-	-	-]	-		-	-	-
Dodecylphenol	Straw Colored Liquid	1	1	-	1	1	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-
Dolomite	Gray, Pink or White Powder	-	-	-	-	2	1	-	-	1	-	1	1	-	-	-	<u>-</u>	-	-	-	-	_
Dowtherm A (Biphenyl and Biphenyl Ether Mix.) Dowtherm SR-1 (Ethylene Glycol)	Liquid Liquid	1 1	1	1	1	1	X 1	X	X	X	X 1	1	X	2	-	X	1 2	1	1	1	1	1
DPM (Dipropylene Glycol Monomethyl Ether)	Colorless Liquid	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Duro Oils	Liquid	1	1	-	-	Χ	1	-	-	-	Χ	-	-	-	1	2	1	1	1	1	1	-
E EDB (Ethylene Dibromide)	Colorless Liquid	1	-	-	-	-	-	-	_	-	-	-	_	-	_	Χ	_	_	-	_	_	_



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Phone (303) 744-5070 1 = Preferred - Constant Contact 2 = Acceptable - Intermittent Contact X = Not Recommended - = No Data		Stallion [®]	Mustang®	$Renegade^{^{ true}}$	Food & Bev. Mstr.																	
NOTE: Ratings are for the effect on the <i>polymer only</i> !		oflon [®] –	K	L	S	Р	С	D	D	A	Н	V uoc	M	J	Z	G	n Steel	eel 304	æl 316			lene
Chemical	Form (at room temperature unless otherwise stated)	Teflon [®] /Neoflon [®]	Gatron [™]	UHMWPE	Sanitron	EPDM	NBR	SBR	NR	Neoprene	Butyl	Fluorocarbon	$Hypalon^{^{\circledR}}$	CPE	Nylon	PVC	Iron/Carbon Steel	Stainless Steel 304	Stainless Steel	Aluminum	Brass	Polypropylene
EDTA (Ethylenediaminetetraacetic Acid) Emulsion (Oil in Water) Enamels Epichlorohydrin (Chloropropylene Oxide)	Colorless Crystals Water is Continuous Phase Liquid Volatile Liquid	1 1 1	1 1 1 2	- 1 -	1 X X	1 1 X X	-		-	-		1 1 1 X	-	-	- - 1 -	- 2 -	- - - 1	-	-	-	- 1 -	- - 1
Epoxy Resin Essential Oils Ethanol (Ethyl Alcohol) Ethanolamine (Aminoethanol)	Solid Pellet Liquid Colorless Liquid Colorless Viscous Liquid	- 1 1 1	2 1 2	- - 1 1	1 1	1 X 1 2	1 1 2	1 2	1 2	1 2 1 2	1 2	1 1 X	1 X	- - 1 1	- - 1 1	2 2 2	1 1 1	1 1 1	1 1 1	1 1 -	1 2 1	- - 1 -
Ethers Ethyl Acetate (Acetic Ether) Ethyl Acetoacetate Ethyl Acrylate	Liquids Colorless Liquid Colorless Liquid Colorless Liquid Colorless Liquid	1 1 1	1 1 1	X X -	1 2 -	1 2 2	2 X X	X X X	X X X	X X X	2 2 2 X	X X X	2 X X	1 2 1	- 1 -	2 X -	1 1 1	1 1 1	1 1 1	1 1 1	1 1 1	2 2 X
Ethyl Acrylate, Inhibited Ethyl Alcohol (Ethanol) Ethyl Aluminum Dichloride (Above 90°F/32°C) Ethyl Bromide	Colorless Liquid Colorless Liquid Clear Yellow Liquid Colorless Liquid	1 1 1	2 1 - 2	- 1 -	2 1	2 1 - X	X 1 X X	X 1 - X	X 1 X X	X 1 - X	X 1 X X	X 1 2 1	X 1 X X	2 1 - 2	- 1 - 1	X 2 - X	1 1 -	1 1 - 1	1 1 - 1	- 1 -	- 2 - 1	X 1 -
Ethyl Butyl Ether (Butyl Ethyl Ether) Ethyl Butyrate Ethyl Chloride Ethyl Chloroformate (Ethyl Chlorocarbonate)	Liquid Colorless Liquid Compressed Liquid Water White Liquid	1 1 1	1 2	- - 2 -	-	- X X	2 X X X	Х Х	X X X	Х Х	X 2 X	- 1 1	2 - X -	-	-	X	- - 2 -	- 1 1	- 1 1	1 1	- - 2	- X -
Ethyl Ether (Diethyl Ether) Ethyl Ether Acetate (Cellosolve Acetate) Ethyl Formate Ethyl Iodide	Colorless Liquid Colorless Liquid Water White Liquid Colorless Liquid	1 1 1	1 -	- - -	- - -	2 2 X	X X X	- - -	- - X	- - X	2 - X	X 1 2	- - X	1	- - -	1 -	1 -	1	1	1 - -	1 - -	1
Ethyl Isobutyrate Ethyl Mercaptan (Ethanethiol) Ethyl Methyl Ketone (MEK) Ethyl Oleate	Colorless Liquid Colorless Pungent Liquid Colorless Liquid Light Yellowish Liquid	1 1 1	1 1 -	- - 1 -	1	X X 2	X X X	- X - -	X X -	X X X	X X -	1 X	X	2	- - 1 -	Х Х	- 2 - -	- - -	-	- -	-	- - -
Ethyl Oxalate Ethyl Pentachlorobenzene Ethyl Phthalate (Diethyl phthalate) Ethyl Propionate	Colorless Liquid - Water White Liquid Water White Liquid	1 1 1	1 1 1	-	-	2 X -	X X X	2 X X	2 X X	X X -	2 X 2	1 1 -	X -	1 - 2	-	-	2 -	- 1 1	- 1 1	-	1 1	-
Ethyl Propyl Ketone (3-Hexanone) Ethyl Silicate Ethyl Sulfide (Diethyl Sulfide) Ethylamine	Colorless Liquid Colorless Liquid Colorless Oily Liquid Colorless Liquid or Gas	1 1 1	1 1 2	-	- - 1	- 2 - 1	X 1 - X	2 - X	X 2 - X	1 - X	2 - - 2	X 1 1 X	X - - X	- 1 - 1	-		1 -	- 1 - 1	- 1 - 1	- 1 -	- 1 - 1	-
Ethylbenzene Ethylbutanol (2-Ethylbutyl Alcohol) Ethylbutyl Alcohol (Ethylbutanol) Ethylbutyl Amine	Colorless Liquid Colorless Liquid Colorless Liquid Water White Liquid	1 1 1	2 1 1	- 1 1	- 1 1	X 1 1	X 1 1	X - -	X - -	X 1 1	X 1 1	1 1 1	X 2 2	2 1 1	- 1 1	1 1	1	1	1	-	1	
Ethylbutyl Ketone Ethylbutyraldehyde (Diethylacetaldehyde) Ethylcellulose Ethylene Chlorohydrin	Clear Liquid Colorless Liquid Granular Solid Colorless Liquid	1 1 1	1 1 1	-	- - 2	1 - - X	- - X	-	- 1 -	- - X	- - 2	- - 1	-	- 1 -	- - X	- - X	- 1 -	- 1 -	- 1 -	<u>-</u> - -	- 1 -	<u>-</u> - -
Ethylene Cyanohydrin Ethylene Dibromide (EDB) Ethylene Dichloride (Chloroethane) Ethylene Glycol	Straw Colored Liquid Colorless Liquid Colorless Liquid Colorless Liquid Colorless Liquid	1 1 1 1	2	- - 2 1	- - X 1	- X 1	- X 1	- - X	- - X	- X 1	- - X 1	2	- X 2	- - X 1	- X	X X 1	- - 2	- - 1	- - 1	- - 1	- - 1	- - 1
Ethylene Glycol Formal (Dioxolane) Ethylene Glycol Monoethylether Ethylene Glycol Monoethylether Acetate	Water White Liquid Colorless Liquid Colorless Liquid	1 1 1	1 1 1	-	1 1	1	X X	- - -	-	-	-	X - -	- - -	-	-	-	1 -	1 - -	1 - -	1 - -	1 - -	-



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		T	K	L	S	Р	С	D	D	Α	Н	V	M	J	Z	G						
NOTE: Ratings are for the effect on the <i>polymer only</i> !		Teflon [®] /Neoflon [®]			,					•		noq					Iron/Carbon Steel	Steel 304	Steel 316	_		/lene
	Form (at room temperature	flon [®] /\	Gatron"	UHMWPE	Sanitron	EPDM	Ä	ĸ.	~	Neoprene	tyl	Fluorocarbon	Hypalon [®]	Щ	Nylon	PVC	n/Carb	Stainless 5	Stainless S	Aluminum	Brass	Polypropylene
Chemical	unless otherwise stated)	_			_		NBR	SBR	N N	Ne	Butyl	∄	Ŧ	CPE	ź	₫	힏	Sta	Sta	Ā	Bri	<u>6</u>
Ethylene Glycol Monomethyl Ether Ethylene Glycol N-Butyl Ether	Colorless Liquid Colorless Liquid	1 1	1	-	1	2	X	-	-	-	-	-	-	-	-	-	l -	-	-	-	-	-
Ethylenediamine	Colorless Liquid	1	2	-	-	2	1	-	-	-	2	X	-	-	-	-	1	1	-	-	1	1
Ethylenediaminetetraacetic acid (EDTA)	Colorless Crystals	1	1	-	-	1	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-
Ethylhexaldehyde	Colorless Liquid	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethylhexanediol Ethylhexanol (2-ethylhexyl alcohol)	Colorless Liquid Colorless Liquid	1	1	1	1	2	1	1	1	-	1	1	-	1	1	1	H	-	-	-	-	÷
Ethylhexoic Acid	Liquid	ľ	1	1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-
Ethylhexyl Acetate	Water White Liquid	1	1	-	-	1	Χ	-	-	Χ	-	Χ	Χ	-	1	-	-	-	-	-	-	-
Ethylhexyl Acrylate	Liquid	1	2	-	2	-	Χ	-	-	-	-	Χ	-	-	-	Χ	-	-	-	-	-	-
Ethylhexyl Alcohol (Ethylhexanol)	Colorless Liquid	1	1	1	1	1	1	1	1	-	1	1	-	1	1	1	Ŀ	-	-	-	•	_
F																						
Fatty Acid	Solid, Semisolid or Liquid	1	2	2	2	2	2	Χ	Χ	2	2	2	Χ	2	-	2	2	1	1	1	2	1
Fatty Alcohol, Blend	C8-11 Liquids, >C11 Solids	1	1	1	1	1	1	1	1	1	1	1	-	1	1	1	-	-	-	-	-	-
Fatty Petroleum Alcohol Ferric Bromide	C11 or Less are Liquids Red Crystals	1	1	1	1	1	1	-	- 1	-	1	1	-	1	1	-	l -	-	-	-	-	-
Ferric Chloride	Black-Brown Solid	1	1	-	-	-	2	-	1	2	1	1	2	1	1	1	Х	Χ	Χ	Χ	Χ	1
Ferric Chloride solution	Liquid	1	1	-	-	-	2	-	1	2	1	1	2	1	1	1	Χ	Χ	Χ	Χ	Χ	1
Ferric Nitrate	Violet Crystals	1	1	-	-	-	-	2	1	2	2	-	2	1	-	-	X	1	1	-	-	1
Ferric Nitrate Solution Ferric Sulfate	Liquid Yellow Crystals or Gray Powder	1	-	-	-	1	1	-	1	1	1	1	1	-	1	-	X X	1 1	1	X	X	1
Ferric Sulfate Solution	Liquid	1	1	1	-	2	2	2	-	2	2	1	2	1	-	1	X	1	1	X	X	1
Ferrous Acetate Solution	Liquid in H2O or Alcohol	1	1	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-
Ferrous Chloride	Greenish-White Crystals	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	Χ	1	2	-	2	1
Ferrous Chloride, Solution	Liquid	1	1	-	-	-	-	-	-	- 0	1	1	2	1	-	1	Х	1	2	-	2	1
Ferrous Nitrate Ferrous Sulfate Solution	- Liquid	1	1	1	-	2	2	2	-	2	2	1	2	1	-	2 1	X	1	1	X	X	1
Fertilizer (Liquid Manure)	Liquid	1	1	1	1	1	1	1	1	1	1	1	1	-	1	2	1	1	1	1	1	1
Finishing Oil	Liquid	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fire-Resistant Hydra-Fluid (Texaco)	Liquid	1	1	-	-	Χ	1	-	-	-	Χ	-	-	-	-	-	1	1	1	1	1	-
Firtec 290, MF Fish Oil	Liquid Liquid	1	1	- 1	- X	X	- 1	-	-	2	-	- 1	-	-	-	-	-	-	-	-	-	-
Fixing Solution (Photo)	Liquid	1	1	<u> </u>	-	-	<u> </u>	2	2	2	2	<u> </u>	2	-	1	1	Ė	1	1	÷	÷	1
Flint	Gray, Brownish, Black	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Floor Wax (Temperature Dependent)	Varies	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluoboric Acid (48% Purity)	Colorless Liquid	1	1	1	1	2	-	2	2	2	-	- 1	2	1	-	X	1 -	1 1	1	-	-	1
Fluoboric Acid (up to 48%) Fluorine	Colorless Liquid Pale Yellow Gas	X	-	X	-	X	-		-	-	-	1		-	X	X 1	H	<u> </u>	-	-	-	<u>-</u>
Fluorine (Liquid)	Yellow Liquid	Ĥ		^		^	NO	HOS	SE AV		ABLE						۱.	_	_	_	-	-
Fluosilicic Acid (50%)	Colorless Liquid	1	1	1	1	2	X	-	-	2	Х	-	2	1	Χ	Χ	1 -	-	-	1	-	1
Formaldehyde	Gas	-	1	-	-	1	-	-	-	-	-	1	-	-	1	-	Х	2	1	2	1	-
Formaldehyde Solution (up to 50%)	Liquid	1	2	1	1	1	2	X	X	2	2	1	2	1	1	1	Χ	2	1	2	1	_
Formalin (37-50% HCHO with 15% MeOH) Formamide	Liquid Colorless Oily Liquid	1 1	1	-	1	1	2	X	X	2	2	1	2	1	1 X	1	l -	-	-	-	-	-
Formic Acid	Colorless Olly Liquid Colorless Liquid (bp 100°C)	1	1	1	1	2	-	X	X	1	2	X	2	1	X	X	X	2	1	-	2	1
FR Fluid D	Liquid	1	1	-	-	X	1	-	-	-	X	-	-	-	-	-	 -	-	-	-	-	-
FR Hydraulic Fluid	Brown Liquid	1	1	-	-	-	1	-	-	-	-	-	-	-	-	-	<u> </u>	-	-	-	-	-
Freon 12 (Dichlorodifluoromethane)	Gas or Liquid										QUIR						-	-	-	-	-	-
Freon 13	Gas or Liquid					5	PEC	IAL l	HOSE	: RE	QUIR	ED					-	-	-	-	-	-



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for recommendations for chemicals					G	ate	2.5	Hο	Se	/ P	olv	me	ers				ľ		lap			'
not listed. Phone (303) 744-5070					_	u	, ,		30	, , ,	<u> </u>		,,,						141	,		-
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1 = Preferred - Constant Contact				[‡]	Food & Bev. Mstr.																	
2 = Acceptable - Intermittent Contact		″ے⊚	[®] D	Renegade [⊺]	Be																	
X = Not Recommended		ē	Mustang [®]	Jeg	d &																	
– = No Data		Stallion	Ĭ	Rer	Foo																	
		Т	K	L	S	Р	С	D	D	Α	Н	٧	М	J	Z	G						
NOTE: Ratings are for the effect		@															_	4	9			
on the polymer only !		Teflon [®] /Neoflon [°]										_					ron/Carbon Steel	Stainless Steel 304	Steel 316			Э
		leot		ш	2					a)		БŌ					S C	Stee	Stee	_		yler
	Form	¥ ⊚	² ⊂	ΜPI	"uo	_				ene.		cal	on®				arb	SS	SS	nu		rop
	(at room temperature	flor	Gatron	JHMWPE	Sanitron	EPDM	NBR	8	~	Neoprene	Butyl	uorocarbon	Hypalon [®]	CPE	Nylon	PVC	2	inle	Stainless	Aluminum	Brass	Polypropylene
Chemical	unless otherwise stated)	Ξe	ő	ᆿ	Sa	_		SBR	R			正	Î	ñ	ź	ď	일	Š	Šţ	¥	ä	Ро
Freon 134a (HFC 134a)	Gas or Liquid									E REC	-						l -	-	-	-	-	-
Freon 22 (Chlorodifluoromethane) Freon 23	Gas or Liquid Clear Liquid	<u> </u>								E REC							1	-	-	-	-	-
Fruit Juices	Clear Liquid Liquid	-	_	_	1		JF E C	- AL	-	LKEU	-	- 0	_	Ι.	1	_	ľ	-	-	-	-	
Fuel Oil (ASTM 1-6)	Water White to Brown Liquids	1	2	1	X	X	1	X	X	2	X	1	X	1	1	X	2	2	2	1	1	-
Fumaric Acid	Colorless Crystals	1	1	1	1	2	-	2	2	-	-	1	-	-	-	Χ	<u> </u>	1	1	- ,	-	-
Fumaric Acid Solution (Allomalaic Acid)	Liquid	1	1	-	-	2	1	2	2	- v	- V	1	-	-	-	X	٦	1	1	-	-	-]
Furan (Furfuran) Furfural (Ant Oil)	Colorless to Brown Liquid Colorless to Reddish Brown Liquid	1 1	1	1	2	X	X	X	X	X 2	X X	2	2	1	-	X	1 2	1	1	1	1	2
Furfural Alcohol	Colorless to Brown Liquid	1	1	2	2	X	X	X	X	2	X	1	2	1	1	X	2	1	1	1	1	2
Furfuran (Furan)	Colorless to Brown Liquid	1	1	1	-	Χ	Χ	Χ	Χ	X	Χ	-	-	1	-	Χ	1	1	1	1	1	-
Furfuryl Alcohol	Colorless to Reddish Brown Liquid	1	1	-	2	-	-	-	-	-	-	1	•		1	-	-	-		-	-	-
Fusel Oil (Amyl Alcohol, Grain Oil)	Colorless Liquid	1	1	1	1	2	2 1	2	2	2	2	1	2	1	1	1	1	1	1	1	1	-
Fyrguard 150, 200 Fyrquel 15R&O, 220R&O, 550R&O	- -	1	1	-	-	1	X	-	-	-	1	-		-	-	-	ľ	-	-	1	-	-
Fyrquel 90, 150, 220, 300, 550, 1000	-	1	1	-	•	1	Χ	-	-	-	1	-	-	-	-	-	1	-	-	1	-	-
2																						
G Gallic Acid (3,4,5 Trihydroxybenzoic Acid)	In Alashal or Chrosel	4	4	4	4	4	v	2	2	v	2	4		4	v	v	v	4	4			4
Gallic Acid (5,4,5 Thriydroxybenzoic Acid) Gallic Acid Solution	In Alcohol or Glycerol In Alcohol Solution	1	1	-	1	-	X	2	2	X	2	1	-	1	X	X	X	1	1	-	-	1
Gasohol (Gasoline blended with Ethanol) ¹	Colorless Liquid	1	2	1	X	Χ	2	X	X	2	X	1	Χ	-	1	Χ	2	1	1	1	1	X
Gasoline (Oxygenated - Blended With MTBE) ¹	Colorless Liquid	1	2	1	X	X	2	X	Х	2	X	1	X	-	1	Х	2	1	1	1	1	Χ
Gasoline (Unleaded Up to 50% Aromatics) ¹	Colorless Liquid	1	2	1	X	X	2	X	X	2	X	1	X	1	1	X	2	1	1	1	1	-
Gasoline (White) ¹ Gelatin	Colorless Liquid Flakes or Powder	1	2	-	Χ -	Χ-	2	X -	X 1	2	X	1	X	-	1	X 1	2	1	1	1	1	-
Glacial Acetic Acid	Clear Colorless Liquid	1	1	1	Χ	2	-	-	-	Х	Χ	Χ	-	Χ	X	X	-	-	-	-	-	-
Glacial Methacrylic Acid (GMAA)	White Crystals	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Glauber's Salt (Sodium Sulfate Decahydrate)	Crystals or Powder	1	-	-	-	1	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Gluconic Acid (Commercial 50% Aqueous) Glucose	Aqueous Solution Crystals to White Powder	1	-	-	-	-	X	-	X 1	-	X	-	2	-	-	-	1	1	1	1	1	
Glucose Solution	Liquid	1	1	-	1	1	1	1	1	1	1	1	1	-	-	1	1	1	1	1	1	-
Glue	Varies	1	1	-	-	Χ	2	Χ	Χ	2	Χ	1	1	-	2	1	2	1	1	1	Χ	-
Glycerine (Glycerol)	Clear Viscous Liquid	1	1	-	1	1	1	1	1	1	1	1	1	1	-	1	2	1	1	1	1	-
Glycerol (Glycerine) Glycerol Monolaurate	Clear Viscous Liquid Liquid above 80°F (27°C)	1	1	- 1	1	1	1	1	1	1	1	1	1	1 -	-	1	2	1	1	1	1	:
Glycol FR Fluids	Liquid above 80 F (27 C)	1	-	-	-	1	1	_	-	-	1	-	-	-	-	-	l -	-	-	-	-	-
Glycol Slurry	Watery suspension	1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	l -	-	-	-	-	-
Glycols (ie Ethylene Glycol)	Clear Colorless Liquid	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	1	1	1	1	1	-
GMAA (Glacial Methacrylic Acid) Graphite	White Crystals Powdered, Flake, Crystals	1	-	1	-	-	-	-	- 1	-	-	-	-	-	-	-	l -	-	-	-	-	-
Grease	Semi-Solid	1	1	2	2	X	1	X	X	2	X	1	2	-	-	1	1	1	1	1	1	-
Grease, Silicone Base	-	1	-	1	-	-	-	-	-	-	-	-	-	-	1	-	1	1	1	1	1	-
Green Liquor (Effluent Alkaline Pulping)	Liquid	1	1	1	-	-	-	-	-	-	-	-	-	-	-	1	Ŀ	-	-	-	-	-
Green Sulfate Liquor	Liquid	1	1	1	-	1	2	1	1	1	1	-	1	2	-	-	1	1	1	-	-	-
н																						
Halowax (Chlorinated Hydrocarbons)	Oils to Waxy Solid	1	1	1	_	Х	Χ	Х	Χ	Χ	Х	1	Χ	-	-	_	l -	_	_	_	_	_
HEA (2-Hydroxyethyl Acrylate)	Liquid	1	1	1	1	Χ	-	-	-	-	-	1	•	1	-	-	l -	-	-	-	-	-
HEA Acid (2-Hydroxyethyl Acrylate)	Liquid	1	1	1	1	Χ	-	-	-	-	-	1	-	1	-	-	-	-	-	-	-	-
Hematite (Iron Ore) 1 Petroleum hose only.	Black to Brick Red	1	-	-	-	-	-	-	1	-	-	-	-	-	-	•	1 -	-	-	-	-	-

¹ Petroleum hose only.



Contact Denver Product Application for recommendations for chemicals not listed.					G	ate	es l	Ho	se	/ P	oly	me	ers				(ling ote	gs :rs	1
Phone (303) 744-5070 1 = Preferred - Constant Contact 2 = Acceptable - Intermittent Contact X = Not Recommended - = No Data		l Stallion [®]	Mustang	- Renegade [™]	Food & Bev. Mstr.		0			•						0						
NOTE: Ratings are for the effect on the <i>polymer only</i> !		on [®] lo	K	L	S	Р	С	D	D	Α	Н		M	J	Z	G	teel	304	316			е
Chemical	Form (at room temperature unless otherwise stated)	Teflon [®] /Neoflon [®]	Gatron™	UHMWPE	Sanitron	EPDM	NBR	SBR	NR	Neoprene	Butyl	Fluorocarbon	Hypalon [®]	CPE	Nylon	PVC	Iron/Carbon Steel	Stainless Steel 304	Stainless Steel 316	Aluminum	Brass	Polypropylene
HEP (2-Hydroxypropyl Acrylate)	Liquid	1	1	1	1	Χ	-	-	-	-	-	1	-	1	-	-	Ē	-	-	-	-	-
Heptachlor (In Xylene) Heptanal (Heptaldehyde)	Liquid Colorless Oily Liquid	1	2	-	X	X	2	X	X	X	X	1	-	-	1	X	l :	-	-	-	-	-
Heptane	Colorless Liquid	1	2	1	X	X	1	Х	Χ	2	X	1	Χ	1	1	2	1	1	1	1	1	-
Heptanedicarboxylic Acid (Azelaic Acid)	Yellowish to White Powder	1	-	- 1	-	-	-	-	1	-	-	- 1	-	-	-	-	-	-	-	ı -	-	-
Heptanoic Acid Heptanol	Clear Oily Liquid Colorless Liquid	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Ė	_	_	-	-	÷
Hexachlorocyclohexane	White to Yellowish Flakes	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	ı -	-	-
Hexachlorocyclopentadiene Hexadecanoic Acid (Palmitic Acid)	Yellow Liquid White Crystals	1	-	-	X	X	-	X	X 1	-	X	1	-	-	-	-	-	-	-	- -	-	-
Hexahydrophthalic Anhydride	Clear Colorless Viscous Liquid	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-
Hexaldehyde	Colorless Liquid	1	1	1	1	1	-	-	-		-	-	-	-	-	-	1	1	1	1	1	-
Hexamethylenediamine, Solution Hexamethyleneimine	Colorless Flat Solid Leaflets Clear Colorless Liquid	1	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	- -	-	-
Hexane	Colorless Liquid	1	Χ	1	Χ	Χ	1	Х	Χ	-	Χ	1	-	1	1	Χ	1	1	1	-	1	-
Hexanol (Hexyl Alcohol) Hexanone (Ethyl Propyl Ketone)	Colorless Liquid Colorless Liquid	1	1		-	Χ	1 X	-	<u>-</u>	2	2	1 X	X	1	-	-	1	1	1	1	2	-
Hexene	Colorless Liquid Colorless Liquid	1	-	-	X	X	2	X	X	-	X	1	-	1	-	-	1	1	1	- -	1	-
Hexyl "Cellosolve" (EG monohexyl ether)	Water White Liquid	1	1	1	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1.	-	-
Hexyl Alcohol (Hexanol) Hexyl Methacrylate	Colorless Liquid Liquid	1	1	-	-	X	1	-	-	2	-	1	X	1 -	-	-	1 -	1	1	1 -	2	-
Hexylamine	Water White Liquid	1	-	-	-	-	Χ	-	Χ	-	2	Χ	Χ	-	-	-	-	-	-	-	-	-
Hexylene (1-Hexene) Hexylene Glycol	Colorless Liquid Colorless Liquid	1	- 1	- 1	X 1	X 1	2	X	X	-	Χ	1	-	1	-	-	1	1	1	- I	1	-
Honey	Yellow Liquid	1	-	-	-	1	1	-	1	1	-	1	-	-	-	1	-	-	-	- -	-	-
Houghto-Safe 1055, 1110, 1115, 1120, 1130	Liquid	1	1	-	-	1	Χ	-	-	-	1	-	-	-	-	-	1	1	1	1	1	-
Houghto-Safe 271, 416, 520 & 616, 620 Houghto-Safe 5046	Liquid Liquid	1	1	-	-	1 X	1	-	-	-	1 X	-	-	-	-	-	1	1	1	1	1	:
Houghto-Safe 625, 640 & 525 (Under 100°F/38°C)	Liquid	1	1	-	-	1	1	-	-	-	1	-	-	_	-	-	1	1	1	1	1	-
HPA Acid (2-Hydroxypropyl Acrylate) HPO (Sodium Thiosulfate)	Liquid White Powder	1	1	1	1	Χ	- 1	- 1	- 1	- 1	- 1	1	- 1	1	- 1	- 1	- X	- 1	- 1	2	- Х	-
Hy-Chock Oil	Liquid	1	1	÷	-	÷	1	-	-	-	-	1	-	-	1	-	1	1	1	-	-	÷
Hydrocyanic Acid (up to 98%)	Water White Liquid	1	1	-	-	-	-	-	-	-	-	1	-	-	-	-	Х	1	1	1	Χ	-
Hydrafluid 760 (Texaco and Houghton) Hydrafluid AZR&O, A, B, AA, C	Liquid Liquid	1 1	1	-	-	X	1	-	-	-	X	1	-	-	1	-	1	1	1	1	1	-
Hydrasol A (Textile Dying)		1	1	-	-	Χ	1	-	-	-	Χ	1	-	-	1	-	1	1	1	1	-	-
Hydraulic Fluid (Phosphate Ester Base)	Liquid	1	1	-	-	1	Χ	-	-	Χ	1	1	-	-	1	1	1	1	1	-	-	-
Hydraulic Fluid (Polyalphaolifin) Hydraulic Fluid (Std. Petroleum Oils)	Liquid Liquid	1 1	1	-	-	X	1	X	X	2	X	1	2	1	1	1	1	1	1	1	1	-
Hydraulic Fluid (Water Glycol Base)	Liquid	1	1	-	-	-	1	2	2	1	1	1	-	-	1	1	1	1	1	1	1	-
Hydraulic Fluid HF-18, HF-20 Hydraulic Fluid HF-31	Liquid Liquid	1	1	<u> </u>	-	1 X	1 -	-	-	-	1 X	1	-	-	1	2	1	1	1	1	1	÷
Hydrazine	Colorless Fuming Liquid	1	1	-	-	2	Χ	Χ	Χ	Χ	2	X X	X	-	-	X		-	-	-	-	-
Hydrazine Hydrate	Colorless Fuming Liquid	1	1 1	-	-	2	X	X	Χ	X	2	X	X	-	-	X	-	-	-	- ا	-	-
Hydrazine Solution Hydro-Drive Oil (Houghton)	Liquid Liquid	1 1	-	-	-	2 X	X 1	-	X -	X -	2 X	- -	-	-	-	X 2	[-	-	-	- -	-	-
Hydrobromic Acid (62% and less)	Colorless to Yellow Liquid	1	1	1	1	Χ	X	2	2	Х	2	1	2	1	X	Χ	-	-	-	Х	-	-
Hydrobromic Acid (to 48%) Hydrochloric Acid (15%)	Colorless to Yellow Liquid Colorless to Yellow Liquid	1 1	1	1 1	1	1 2	X	2	2	X	2	1 1	2	1	X	X	- X	X	- X	X	- Х	-
Hydrochloric Acid (37%)	Colorless to Yellow Liquid	1	1	1	1	X	X	2	2	X	2	1	2	1	X	X	Χ	Χ	Χ	Χ	Χ	-
Hydrochloric Acid, anhydrous	Colorless Fuming Gas	1	-		-	-	-	-	-	-	-	1	-	-	-	-	Χ	Χ	Χ	Χ	Χ	-



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Phone (303) 744-5070											<u> </u>											-
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NOTE: Ratings are for the effect on the <i>polymer only</i> !		on [®]	K		S	Р	С	D	D	Α	Н	V	M	J	Z	G	teel	304	316			Ф
	Form (at room temperature	reflon [®] /Neoflon	Gatron™	UHMWPE	Sanitron"	EPDM	ά	æ	~	Neoprene	tyl	Fluorocarbon	Hypalon®	ñ	Nylon	PVC	ron/Carbon Steel	Stainless Steel 304	Stainless Steel 316	Aluminum	Brass	Polypropylene
Chemical	unless otherwise stated)	je L		_		ᇤ	NBR	SBR	N R		Butyl			CPE	ź		-			₹	_	Ъо
Hydrocyanic Acid (10% Solution with water) Hydrocyanic Acid (98% or less)	Water White Liquid Water White Liquid below 77°F(25°C)	1 1	1	1	-	-	X -	2	2	X -	-	1	2	-	-	X	X -	1	1	1	X -	-
Hydrocyanic Acid (up to 20%)	Water White Liquid	1	1	-	-	1	2	2	2	2	-	1	1	-	-	2	-	-	-	-	-	-
Hydrofluoric Acid (38% or less) Hydrofluoric Acid (47% or less)	Colorless Liquid Colorless Liquid	1	1	1	1	2	X	X	X X	2	2	1	1 2	1	X	X	X X	X	X	X	X X	-
Hydrofluoric Acid (47 % of less)	Colorless Liquid	1	1	X	1	-	X	x	X	2	X	1	2	1	X	X	x	X	X	X	X	-
Hydrofluoric Acid (70%)	iquid	1	1	Χ	1	Χ	Χ	Х	Χ	Χ	-	1	2	-	Χ	Χ	Х	Χ	Χ	Χ	Χ	-
Hydrofluoric Acid (Concentrated)	Colorless LiquidColorless L In Water	1	1	X 1	2	X 2	X	X	X	X X	X X	2	2 1	1 X	X	X	X X	X	X	Χ	X 1	-
Hydrofluosilicic Acid Hydrogen (Gas)	Gas	H											ATIC		^	^	-	_	_	-	-	-
Hydrogen Bromide Liquified (Anhydrous)	Liquid	1	-	-	-	1	Χ	Х	Χ	-	Χ	1	-	-	-	-	1 -	-	-	-	-	-
Hydrogen Bromide Solution (HydroBromic Acid)	Liquid	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hydrogen Bromide, Anhydride Hydrogen Chloride	Colorless Gas Colorless Fuming Gas	1	-	-	-	-	-	-	-	-	-	1	•	1	-	-	l -	-	-	-	-	- 1
Hydrogen Dioxide (Hydrogen Peroxide)	Liquid	1	-	-	-	2	Χ	-	-	2	-	1	1	-	-	-	-	-	-	-	-	-
Hydrogen Fluoride	Colorless Gas or Liquid	1	-	-	-	1	Χ	Χ	Χ	-	2	Χ	-	-	-	-	1	1	1	-	-	-
Hydrogen Peroxide (35% or less)	Liquid	1	1	1	X	1 1	2	X	X	1	X X	1	1 1	1	1 2	1 2	X	2	1	1	X X	-
Hydrogen Peroxide (50% or less) Hydrogen Peroxide (70% or less)	Liquid Liquid	ľ	2	1	X	2	X	X	X	2	_	1	1	1	X	2	X	2	1 1	1	X	-
Hydrogen Peroxide (90% or less)	Liquid	1	-	1	-	2	Χ	Χ	Χ	2	-	1	1	-	Χ	Χ	Х	2	1	1	Χ	-
Hydrogen Sulfide	Colorless Gas	ļ.,						_	SE A	VAILA							-	-	-	-	-	-
Hydrogen Sulfide, Liquified Hydrolube (Water Glycol)	Liquid @ 410 PSI, 120°F (49°C) Liquid	1	-	- 1	-	1 1	X 1	Χ -	-	2	X 2	X 1	-	-	-	1	-	-	-	-	-	-
Hydrolubric Oil (Houghton)	Liquid	1	1	-	-	X	2	-	-	-	X	-	-	-	1	2	-	-	-	-	-	-
Hydroquinone	White Crystals	1	1	-	-	Χ	-	Х	Χ	X	X	2	Χ	-	-	-	-	1	1	-	-	-
Hydroquinone Solution Hydroxyacetic Acid	Liquid Colorless Crystals	1	-	-	-	-	Χ	Χ	1	Χ	Χ	1	-	-	-	2	-	1	1	-	-	-
Hydroxyacetic Acid Solution	Liquid	1	1	1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hydroxyethyl Acrylate (HEA)	Liquid	1	1	1	1	Χ	-	-	-	-	-	1	-	1	-	-	-	-	-	-	-	-
Hydroxyethyl Acrylate Acid (HEA Acid)	Liquid	1	1	1	1	Χ	-	-	-	-	-	1	-	1	-	-	-	-	-	-	-	-
Hydroxyethyl Methacrylate Hydroxyethyl Methacrylate Solution in Xylene	Clear Liquid	1	2	-	-	-	-	-	÷	-	-	<u>1</u> 1	-	-	-	-	H	-	-	-	-	\exists
Hydroxypropyl Acrylate Acid (HPA Acid)	Liquid	i	1	1	1	Χ	-	-	-	-	-	1	-	1	-	-	١.	-	-	-	-	-
Hylene (Toluene Diisocyanate)	Yellow Liquid	1	-	-	-	2	X	Х	Х	X	2	Χ	X	-	-	-	-	-	-	-	-	-
Hypochlorous Acid (only in dilute solutions)	Greenish-Yellow Aqueous Sol.	1	1	1	1	2	Χ	Χ	Χ	Χ	Χ	1	2	-	-	-	-	-	-	-	-	-
1																						
Ink (Printers)	Liquid	1	1	_	_	Χ	2	Х	Х	_	Х	Χ	_	_	1	_	2	2	1	_	2	
Ink Oil	Liquid	í	2	-	-	-	2	-	-	-	-	-	-	-	-	-	1	1	1	-	1	-
Insulating Oil (Transformer)¹	Liquid	1	1	-	-	Χ	1	Х	Х	2	Χ	1	Χ	-	-	-	1	1	1	-	1	-
lodine lodine Solution	Grayish Black Granules Liquid	1	- 1	- 1	- 1	- 1	-	-	1	X	-	- 1	-	-	-	X	X	X	X	-	-	
lodine, In Alcohol	Liquid	1	1	1	1	1	÷	X	X	2	-	1	-	1	-	1	Ė	-	-	-	-	\exists
Iron Acetate Liquor (Black Liquor)	Black Liquid	1	1	1	1	2	2	Х	Χ	2	2	1	2	2	-	1	1	1	1	-	-	1
Iron Hydroxide	Brown precipitate	1	-	-	-	1	1	-	X	1	1	1	1	-	-	-	-	-	-	-	-	-
Iron Ore (Hematite) Iron Oxide (Black, Brown, Red or Yellow)	Black to Brick Red Solid	Ė	-	-	-	-	-	-	1	-	-	-	-	-	-	-	H	-	-	-	-	\exists
Iron Oxide Slurry	Slurry] <u>-</u>	-	-	-	-	-	-	1	-	-	-	-	-	-	-] -	-	-	-	-	-
Iron Salts	-	1	-	-	-	1	1	-	1	1	1	1	1		1	1	-	-	-	-	-	-
Iron Sulfate Solution (Ferric Sulfate)	Liquid	1	1	1	-	2	2	2	-	2	2	1	2	1	-	1	Χ	1	1	Χ	Χ	1

¹ Petroleum hose only.



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NOTE: Ratings are for the effect on the <i>polymer only</i> !		reflon®/Neoflon®		Ē	MT.					е		ırbon	@				ron/Carbon Steel	Stainless Steel 304	Stainless Steel 316	Ε	-	ylene
Chemical	Form (at room temperature unless otherwise stated)	Teflon [®] /ľ	· Gatron	UHMWPE	Sanitron	EPDM	NBR	SBR	N N	Neoprene	Butyl	Fluorocarbon	Hypalon®	CPE	Nylon	PVC	Iron/Carb	Stainless	Stainless	Aluminum	Brass	Polypropylene
Iron Sulfide Solution (Ferrous Sulfide) Isoamyl Acetate Isoamyl Alcohol (Isobutyl Carbinol) Isoamyl Bromide Isoamyl Butyrate	Liquid Colorless Liquid Colorless Liquid - Water White Liquid	1 1 1 1	1			2 2 X	X 2 X X	-	X 2 X X	X 2 X	X 2 X X	1 X 2 2 X	X 2 X X	-	-			-	-	-	- - -	- - -
Isoamyl Chloride Isoamyl Ether Isoamyl Phthalate Isobutane	Colorless to Yellow Liquid Colorless Liquid Colorless Liquid Colorless Gas	1 1 1	2 - -	-	-	-	X X US	- - - E LP	- Х Х	- - - OSE (X 2 DNLY	1 X X	X X	-	-		-	-	- - -	- - -	<u>-</u> - -	- - -
Isobutane Liquid Isobutanol (Isobutyl Alcohol) Isobutene (Isobutylene)	Liquid @ 98 PSIG, 120°F (49°C) Colorless Liquid Gas	1 1 1	- 1 -	1	- 1 -	- 1 X	- 2 1	- 2 X	- 2 X	2	- 2 -	1 1 2	1 X	- 1	- 1 -	- 2 -	1	- 1 -	1	- 1 -	- 2 -	- - -
Isobutyl Acetate Isobutyl Alcohol (Isobutanol) Isobutyl Aldehyde (Isobutyraldehyde) Isobutyl Carbinol (Primary Isoamyl Alcohol)	Colorless Liquid Colorless Liquid Colorless Liquid Colorless Liquid	1 1 1	1 -	1 -	1 -	X 1 2 2	X 2 X 2	2 -	X 2 X 2	X 2 X 2	X 2 X 2	X 1 X 2	X 1 X 2	1 -	1 - -	2	1 -	1 -	1 -	1 -	2	- - -
Isobutylamine Isobutylene (Isobutene) Isobutylene Liquid (Isobutene Liquid) Isobutyraldehyde (Isobutyl Aldehyde)	Colorless Liquid Gas Liquid @ 88 PSIG, 120°F (49°C) Colorless Liquid	1 1 1 1	- - - 2		- - - X	X - 2	X 1 - X	X -	X X X X	- - X X	2 - X	X 2 1 X 1	X X - X	-	-			-	-	-	- - -	- - -
Isocyanate (Toluene Diisocyanate) Isooctane Isooctyl Adipate Isooctyl Alcohol Isooctyl Thioglycolate	Water White to Yellow Liquid Colorless Liquid Viscous Liquid Clear Liquid Water White Liquid	1 1 1 1	2 1 1 1 1	- - 1	X - 1	X - 1 2	1 - -	X	X - -	1	X - -	1 1 1 1	1	2 -	1	X -	1 -	1 -	1 -	2 -	1	<u>-</u> - -
Isopentane Isophrone Isophthaloyl Chloride Isopropanol (Isopropyl Alcohol)	Colorless Liquid Water White Liquid Liquid above 106°F (41°C) Colorless Liquid	1 1 1	2 - - 1	- - 1	- - 1	- - - 1	- - - 1	- - - 2	- - 2	- - 2	- - - 1	1 - 1 1	- - - 2	- - 1	- - - 1	- - 2	- - 1	- - - 1	- - 1	- - - 1	- - - 2	- - 1
Isopropyl Acetate Isopropyl Alcohol (Isopropanol) Isopropyl Benzene (Cumene)	Liquid Colorless Liquid Colorless Liquid Colorless Liquid Colorless Liquid	1 1 1 1	2 1 1 2	1	1 1 X	2	2 X	X 2	2 X 2	X 2	1 2	X - 1	X X 2	1 2	1	X 2	1	1 1	1	1	1 2	- - 1
Isopropyl Chloride Isopropyl Ether Isopropylamine Isopropylamine Isopropylbenzene (Cumene)	Colorless Liquid Colorless Liquid Colorless Liquid Colorless Liquid Colorless Liquid	1 1 1 1	1 1 2	1 -	2 X	- X -	- X -	- X	- X	- X	2	1 X - 1	- X -	- - 2	- 1 -	- X -	- 1 -	- 1 -	1	1 -	- 1 -	- - -
Isopropyltoluene (Cymene)	Colorless Liquid Colorless Liquid	1	-	-	-	-	-	-	-	-	-	1	-	-	1	-	1	1	1	1	<u>1</u>	-
Jet Fuel A and A1 ² Jet Fuel JP1 ² Jet Fuel JP10 (Tetrahydroxydicyclopentadiene) ² Jet Fuel JP4 ² Jet Fuel JP5 ² Jet Fuel JP8 ²	Liquid Liquid Liquid Liquid Liquid Liquid Liquid	1 1 1 1 1	- 1 - 1 1 1		X X X X	X X X X X	1 1 X 1 1	X X X X	X X X X	2 X 2 X X	X X X X X	1 1 1 1 1	X X X X X	-	- 1 1 1 1	X X X X	- - 2 2 2	- - 1 1 1	- - 1 1 1	2	- - 1 1	
K Kaolin Clay Karo Syrup ² Aircraft fueling hose only for fueling operation	White to Yellowish Powder Yellow Liquid	1 -	- -	1 -	- 1			-	1 -	-	-	-	-	-	- 1	- 1	-	- 1	- 1	- -	- -	-

² Aircraft fueling hose only for fueling operations.



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Phone (303) 744-5070 1 = Preferred - Constant Contact 2 = Acceptable - Intermittent Contact X = Not Recommended - = No Data		⊣ Stallion®	≫ Mustang®	r Renegade [™]	ω Food & Bev. Mstr.	P	С	D	D	A	Н	V	M	J	Z	G						
NOTE: Ratings are for the effect on the <i>polymer only</i> !	Form	Teflon [®] /Neoflon [®]	2	FE	_* _C					ne		arbon	®L				Iron/Carbon Steel	Stainless Steel 304	Stainless Steel 316	Ę		Polypropylene
Chemical	(at room temperature unless otherwise stated)	eflon®	Gatron"	UHMWPE	Sanitron	EPDM	NBR	SBR	N.	Neoprene	Butyl	Fluorocarbon	Hypalon®	CPE	Nylon	PVC	ron/Car	Stainles	tainles	Aluminum	Brass	olypro
Kerosene Ketchup Ketoglutaric Acid Ketones (ie Acetone, MEK, Cyclohexanone) Koch Acid	Water White Oily Liquid Red Liquid In Water or Alcohol Generally Liquids White Solid	1 - 1 1	1 1 1	- 1 1	X 1 1	X - 2 2	1 1 - X	X - X	X - - X 1	X 1 - X	X - 2	1 - - X	X - - X	1	1 1 - 1 -	2 - X	1 - 1	1 1 - 1	1 1 - 1	1 - 1	1 - - 1	-
L Lacquer - Alcohol or Acetate as Solvent Lacquer - Toluene or Xylene as Solvent	Solution Solution	1	1 -	1 -	1 -	2	- X	- X	- X	- X	- X	X 1	- X	-	- 1	- X	X	X	1	1 1	1	
Lactic Acid (90% or less) Lactic Acid, Food Grade - 50-80% Lactic Acid, Plastic Grade - 50-80% or less Lactic Acid, USP 85-90% or less Lactol	Colorless-Yellow Liquid Colorless to Yellow Liquid Colorless to Yellow Liquid Colorless to Yellow Syrupy Liquid -	1 1 1 - 1	1 1 1 - 1	1 1 1 -	1 1 1 -	2 2 2 -	X - 1 - 2	2 X -	2 X -	1 - 1 - 2	X -	1 1 1 -	1 1 1 -	-	- X	X - 1	X X X 1	2 2 2 2	1 1 1 1	X X X	2 2 2 1	
Lard (Fat of the Hog) Lard Oil Lasso (Alachlor) Latex Paint Lauryl Peroxide	Liquid above 108°F (42°C) Colorless to Yellow Liquid Colorless Crystals Liquid White Powder	1 1 1	1 1 1	1 - - 1	X - - 1	X - - 1	1 - - 1	2 -	X - 1 2 1	2 -	X - - 2	1 X -	X - -	1 - -	1 - - 1	- - -	1 1 -	1 1 1	1 1 1	1 1 -	X X -	
Lauryl Alcohol Lead Acetate Lead Acetate Solution Lead Arsenate	Liquid above 75°F (24°C) White Crystals Solution White Crystals	1 - 1 1	- - 1	- - 1 -	- - 1	- - 1	- - 2	- - 2	1 2	-	- - 2	1 - 1	-	- - 1	-	- - 1	2 2 1	- 1 1	- 1 1	-	- 1 1	-
Lead Arsenate Solution (In Nitric Acid) Lead Nitrate Solution (In Water or Alcohol) Lead Silicate (basic) Lead Sulphate (Basic, Blue Basic, Tribasic) Lead, Tetraethyl (Tetraethyl Lead)	Solution Solution White Powder White to Blue Powder Colorless Oily Liquid	1 1 - -	1 2	- 1 - -	1 -	1 - - X	1 - - 2	2 - - X	2 1 1	2 - - X	2 - - X	1 1 - -	2 - - - X	- 1 - -	- - - - 2	- 1 - -	- 1 - 1	1 - 1	1 - 1	-	-	
Lead, Tetramethyl (Tetramethyl Lead) Lecithin Ligroin Lime (Calcium Oxide)	Colorless Liquid Light Brown Viscous Liquid-Solid Clear Liquid White to Gray Lumpy Solid	1 1 1 1	1 2	- - -	- - -	X - X -	2 X 1	X - X -	X - X 1	X 2 X -	X - X -	1 - 1 -	X - X -	- - -	- - 1 -	- X	- - 2 -	1 1 1	1 1 2	- - -	- - - -	- - -
Lime Sulfur Solution Lime, Chlorinated (Bleaching Solution) Lime, Chlorinated (normal 35-37% Chlorine) Lime, Hydraulic (Calcined Limestone) Lime, Slaked (Calcium Hydroxide)	Solution Solution White Powder Powder White Crystalline Powder	1 1	1 1	1 1	1 1	2	X 2 - -	X 2 -	X 2 1 1	1 X - -	X 2 -	1 1 - -	2 X - -	-	-	2	2 X - -	1 2	1 2 -	X - - -	X - -	1 1 1 1
Limestone Limonene Lindane (Ag Spray) Linoleic Acid Linseed Oil	Powder or Lumps Colorless Liquid - Colorless to Straw Colored Liquid	- 1 1 1	- 2 1 1	- 1 - 1 v	- X -	Х Х	- X - 2	- X - - -	1 X -	- X	- - X	- 1 - 1	- - - 1	- - - 1	- 1 1 -	- - 1	1 -	- 1 1 -	- 1 1 -	- 1 - - 1	- 1 - -	
Linseed Oil Liquid Soap Lithium Chloride Lithium Chloride (35-40% Brine) Lubricating Oil Diester (Under 135°F/57°C) Lubricating Oil (SAE 10, 20, 30, 40, & 50) Lubricating Oil (Under 120°F/49°C)	Yellow Amber to Brown Liquid Liquid White Crystals Solution Liquid Liquid Liquid Liquid	1 - X 1 1	1 1 1 1 1 1	1 X X -		2 - X - X	2 - - 2 2 1	2 - X - X	2 1 - X - X	- - - 2 2	2 - X - X	- - 1 1 -	- - - - 2	- - - - 1	- - - 1 1	1 2 - X - 2	1 - 1 1 1	1 - 1 1 1	1 - 1 1 1 1	1 - 1 1 1 1	1 - 1 1 1	- - - - -
M Machine Oil (Under 135°F/57°C)	Liquid	1	1	-	_	Х	1	Х	Х	1	X	1	2	_	1	2	1	1	1	1	1	_



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- = No Data		<u>σ</u>	≥ K	<u>K</u>	S	Р	С	D	D	Α	Н	V	М	J	Z	G						
NOTE: Ratings are for the effect on the <i>polymer only</i> !		oflon®										uc					Steel	el 304	el 316			aue
Chemical	Form (at room temperature unless otherwise stated)	Teflon [®] /Neoflon [®]	Gatron"	UHMWPE	Sanitron	EPDM	NBR	SBR	NR	Neoprene	Butyl	Fluorocarbon	Hypalon®	CPE	Nylon	PVC	Iron/Carbon Stee	Stainless Steel 304	Stainless Steel 316	Aluminum	Brass	Polypropylene
Magnesite	White to Brown Crystalline Solid Powder	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Magnesium Magnesium Acetate Magnesium Acetate Solution Magnesium Carbonate	Colorless Crystalline Aggregate In Water or Alcohol White Powder	- 1 -	1	1	- 1 -	1	1	- 1 -	1 1 1		- 1 -	- 1 -	- 1 -	- 1 1	- 1 -	- 1 -	- - 1	- - 1	- - 1		-	-
Magnesium Carbonate Solution (in Acid) Magnesium Chloride Magnesium Chloride Brine Magnesium Chloride Hydrated (in H.O. or Aleghe))	Liquid Solution Colorless to White Crystals Solution	1 1 1	1 - 1	1 1 1 1	1 - 1	- - 1	- - 1	-	- 1 1			1 - 1 1	-		-	-	1 X -	1 2 -	1	- Х -	- 2 -	- - -
Magnesium Chloride, Hydrated (in H ₂ O or Alcohol) Magnesium Hydroxide	Solution White Powder	-	1	-	-	-	-		1	-		-	-	-	-	-	1	1	1	X	-	-
Magnesium Hydroxide Solution (in Dilute Acid) Magnesium Nitrate Magnesium Nitrate Solution (in H ₂ O or Alcohol) Magnesium Oxide, Dry	Liquid Solution White Crystals Liquid Solution White Powder	1 - 1 -	1 1 -	1 1 -	- - 1	- - 1 -	- 1 -		1 - 1		- - -	1 - 1 -	- - -	-	-	-	1 1 1	1 1 1	1 1 1 -	X X X	1 1 1	-
Magnesium Oxide, Slurry Magnesium Sulfate Solution	- Liquid Solution	1	1	<u>-</u>	- 1	1	2	- 1	2	2	1	1	<u>-</u> 1	1	-	<u>-</u> 1	2	- 1	- 1	-	<u>-</u>	_
Malathion (Ag Spray Dilute) Malathion (Ag Spray)	Clear to Amber Liquid Clear to Amber Liquid	1	1 1	1	-	2	-	X -	X -	-	1	i -	-	-	1	1	1 1	1	1	-	1	-
Maleic Acid Maleic Acid Solution	Liquid Solution	1	1	1	1	1	2 2	2	2 2	VAIL.	ABLE -	7	_	-	_	Х	2	2	1	-	-	-
Maleic Anhydride Maleic Anhydride (Heated Liquid) Malic Acid (dl form) Malic Acid Solution (in H ₂ O or Alcohol) Malt Extract (Maltine)	Colorless Needles Liquid above 124°F (53°C) Colorless Crystals Solution Light Brown Viscous Liquid	1 1 - 1	- - - 1	X - 1	- - 1 1	- - - 2 1	-		- 1 -			- - 1 1	-	-	-	-		-			-	-
Malt, Dry Maltine (Malt Extract) Manganese Salts	Yellow to Amber Grain Light Brown Viscous Liquid	- 1 1	- 1	1	1	1	- - 1	- - X	1 - X	-		1	- - 1	-	-	- - 1	-	-		-	-	-
Manganese Sulfate (Manganous Sulfate) Manganese Sulfate Solution Manganese Sulfide (Manganous Sulfide)	Pale Red Solid Solution in Water Green Crystals	1	1	-	-	-	1	2	1 2	-	-	1	1	1	-	1	-	-	-	-	-	<u>-</u>
Manganese Sulfite (Manganous Sulfite)	Black to Brownish Red Powder	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
MAPP Gas (Methylacetylene Propadiene) Maxmul (Penzoil Hydraulic Fluid)	Liquid Liquid	1	_	_	-	_	US	E LP	G HC	2 2	ONLY -	_	_	Ι.	_	_	- 1	-	- 1	-	-	-
Mayonnaise MBK (Methyl Butyl Ketone)	Semi-Liquid Colorless Liquid	1	1	-	2	2	- X	- X	- X	- X	2	- X	- X	2	-	1 X	1	1	1	1	1	<u>-</u>
MEA (Ethanolamine) MEK (Methyl Ethyl Ketone) Mercuric Chloride	Colorless Viscous Liquid Colorless Liquid White Powder	1 1 -	1 2 -	1 1 -	1 1 -	2	2 X -	2 X -	2 X 1	2 X -	1 2 -	X X -	X X -	1 2 -	1	2 X -	1 X	- 1 1	1 1	1 X	1 X	- -
Mercuric Chloride Solution (in H ₂ O, or Alcohol) Mercuric Cyanide Mercuric Cyanide Solution (in H ₂ O or Alcohol)	Solution Colorless Transparent Prisms Solution	1 - 1	1 - 1	-	-	2 - 2	2 - 2	- 2	1 2	1 - 1	- 2	-	1 - 1	- -	<u>-</u> - -	- -	- -	<u>1</u> - -	1 - -	X X X	- -	<u>-</u> -
Mercurous Nitrate Solution Mercury	Solution Silver Liquid	1 1	1 1	1 1	-	2	- 2	2	- 2	1	2	1	- 1	- 1	-	- 1	1	1	1	X X	X	-
Mercury Vapor Mesityl Oxide (Methyl Isobutenyl Ketone)	Gas Colorless Oily Liquid	1	1	1	-	2	X X	X	<u>ΕΑ\</u> Χ	/AIL	ABLE 2	X	Х	2	-	Х	1	1	1	1	1	÷
Mesitylene (Trimethylbenzene) Metallic Soaps (Aluminium, Calcium, Zinc) Methallyl Alcohol (Methylallyl Alcohol)	Liquid Solids @ Room Temperature Colorless Liquid	1 1 1	1	1	X - -	X X	X 1 1	X X	X X 2	X - -	X X 2	1 1 2	2 2	1	1 -	X - -	1	1	1	1	1	-
Methane Methanol (Methyl Alcohol)	Gas Colorless Liquid	1 1	1	1	1	1	1	1	1	1	1	1 X	1	1	1	2	- 1	1	1	1	2	<u>.</u>



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NOTE: Ratings are for the effect on the <i>polymer only</i> !		eoflon®	K	L	S	P	С	D	D	Α	Н	V noq	M	J	Z	G	n Steel	teel 304	teel 316	_		lene
Chemical	Form (at room temperature unless otherwise stated)	Teflon [®] /Neoflon	Gatron™	UHMWPE	Sanitron	EPDM	NBR	SBR	N. R.	Neoprene	Butyl	Fluorocarbon	Hypalon®	CPE	Nylon	PVC	Iron/Carbon Steel	Stainless Steel 304	Stainless Steel	Aluminum	Brass	Polypropylene
Methionine Methoxychlor Solution (in Alcohol) Methyamine (Monomethylamine) Methyl Acetate	White Crystalline Powder Solution Liquid Colorless Liquid	1 1 1	1 - 2	-	-	2	- - X	- - X	1 - X	- - X	2	- - X	- - X	- - 1	1 1 1	Х Х	1 1 1	1 1 1	1 1 1	- - 1	- - 1	
Methyl Acetoacetate Methyl Acetone Methyl Acrylate (Inhibited) Methyl Acrylate Acid(Methylacrylic Acid) Methyl Alcohol (100%) (Methanol)	Colorless Liquid Water White Liquid Colorless Liquid White Solid Colorless Liquid	1 1 1 1	- 2 1	- - 1 1	- 2 1	1 2 2 1	X X X 2 1	- X X 1	X X X X	X X - 1	2 X 1	X X X 1 X	X X X -	- - 1 1	- - X 1	1 - 2	- 1 - 1	- 1 - 1	- 1 - 1	- 1 - 1	1 - 2	-
Methyl Bromide Methyl Bromoacetate Methyl Butanathiol (Butyl Mercaptan) Methyl Butanol (2-Methyl-1-Butanol)	Liquid @ 55 PSIG @ 120°F (49°C) Colorless to Straw Colored Liquid Liquid Colorless Liquid	1 1 1	1 1 1 1	1 - 1	- X 1	- X X 1	- 1	X - X	X - X	- -	- X X 1	1 1 1	- -	- - 1	1 - - 1	- X X 1	-	1 1	1 1	-	1 - -	
Methyl Butyl Ketone (MBK) Methyl Carbitol (Diethylene Glycol Methyl Ether) Methyl Cellosolve (Diethylene Glycol Methyl Ether) Methyl Chloride	Colorless Liquid Colorless Liquid Colorless Liquid Colorless Liquid Liquid @ 160 PSIG @ 120°F (49°C)	1 1 1 1	1 1 2	-	1 1 X	1 1 X	- X	X X X	X X X	X - X	X X X	X 1 1	X X X	2 1 1 X	-		1 - 1	1 - - 1	1 - 1	1 -	1 -	
Methyl Chloroform (1,1,1 Trichloroethane) Methyl Chloroformate Methyl Cyanide (Acetonitrile) Methyl Cyclohexane	Colorless Liquid Colorless Liquid Colorless Liquid Colorless Liquid Colorless Liquid	1 1 1 1	2 - 1	2	X - 1 X	X X 2 X	X X X X	X X 2 X	X X 2 X	X X X	X X X	1 1 X	X X X	X - 1	X - -	X - 1	- - 1	- - 1	- - 1	- - -	- - -	
Methyl Ethyl Ketone (MEK) Methyl Formate Methyl Hexanol Methyl Hexanone (Methyl Isoamyl Ketone)	Colorless Liquid Colorless Liquid - Colorless Liquid -	1 1 1 1	2 1 -	1 -	1	2 2 -	X X 1 X	X X -	X X X 1 X	X 2	2 2 1 2	X X 2 X	X X X 1 X	2 -	1	X -	1 1 -	1 1 -	1 1 -	1 1 -	1 1	
Methyl Hexyl Ketone Methyl Isoamyl Ketone (Methyl Hexanone) Methyl Isobutenyl Ketone (Mesityl Oxide) Methyl Isobutyl Ketone (MIBK)	Colorless Liquid Colorless Liquid Colorless Oily Liquid Colorless Liquid	1 1 1 1	- 1 2	- - 1	-	- - 2	X X X X	- X X	X X X	- X X	2 2 2 2	X X X X	X X X X	- 2 2	- - - 1	- X X	- - 1	- - 1	- - 1	- - 1	- - 1	
Methyl Isopropyl Ketone Methyl Methacrylate Methyl Methacrylate Monomer, Inhibited Methyl Phenol (Cresol)	Colorless Liquid Colorless Liquid Colorless Liquid Colorless Liquid Liquid above 95°F (35°C)	1 1 1 1	2 - 2	-	2	2 X	X X X X	X X X X	X X X X	X X X X	2 X X 2	X X X	2 X X	2 - 1	1 - X X	1 X	1 - 2	1 - 1	1 - 1	1 - - 1	1 - -	- - 2
Methyl Propyl Carbinol (2 Pentanol) Methyl Propyl Ether Methyl Propyl Ketone (Pentanone) Methyl Salicylate	Colorless Liquid Colorless Liquid Water White Liquid Yellow to Red Liquid	1 1 1 1	1 - 1	1 - -	1 -	1 - 2 2	X X 2	- - -	X	- X 2	1 X 2 2	1 - X	2 X	1 -	- - -	- X 1	- - - 1	- - - 1	- - 1	- - - 1	- - 1	- - -
Methyl Stearate Methyl Sulfate (Dimethyl Sulfate) Methyl-2-Pyrrolidone Methyl-n-Amyl Carbinol	Liquid above 99°F (38°C) Colorless Liquid Colorless Liquid Colorless Liquid	1 1 - 1	1 2	-	-	X -	X -	Х -	X -	X -	2	X -	X -	- - -	- 1 -	1	-	- - -	-	- - -	- - -	
Methyl-n-Amylketone Methylacetylene Propadiene (MAPP Gas) Methylacrylic Acid (Crotonic Acid) Methylal	Water White Liquid Liquid @ 107 PSIG @ 68 F° (20°C) White Crystalline Solid Colorless Liquid	1 1 1 1	1 - 1 -	- - 1	- 1 -	- - 2 -	- - 2 -	- X -	- X -		- - 1	- 1 1	-	- 1 1	- X	-		-	- - -	-	-	
Methylallyl Alcohol (Methallyl Alcohol) Methylallyl Chloride Methylamine (30-40% in H ₂ O) Methylamine (Anhydrous)	Colorless Liquid Colorless to Straw Colored Liquid Colorless Liquid Liquid @ 120 PSIG @ (120°F (49°C)	1 1 1	- - 1	-		- - 2	1 - X -		2	-	2	2 1	2		-	- X X	-	-	-	-	-	-
Methylamyl Acetate Methylamyl Alcohol	Colorless Liquid Colorless Liquid	1 1	- 1	-	-	-	-	-	-	-	-	- 1	-	-	-	-	-	-	-	-	-	-



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NOTE: Ratings are for the effect on the <i>polymer only</i> !		T _® uc	K	L	S	Р	С	D	D	Α	Н	V	М	J	Z	G	eel	304	316			ď.
Chemical	Form (at room temperature unless otherwise stated)	Teflon [®] /Neoflon [®]	Gatron™	UHMWPE	Sanitron	EPDM	NBR	SBR	NR	Neoprene	Butyl	Fluorocarbon	Hypalon®	CPE	Nylon	PVC	Iron/Carbon Steel	Stainless Steel 304	Stainless Steel 316	Aluminum	Brass	Polypropylene
Methylaniline Methyldiethanolamine	Colorless to Brown Liquid Colorless Liquid	1	1	1	1	2	X	- -	-	X	-	1 -	2	-	X	X	-	- -	-	-	-	-
Methylene Bromide Methylene Chloride (Dichloromethane) Methylene Dichloride	Clear Liquid Colorless Liquid Colorless Liquid	1 1 1	- 1 1	- 2 -	X X	X X	2 X X	X X	X X	X X	X X	1 2 1	X X	X X	X X	X X X	- 1 1	- 1 1	- 1 1	- 1 X	- 1 1	-
Methylene Dichloride (Methylene Chloride) Methylene Diphenyl Diisocyanate, MDI	Colorless Liquid Liquid above 99°F (37°C)	1 -	1	2	X -	X -	X -	X -	X -	X -	X -	1	X -	X -	X -	X -	1 -	1	1	X -	1	-
Methylstyrene MIBK (Methyl Isobutyl Ketone)	Colorless Liquid Colorless Liquid	1 1	2	-	-	-	- X	- X	- X	X	2	1 X	- X	2	- 1	- X	-	-	-	-	-	-
Milk Mineral Oil	White Liquid Colorless Liquid	1	1	1	Х	Х	<u>US</u>	E FC	X A (OSE (ONLY X	1	1	1	1	1	1	1	1	2	1	_
Mineral Spirits (VM&P Naphtha) MIPA (Isopropanolamine) Mobile Therm 603	Colorless Liquid Liquid Liquid	1 1 1	1 -	- - -	- -	X - -	1 2 1	X - -	X 2	- - -	X 1 -	1 X 1	X X -	- - -	1 - -	- - -	1 - 1	1 - 1	1 - 1	2 - 1	1 - 1	
Molasses Monochloroacetic Acid	Brown Liquid Colorless to Light Brown Crystals	1	1	- X	1 -	1	2	2 X	2	2	1 -	1 -	1	-	-	2	2	1 -	1	2	X -	-
Monochloroacetic Acid Solution (in H ₂ O or Alcohol) Monochlorobenzene Monoethanolamine	Liquid Solution Clear Liquid Colorless Liquid	1 1 1	1 2 2	X - 1	1 X 1	2 X 2	х 2	X 2	- Х 2	X 2	X 2	1 X	X X	X 1	X X 1	х 2	X 1 1	X 1 1	X 1 1	-	2 1 1	1 -
Monoethylamine Monoethylamine Solution (70% or less) Monoglycerides Monomethylamine (Methyamine) Monopentaerythritol (Pentaerythritol)	Liquid @ 15 PSIG @ 120°F (49°C) Liquid Solution Liquid to Solid Liquid @ 120 PSIG @ 120°F (49°C) White Powder	1 1 1 1	1 1	- - - -	1	1 - - -	- - -	- - -	- - - 1	- - -	- - - -	- - -	- - -	- - -	- - -	- X	- - 1	- 1 1	1 - 1 -	- - -	- - -	
Monopentaerythritol Solution Monosodium Phosphate (Monobasic)	Liquid Solution White Powder	1	1	1	1 -	2	-	2	2	- X	2	1	-	1	<u>-</u> 1	<u>-</u> 1	-	<u>-</u> 1	1	- X	<u>-</u>	<u>-</u>
Morpholine Mortar, Inorganic Motor Oil	Colorless Liquid Powder Liquid	1 - 1	- - 1	-	- - X	- - X	- - 1	- - X	1 X	- - 2	- - X	- - 1	- - 2	- - 1	- - 1	- - 2	- - 1	- - 1	- - 1	- - 1	- - 1	-
Mould Oil Mouth Wash	Liquid Liquid	1	1	<u>-</u> 1	- 1	-	-	-	-	-	-	-	-	-	-	-	1	1	1	- 1	- 1	-
MTBE (Methyl Tertiary Butyl Ether) Muriatic Acid (Hydrochloric) Mustard	Colorless Liquid Colorless to Yellow Liquid Liquid	- 1 1	2	1	1 1 2	- X	X	2	- 2 1	х 1	2	X 1	2	1	- X	X	X	Х 1	Х 1	Х	Х	-
N																						
n-Hexaldehyde n-Methyl-2-Pyrrolidone n-Octane Naphtha (Low Aromatic Content)	Colorless Liquid Colorless Liquid Colorless Liquid Liquid	1 - 1 1	1 2 2 1	- - 1	- X X	2 - X X	X - 1 2	X - X X	X - X X	2 - - X	1 - X X	- 1 1	- X X	- 1 1	- - 1	X X	- - 2	- - 1	- - 1	-	- - 1	-
Naphthalene	White Crystalline Flakes	-	- -	-	-	-	-	-	1	-	-	-	-	-	-	-	1	1	1	1	1	<u>-</u>
Naphthenic Acid Neohexane Neutral Oil Nickel Acetate	Commercial Grade is Dark Fluid Colorless Liquid Liquid Green Crystals	1 1 1 -	1 1 -	- 1 -	2	X X	2 1 2	- X	- X 1	2 2	- X	1 1 1	-	-	1	1 - -	- 1 1	- 1 1	- 1 1	- - 1	- 1 1	-
Nickel Acetate Solution (In Water or Alcohol) Nickel Carbonate	Solution Green to Brown Crystals/Powder	1	1	1	1	2	-	2	2	-	1	-	-	-	-	-	1	1	1	1	1	÷
Nickel Chloride Nickel Chloride Solution (In Water or Alcohol) Nickel Nitrate	Brown Deliquescent Scales Solution Green Deliquescent Crystals	- 1 -	1	-	-	2	2	2	1 2 1	2	2	- 1 -	2	1	-	- 1 -	X X -	2 2	2 2 2	X X X	X X	-
Nickel Nitrate Solution (In Water or Alcohol)	Solution	1	1	-	-	2	2	2	2	2	2	1	2	1	-	2	-	-	2	Χ	-	-



Contact Denver Product Application for recommendations for chemicals not listed.					G	ate	s l	Hos	se .	/ P	oly	me	ers				(upl lap		gs / rs	'
Phone (303) 744-5070 1 = Preferred - Constant Contact 2 = Acceptable - Intermittent Contact X = Not Recommended		Stallion [®]	Mustang [®]	Renegade"	Food & Bev. Mstr.																	
-= No Data NOTE: Ratings are for the effect		T	Σ K	Ľ L	S	Р	С	D	D	Α	Н	V	M	J	Z	G	Б	4	316			
on the <i>polymer only</i> ! Chemical	Form (at room temperature unless otherwise stated)	Teflon [®] /Neoflon	Gatron™	UHMWPE	Sanitron	EPDM	NBR	SBR	NR	Neoprene	Butyl	Fluorocarbon	Hypalon [®]	CPE	Nylon	PVC	ron/Carbon Steel	Stainless Steel 304	Stainless Steel 31	Aluminum	Brass	Polypropylene
Nickel Plating Solution	Liquid	1	1	<u> </u>	<i>ග</i>	<u>ш</u>	2	2	2	-	<u>m</u>	<u>L</u>	2	-	<u> </u>	Х	-	<u>თ</u>	<u>თ</u>	∢ .	<u> </u>	<u>-</u>
Nickel Salts Nickel Sulfate Nickel Sulfate Solution	- Yellow Green to Blue Crystals Solution	1 - 1	1 - 1	-		1 - 2	1 - 2	1 - 2	1 1 2	1 - 2	1 - 2	1 - 1	1 - 2	- - 1	1 -	2 -	-	2	- 1 1	X X	X X	- - -
Nicotine Salts (ie Nicotine Hydrochloride)	Colorless Oil	1	1	-	-	-	-	-	-	-	-	-	-	-	-	1	1	Χ	2	-	-	-
Niter Cake (Sodium Bisulfate) Niter Cake Solution	Colorless Crystals to White Lumps Solution	1	1	- 1	- 1	1	1	1 X	1 X	1	1 2	1	1 1	1	1	1	X	1	1	X	X	-
Nitric Acid (25% or less)	Colorless Liquid	1	1	1	2	2	Χ	Χ	Χ	Х	2	1	2	1	Χ	Χ	Χ	2	2	-	Χ	-
Nitric Acid (10%) Nitric Acid (25%)	Transparent or Yellowish Liquid Transparent or Yellowish Liquid	1	1	1	2	2	X	X	X	X	2	1	2	1	X	X	X	2	2	-	X	ᆜ
Nitric Acid (25%) Nitric Acid (35% or less, 26 Degrees Baume)	Colorless Liquid	1	1	1	2	2	X	X	X	x	2	1	1	X	X	X	X	2	2	-	X	-
Nitric Acid (52% or less, 36 Degrees Baume)	Colorless to Yellow Liquid	1	2	X	2	Χ	Х	Χ	X	Х	Χ	1	2	X	X	Х	Χ	2	2	-	X	-
Nitric Acid (61% or less, 40 Degrees Baume) Nitric Acid (63.5% or less)	Colorless to Yellow Liquid Transparent or Yellowish Liquid	1	2 X	X	2 X	X X	X	X X	X X	X X	X X	1	2 X	X	X	X X	X	2	2	-	X X	-
Nitric Acid (67% or less, 42 Degrees Baume)	Colorless to Yellow Liquid	1	Х	X	X	X	X	X	X	Х	X	1	X	X	X	X	Х	2	2	-	Х	-
Nitric Acid (95% or less, 48.5 Degrees Baume)	Yellow Liquid	1	X	Х	X	Х	Х	Х	X	Х	Х	1	Х	Х	Х	X	Χ	2	2	-	Χ	-
Nitric Acid (Red Fuming) Nitrobenzene	Red Liquid Yellow Liquid @ 43°F (6°C)	1	X 2	X	X 1	X 2	X	X X	X	X X	X X	1 2	X X	X	X 2	X X	1	- 1	1	1	- 1	-
Nitroethane	Colorless Liquid	1	1	-	-	2	X	2	2	X	2	-	2	1	-	-		1	1	-	1	-
Nitrogen (Cryogenic Liquid)	Liquid						NO	HOS		/AIL/	ABLE						1	1	1	1	1	-
Nitrogen (Gas) Nitrogen Dioxide (Nitrogen Tetroxide)	Colorless Gas Liquid @ 50 PSIG @ 120°F (49°C)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-
Nitrogen Fertilizer (Ammonia, Urea)	Solutions in Water	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nitrogen Oxide (Nitrous Oxide)	Gas	1	1	-	1	2	Χ	Χ	Χ	Χ	1	1	1	1	Χ	Χ	1	1	1	-	Χ	-
Nitrogen Tetroxide (Nitrogen Dioxide) Nitromethane	Liquid @ 50 PSIG @ 120°F (49°C) Colorless Liquid	1	-	-	-	2	- X	-	2	- X	2	1 X	- X	-	- 1	- X	-	- 1	- 1	-	- 1	-
Nitropropane	Colorless Liquid	1	1	-	-	2	X	X	X	x	2	X	-	-	1	-	-	1	1	-	1	-
Nitrosyl Chloride	Yellow-Red Liquid or Gas	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-
Nitrous Acid (Up to 10%) Nitrous Oxide (Nitrogen Oxide)	Light Blue Liquid Gas	1	1	1	1	2	- Х	<u>-</u>	<u>-</u>	1 X	1	1	1	1	1 X	1 X	X 1	1	1	X	Х	_
Nitrous Oxide (Nitrogen Oxide) Nitrous Oxide, Compressed Liquid	Liquid @ 800 PSIG @ 68°F (20°C)	1	-	-	-	-	_	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nonene (1-nonylene)	Colorless Liquid	1	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-
Nonyl Alcohol (Octyl Carbinol) Nonylene (Nonene)	Colorless Liquid Colorless Liquid	1	1	1	1	-	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-
, , ,	COTOTIESS Elquiu	<u> </u>								-												
Octadecanoic Acid (Stearic Acid)	Colorless Waxy Solid	1	1	1	1	2	2	2	2	2	2	1	2	1	1	1	Х	2	1	Χ	Х	
Octanoic Acid (Caprylic Acid)	Colorless Waxy Solid Colorless Oily Liquid	1	-	-	- '	-	-	-	-	-	-	_	-	1	-	-	-	-	-	-	-	-
Octanol (Octyl Alcohol)	Colorless Liquid	1	1	-	-	-	2	2	2	2	-	1	-	1	1	2	1	1	1	1	2	-
Octene Octyl Acetate	Colorless Liquid Colorless Liquid	1 1	-	-	-	-	- X	-	X	-	X	1 X	- 1	-	-	-	-	-	-	-	-	-
Octyl Alcohol (Octanol)	Colorless Liquid	1	1	-	-	-	2	2	2	2	-	1	÷	1	1	2	1	1	1	1	2	ᅱ
Octyl Aldehyde	Colorless Liquid	1	-	-	-	-	Χ	-	Χ	-	Χ	X	Χ	-	-	-	-	-	-	-	-	-
Octyl Carbinol (Nonyl Alcohol) Octyl Phenol (Diisobutyl Phenol)	Colorless Liquid White Flakes	1 1	1	1	1	-	1	-	1	-	-	1	-	-	-	-	-	-	-	-	-	-
Octylamine	Water White Liquid	1	-	-	-	-	Χ	-	Χ	-	2	Χ	Χ		-	-	Ŀ		-	-	-	-
Oil (SAE Motor Oils)	Liquid	1	1	-	Χ	X	1	X	X	2	X	1	2	1	1	2	-	-	-	-	-	- [
Oil of Turpentine Oils, Animal (High Fatty Acid Content)	Liquid Solid to Liquids	1	2	2	2	X X	1 1	X X	X X	2	X 2	1	X X	1	1	1 2	1	1	1	1	1]
Oils, Mineral (Aliphatic or Aromatic)	Liquids	1	2	-	Χ	Χ	2	Χ	Χ	X	Χ	1	2	2	1	X	-	-	-	-		2
Oils, Vegetable (Soybean, Coconut, Corn)	Liquids	1	1	-	Χ	Χ	1	Χ	Χ	-	Χ	1	Χ	-	1	-	-	-	-	-	-	1



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		T	K	L	S	Р	С	D	D	Α	Н	V	M	J	Z	G						ŀ
NOTE: Ratings are for the effect on the <i>polymer only</i> !		eoflon®		III						0		nod					on Steel	steel 304	Steel 316	ر		/lene
Chemical	Form (at room temperature unless otherwise stated)	Teflon®/Neoflon	Gatron [™]	UHMWPE	Sanitron	EPDM	NBR	SBR	Ä	Neoprene	Butyl	Fluorocarbon	Hypalon®	CPE	Nylon	PVC	Iron/Carbon Stee	Stainless Steel 304	Stainless S	Aluminum	Brass	Polypropylene
Oleic Acid (fatty acid)	Yellow to Red Oily Liquid	1	2	2	2	2	2	X	X	2	2	2	X	2	-	2	2	2	1	1	2	1
Oleum (Fuming Sulfuric, 30% SO₃ or less) Olive Oil	Clear to Off White Fuming Liquid Yellow to Green Liquid	1	X 1	X 1	X 2	X 2	X 2	X	X X	X X	X 2	1	X	X 2	X 1	X 2	2	- 1	1	- 1	2	X 1
	Colorless Liquid	1	2	-	X	X	X	X	X	x	X	1	X	X	1	X	-	1	1	-	1	-
Ortho-xylene (1,2 Dimethylbenzene)	Clear Colorless Liquid	1	Χ	Χ	Χ	Х	Χ	Χ	Χ	Χ	Χ	1	Χ	Χ	Χ	Χ	-	-	-	-	-	-
	Liquid Transparent Crystals	1	:	2	-	X	2	X	X 1	1	X	1	2	-	-	-	- Х	2	1	2	- Х	- 1
Oxalic Acid (50%)	Crystals in H2O	1	2	1	2	2	Χ	Χ	X	Χ	2	1	2	1	Χ	Χ	-	-	-	-	-	-
Oxygen	Colorless Gas	1	1	-	1	1	2	2	2	-	1	1	1	1	-	-	-	-	,	-	-	-
Oxygen, Refrigerated Liquid Ozone	Liquid @ 200 PSIG @ -231°F (-146°C) Gas	1	2	2	1	1	X		X X	/AIL/ 2	4BLE 2	2	2	1	2	1	1	- 1	1	- 1	- 1	- 1
Ozone	Ods	Ė			'		^	^	^					'		'	Ė	'		'		<u> </u>
Р																						
Paint (Emulsion or Latex)	Liquid	1	1	1	1	2	2	-	-	-	-	1	-	-	1	1	-	-	-	-	-	-
Paint (Inorganic) Paint (Oil or Solvent Based)	Liquid Liquid or Paste	1	-	1	- ~	X	2	- X	X	-	X	- 1	- X	-	- 1	-	-	1	1	1	1	-
Paint Remover	Liquid or Paste Liquid or Paste	1	2	-	X	X	X	X	X	X	X	1	X	-	X	-	-	-	-	-	-	-
Paint Resin	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Palm Oil Palmitic Acid (Hexadecanoic Acid)	Yellow to Brown Solid Crystals in Hot Alcohols	1	1	- 1	2	2	1 2	X	X X	2	2	- 1	2 X	- 1	-	-	1	1 2	1	1	1 X	- 1
	In Water	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Paraffin (Aliphatic Hydrocarbon)	Varies from Gas to Waxy Solid	1	1	1	Χ	Χ	1	Χ	X	2	Χ	1	Χ	1	-	-	2	1	1	-	1	-
Paraformaldehyde Paraldehyde	White Solid - Flakes or Powder Colorless Liquid	1	÷	÷	-	-	2	-	1	2	-	÷	-	-	÷	1	H	1	1	1	÷	÷
Paranox (Detergent, Disperser; Exxon)	-	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Liquid	1	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-
Peanut Oil Pelargonic Acid	Yellow to Green Liquid Colorless to Yellow Oil	1	1	-	2	-	1	-	-	2	X	-	-	-	-	2	1	1	1	1	1	1
Pentachloroethane	Colorless Liquid	1	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-
Pentachlorophenol In Oil	In Oil (Wood Preservative)	1	1	1	Χ	Χ	Χ	Χ	X	Χ	1	1	-	-	-	Χ	-	-	-	-	-	-
Pentaerythritol (Monopentaerythritol) Pentane	White Powder Colorless Liquid	1	X	X	X	X	-	-	1	-	-	1	-	1	-	-	-	-	-	-	-	-
Pentanol (Methyl Propyl Carbinol)	Colorless Liquid	1	1	1	1	1	-	-	-	-	1	1	-	1	-	-	-	-	-	-	-	-
Pentanone (Methyl Propyl Ketone) Pentasol (Amyl alcohols, primary and secondary)	Water White Liquid	1	2	2	- 2	2	X 2	2	X	X 2	2	X 1	X 2	- 1	-	X 2	-	- 1	- 1	-	- 1	-
Perhasol (Arryl alcohols, primary and secondary) Perchloric Acid (70%)	Liquid 70% or Less with H2O	1	2	1	2	-	-	2	2	2	2	1	2	-	1 X	X	-	2	1	1 -	-	1
Perchloroethylene	Colorless Liquid	1	2	-	Χ	Χ	Χ	Χ	Χ	Χ	Χ	1	Χ	2	2	Χ	1	1	1	-	Χ	-
Petroleum Coke Petroleum Distillate	Solid Pellets Liquid	- 1	•	-	-	-	-	-	1	-	-	- 1	-	-	-	-	-	-	-	-	-	-
Petroleum Ether (Naptha)	Liquid	1	1	-	X	X	2	X	X	X	X	1	X	1	÷	X	2	1	1	-	1	÷
	Liquid	1	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	1	Χ	Х	Χ	Χ	-	-	-	-	-	-
	Liquid Liquid	1	1	1	- X	X	- 1	- X	X	2	X	1	2	-	- 1	1	-	-	-	-	-	:
Petroleum Oils (Sour)	Liquid	1	1	1	Χ	Χ	1	X	X	2	X	1	X	-	-	2	-	-	-	-	-	-
Petroleum Paraffin Wax	Solid with low Melt Points	1	2	2	X	χ	-	-	- V	- V	-	1	-	-	-	- V	- V	-	-	-	-	-
Phenol (Carbolic Acid) Phenol Acid	White or Pink Crystals 95% or less with H2O	1	2	2	2	2	X	X X	X X	X X	2	1 1	X X	1	X	X	X	1 1	1	2	X X	:
Phenolates	-	1	-	-	-	-	X	-	-	Χ	-	2	Χ	-	2	-	-	-	-	-	-	-
Phenolsulfonic Acid	Yellow to Brown Liquid Greenish Powder or Flakes	1	-	-	-	-	-	-	- 1	-	-	1	-	-	-	-	-	-	-	-	-	-
Phenothiazine																						,



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Contact X = Not Recommended - = No Data		ط Stallionُ	≫ Mustang®	г Renegade	ω Food & E	P	С	D	D	A	Н	V	M	J	Z	G						
NOTE: Ratings are for the effect on the <i>polymer only</i> !		leoflon [®]		Ш	2					Ф		rbon	^				on Steel	Steel 304	Steel 316	_		ylene
Chemical	Form (at room temperature unless otherwise stated)	Teflon®	, Gatron™	UHMWPE	Sanitron	EPDM	NBR	SBR	NR	Neoprene	Butyl	Fluorocarbon	: Hypalon [®]	CPE	Nylon	PVC	Iron/Carbon Steel	Stainless	Stainless		Brass	Polypropylene
Phenyl Chloride (Chlorobenzene) Phenylenediamine (ortho) Phorone (Diisopropylidene Acetone)	Clear Volatile Liquid Colorless to Red Solid Needles Yellow Liquid	1 -	2 - 1	-	X -	X - 2	X - X	X - X	X 1 X	X - X	X - 2	1 - X	X - X	X -	X -	X -	1 -	1 - 1	1 - 1	1	1 -	X -
Phosgene (Carbonyl Chloride) Phosphate Ester Hydraulic Fluid	Gas, Liquid 60 PSI @ 120°F (49°C) Liquid	1 1	X 1	X 1	X	X 1	X X	X X	X X	X X	2	1	X X		2	-	- ' '	-	-	- 	- -	-
Phosphate Rock Phosphate, Trisodium	Solid In Water	- 1	- 1	- 1	- 1	-	-	-	1 -		-	- 1			-	-	-	-		-	-	
Phosphoric Acid (100%) Phosphoric Acid (35% or less) Phosphoric Acid (50%)	Crystals Colorless Liquid Colorless Liquid	1 1 1	2 1 1	X 1 1	2 1 1	2 1 1	- 2 2	- 2 2	- 2 2	- 2 2	- 2 2	1 1 1	- 1 1	- 1 1	- - X	- - X	X X	- 1 1	- 1 1	X X	- 2 2	- 1 1
Phosphoric Acid (75%) Phosphoric Acid (85%)	Colorless Liquid Syrupy Liquid	1 1	2	1 1	2 2	2	- X	- X	- X	- X	- X	1 1	1 1	1	X X	X X	X X	2 2	2	X X	X X	1
Phosphoric Acid (90%) Phosphoric Acid, Spent Photographic, Developers	Syrupy Liquid Liquid -	1 1 1	1	1	2	1	-	-	-	-	-	1	-	-	-	-	-	-	-	- - _	-	-
Photographic, Emulsions	Liquid Liquid	1	-	-	-	-	-	-	-	-	-	-	-	-	-	- 1	-	-	-	-	-	Ŧ
Photographic, Fixing Solutions Phthalic Acid Phthalic Acid (50%)	Colorless Crystals Colorless Liquid	- 1	-	- 1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Phthalic Anhydride, Molten	White Crystalline Solid	-	-	Χ	-	-	-	-		-	-	- 1	-	-			-	- - 1	- 1	-	- -	-
Picric Acid (Solution) Picric Acid (Trinitrophenol)	In Water Yellow Crystals	1	2	2	2	2	2	2	2	2	2	1	2	-	X	1	X	1	1	X	X	1
Pine Oil Pine Tar	Colorless to Amber Liquid Viscous Brown to Black Liquid	1 1	1	-	-	X -	2	X -	X -	-	X -	2 1	X -	2	-	-	-	-	-	-	-	-
Pinene Piperazine Hydrochloride Solution (34%)	Colorless Transparent Liquid In Water	1	1	-	X	X	2	X	X	X	X	1	-	2	1	X	1	1	1	-	-	_
Pitch Plating Solution Chrome (Under 120°F/49°C)	In Aromatic Hydrocarbons Liquid	1	2	X	X	X 2	2	Χ	Χ	X	X 2	1 2	Χ	-	1 X	X X	-	- X	- Х	-	-	- 1
Pluronic (Block Polymer with Hydroxyl by BASF)	Liquid	1	1	1	1	1	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-
Polyester Plastic Polyethylene Glycol	- Colorless Liquid to glassy Solid	1	1	-	-	1	2	-	1	1	1	1	1	-	2	2	-	-	-	-	-	-
Polyethylene Plastic Polypropylene Glycol	Solid Beads Liquid	- 1	1	-	1	1	1	-	1 1	- 1	- 1	1	1	-	-	-	-	-	-	-	-	-
Polypropylene Plastic Polystyrene Plastic	Solid Beads Solid Beads	-	-	-	-	-	-	-	1	-	-	-		-	-	-	-	-	-	-	-	-
Polyurethane Foam (Under 125°F/52°C)	=	1	1	-	- 1	2	- 1	-	- 1	-	2	2	- 1	-	-	-	-	-	-	-	-	-
Polyvinyl Acetate - Emulsions Potash (Potassium Carbonate) Aqueous Solution	Emulsion Liquid	1	1	-	1	1	-	1	1	1	1	1	1	-	1	1	2	1	1	-	X	1
Potassium Acetate Potassium Bicarbonate	White Powder Colorless crystal or white Powder	1 1	1	-	-	2 1	2 1	2	2 1	2	2 1	X 1	2	1 -	1	1 1	-	1	1	-	-	1
Potassium Bisulfate Potassium Bromate	Colorless crystal White Crystal or Powder	1	1	-	-	1	1	1	1	1	1	1	1	1	-	1	-	-	-	-	-	- 1
Potassium Bromide	White Crystals or Powder	1	1	-	-	1	1	1	1	1	1	1	1	-	1	1	-	-	-	-	-	-
Potassium Carbonate Potassium Carbonate, Liquid	White granular Powder Colorless to Cloudy Liquid	1 1	1 1	-	1	1 1	1 1	1	1 1	1 1	1 1	1 1	1	1	1 1	1 1	2	1 1	1 1	-	X X	1 1
Potassium Chlorate Potassium Chloride	Colorless to white Powder Colorless to white Solid	1	-	-		-	-	-	-		-	-	-	1	2	1	-	-	-]	- ⁻	-	-]
Potassium Chloride, Dry Potassium Chromate	White Solid Yellow Crystal	1	1	-	1	1	1 X	1 X	1 X	1 2	1 2	1 1	1	- 1	1 2	1 1	-	-	-	-	-	- 1
Potassium Cuprocyanide	White Crystalline Solid	1	-	-	-	1	1	1	1	1	1	1	1	-	2	1	-	-	-	-	-	1
Potassium Cyanide	White Crystal	1	-	-	١-	-	-	-	-	-	-	-	-	1	-	-	_	-	-		-	-



39496-000 July 30, 2009 Supersedes 39496-000 July 30, 2007

Contact Denver Product Application for recommendations for chemicals					_						_						(Col	upl	ing	gs /	Ī
not listed. Phone (303) 744-5070					G	ate	es I	HO	se	/ P	oly	me	ers					AC	lap	ote	rs	ᅱ
1 = Preferred - Constant Contact 2 = Acceptable - Intermittent Contact X = Not Recommended - = No Data		Stallion ®	Mustang	- Renegade [™]	Food & Bev. Mstr.			0		•						0						
NOTE: Ratings are for the effect on the <i>polymer only</i> !		on®	K	L	S	Р	С	D	D	Α	Н	V	М	J	Z	G	teel	304	316			Ф
Chemical	Form (at room temperature	Teflon [®] /Neoflon	Gatron [™]	UHMWPE	Sanitron	EPDM	NBR	SBR	N.	Neoprene	Butyl	Fluorocarbon	Hypalon [®]	CPE	Nylon	PVC	ron/Carbon Steel	Stainless Steel 304	Stainless Steel 316	Aluminum	Brass	Polypropylene
	unless otherwise stated)	Ĕ	Ō	⊃	ΐ	Ш	Z	S	Z	Ž	Ā	Ш	Í				Ιľ	℧	℧	₹	ā	<u>ı</u>
Potassium Dichromate Potassium Ferrocyanide	White Crystalline Powder	1	-	-	-	-	-	-	-	-	-	-	-	1	2	1	-	-	-	-	-	- 1
Potassium Ferrocyanide Potassium Fluoride	Yellow Crystal or Powder White Crystalline Powder	ľ	-	-	-	-	-	-	-	-		-		[-	1	-	-		-		1
Potassium Hydrate	White Solid	ľ	-	-	_	2	2	2	2	2	1	X	1	-	2	2	_	-		-	-	<u> </u>
Potassium Hydroxide (45% Caustic Potash)	Colorless to Cloudy Liquid	1	1	1	1	2	2	2	2	-	1	2	-	1	1	1	-	-	-	-	-	- [
Potassium Hydroxide, Liquid	Colorless to Cloudy Liquid	1	1	-	-	1	2	2	2	2	1	Χ	2	-	Χ	Χ	-	-	-	-	-	-
Potassium Iodide	White Solid	1	-	-	-	1	1	-	-	1	-	1	1	-	-	1	-	-	-	-	-	2
Potassium Nitrate	Colorless to white Solid	1	-	-	-	-	-	-	-	-	-	-	-	1	1	1	-	-	-	-	-	-
Potassium Permanganate	Dark purple Crystal	1	1	-	-	-	-	-	-	-	-	-	-	-	Χ	Χ	-	-	-	-	-	-
Potassium Persulfate	White Crystal	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
Potassium Phosphate	Colorless to white Crystal	1	-	-	-	1	-	-	-	1	-	1	1	-	-	-	-	-	-	-	-	-
Potassium Silicate, Other Than Dry	- NA/laita Caratal an Bassidan	1	1	-	-	1	1	2	-	1	-	1	-	-	-	-	-	-	-	-	-	-
Potassium Sulfate Potassium Sulfide	White Crystal or Powder Red or yellow Crystal or Solid	1	1	-	1	-	1	-	-	1	1	-	2	1	1	1	-	-	-	-	-	-
Potassium Sulfite	White Crystal or Powder	1	-	-	-	-		-	-		<u>'</u>	-	-	1	-	2	-	-	-	-	-	- 1
Potassium Thiosulfate	Colorless crystal	1	_	_	_	1	_	_		1	_	1	1	÷	_	1	-	_	_	_	_	Ⅎ
Primatol A, S, P (Ag Spray)	Liquid	Ιi	_	_	-		_	_	-	-	-	-	-	-	-	-	_	_	-	_	_	-
Propane Gas	Colorless Gas			(CONT	ACT	DEN	IVER	PRO	DDUC	CT AF	PLIC	ATIC	N			_	_	-	_	_	-
Propanediol	Colorless Liquid	1	1	-	-	1	1	-	-	Χ	1	1	2	-	-	-	-	_	-	-	_	-
Propanol (Propyl Alcohol)	Colorless Liquid	1	1	1	1	1	-	-	-	-	1	1	-	1	1	2	-	-	-	-	-	-
Propionic Acid	Colorless Oily Liquid	1	1	1	1	2	Χ	2	2	Χ	2	1	2	-	-	-	1	1	-	-	-	-
Propyl Acetate	Colorless Liquid	1	1	1	1	-	-	-	-	-	-	Χ	-	2	-	-	-	-	-	-	-	-
Propyl Alcohol (Propanol)	Colorless Liquid	1	1	1	1	1	-	-	-	-	1	1	-	1	1	2	-	-	-	-	-	-
Propyl Aldehyde	White-water Liquid	1	-	-	-	-	Χ	-	Χ	-	2	Χ	Х	-	-	-	-	-	-	-	-	-
Propyl Chloride	Colorless Liquid	1	-	-	-	-	Χ	-	Χ	-	Χ	2	Χ	-	•	-	-	-	-	-	-	-
Propylene	Colorless Gas	1	-	-	-	Χ	X	Χ	X	Χ	X	1	X	-	-	-	-	-	-	-	-	-
Propylene Diamine Propylene Dichloride (Dichloropropane)	Colorless Liquid Colorless Liquid	1	-	-	-	- X	2 X	- X	2 X	- X	2 X	2	X	-	-	-	-	-	-	-	-	-
Propylene Glycol	Liquid	ľ	1	-	1	1	1	1	1	1	1	1	1	1	2	1]	-		-	-	. I
Propylene Oxide	Colorless Liquid	Ľ		_					-			1	-	<u>'</u>	-	-	_	_	-	_	_	-
Purina Insecticide	-	1	1	-	-	2	Χ	-	-	Χ	2	2	-	-	2	-	1	1	1	1	2	-
Puropale RX Oils	Liquid	1	1	-	-	Χ	1	-	-	-	Χ	-	-	-	1	2	1	1	1	1	1	-
Pydraul 10E, 29E-LT, 30E, 60, 65E, 115SE	Liquid	1	1	-	-	2	Χ	-	-	-	2	-	-	2	-	Χ	1	1	1	1	1	-
Pydraul 135	Liquid	1	1	-	-	-	Χ	-	-	-	2	1	-	2	2	-	1	1	1	-	-	- [
Pydraul 150	Liquid	1	1	-	-	2	Χ	X	Х	Χ	2	1	X	2	2	Χ	1	1	1	1	1	-
Pydraul 280 Pydraul 312	Liquid	1	1	-	-	2	X	X	X	X	2	2	Χ	2	2	X	1	1	1	-	-	- [
Pydraul 312 Pydraul 50E	Liquid Liquid	1	1	-	2	X 2	X	X	X	X	X 2	1	-	2	1	X	1	1	1	-	-	[]
Pydraul 50E Pydraul 540	Liquid Liquid	ľ	1	-	-	X	X	X	X	X	X	1	X	2	X	X	1	1	1	-	-	[]
Pydraul 625	Liquid	1	1	-	-	2	X	X	X	X	2	1	X	2	2	X	1	1	1	-	-	-
Pydraul A-200	Liquid	1	1	-	-	X	Χ	Х	Χ	Χ	X	1	Χ	2	2	Χ	1	1	1	-	-	킈
Pydraul F-9	Liquid	1	2	-	-	2	Χ	Χ	Χ	Χ	2	1	Χ	2	2	-	1	1	1	-	-	-
Pyrene (Carbon Tetrachloride)	Colorless Liquid	1	2	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	1	Χ	2	1	Χ	Х	2	2	Χ	2	Х
Pyrethrum	Liquid	1	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	- [
Pyridine (50%)	-	1	2	-	2	-	-	-	-	Χ	-	Χ	Χ	-	-	Χ	Ŀ	1	1	1	1	늬
Pyrogard 160, 230, 630	Liquid	1	1	-	-	-	- V	-	-	-	-	2	-	-	-	-	1	1	1	-	-	- [
Pyrogard 51, 53, 55 Pyrogard C, D	Liquid	1	1	-	-	2	X	-	-	-	2	-	-	-	-	-	1	1	1	- 1	-	-
Pyrogard C, D Pyronal (Transformer Oil)	Liquid Liquid	1	1	-	-	X	1	-	-	-	X	1	-	-	1	2	1	1	1	1	1	:
r yronai (Transionnei Oil)	Liquiu	<u>'</u>	1	-	-	-	-	-	-	-	<u> </u>	- 1	-	Ľ.	-	-	Ľ.	-	-		-	٢



Contact Denver Product Application for recommendations for chemicals not listed.		Gates Hose / Polymers													gs /	,						
Phone (303) 744-5070 1 = Preferred - Constant Contact 2 = Acceptable - Intermittent Contact X = Not Recommended - = No Data		Stallion [®]	Mustang [®]	Renegade"	Food & Bev. Mstr.																	
NOTE: Ratings are for the effect		T ©c	K	L	S	Р	С	D	D	Α	Н	V	М	J	Z	G	 	8	16			
on the <i>polymer only</i> ! Chemical	Form (at room temperature unless otherwise stated)	Teflon [®] /Neoflon [®]	Gatron™	UHMWPE	Sanitron	EPDM	NBR	SBR	X X	Neoprene	Butyl	Fluorocarbon	Hypalon [®]	CPE	Nylon	PVC	Iron/Carbon Steel	Stainless Steel 304	Stainless Steel 316	Aluminum	Brass	Polypropylene
Q Quenching Oil Quintolubric 822	Liquid Liquid	1	- 1	-	-	- 2	2	-	-	2 2	- X	- 1	-		- 1	-	- 1	1	1	1	- 1	
R Ramrod (Ag Spray)		1	1												1		1	1	1	1	1	
Ranitou (Ag Spray) Rando Oils Rape Seed Oil Red Oil (Commercial Oleic Acid) (MIL-5606) Refined Wax (Petroleum) Regal Oils R&O Richfield "A" Weed Killer Road Paving Compound Road Tar	Liquid Brownish to yellow Liquid Liquid Liquid Liquid - Liquid -	1 1 1 1 1 1 -	1 1 2 1 1 1	- 2 - - X 2	2 2	X 2 2 - X X	1 1 1 1 2 -	- X X X	- X X X	- 2 2 2 - X	X 2 2 - X X	2 1 - 2	X X - - X	2	1 2 1 1 1	2 - 2	1 1 2 1 1	1 1 2 1 1	1 1 1 1 1	1 1 1 - 1	1 1 2 1 1 -	- - 1 - - -
Rubilene Oils	Liquid	1	1	-	-	Х	1	-	-	-	Х	-	-	-	1	2	-	-	-	-	-	-
Salicylic Acid Salt Water (Sea Water) Sauerkraut Sea Water Sevin	White Powder Liquid - Colorless Liquid	1 1 1 1	1 1 - 1 2	1	1 1 1 1 -	2 1 - 1 2	X 2 - 2	2 2 - 2	2 X - X	2 - 2	2 1 - 1	2 1 - 1	2 - 2		1 1 - 1 1	1 1 2 1	2 - 2	1 1 - 1	1 1 - 1	2	2 - 2	
Sewage Shampoo Shellac Shortening	Sludge Liquid Orange to colorless flake	1 1 1 1	1	1 1 X	1	1 - - X	2 - - 1	2	X - -	2	- - -	-	2	1	1 - 1 -	2 -	X - -	1	1	2	1	- - -
Silicate of Soda Silicone Greases Silicone Oils Silver Cyanide Silver Nitrate	Brownish or yellow Liquid Liquid Liquid White Powder Colorless crystal	1 1 1 1	2 2 1 1	-		- - - 1	2 2 - 1	- - - 1	- - 1	1 2 2 1 1	1 - - 1	2 2 - 1	1 2 2 - 1	- - - 1	1 1 - 1	2 2 1 2	1 1 - 2	1 1 - 1	1 1 - 1	- - - 1	1 1 - 2	- - 1
Skydrol 500A & 7000 Soap Oil Soap Solutions Soap, Liquid Soda Ash (Sodium Carbonate)	Liquid Liquid Liquid Liquid Grayish Powder	1 1 1 1 1	1 1 1 1 1	2 1 -	- - -	1 1 1 1	X 1 1 1	X X 2 1	X X 2 1	X 2 1 1	- 1 2 1	1 1 1	X 1 1	2 - 1 - 1	1 1 2 1	1 2 1	1 1 1 1	1 1 1 1	1 1 1 1	1 1 - X	- 1 - 2	- - - 1
Soda Water Sodium Acetate Sodium Aluminate Solution Sodium Benzoate Sodium Bicarbonate	Liquid Colorless crystal Colorless to cloudy Liquid White Crystals or Powder White Crystal or Powder	1 1 1 1	1 1 - 1	-		2 1 - 1	X 1	2 2 - 1	2 2 - 1	X 1	2 1 - 1	X 1 -	X 1	1 - 1	1 2 - 1	1 2 1 1	1 - 2	1 - - 1	1 - - 1	1 - -	1 - 2	- - 1
Sodium Bichromate Solution Sodium Bisulfate (Niter Cake) Sodium Bisulfite Sodium Borate (Borax) Sodium Carbonate (Soda Ash) Sodium Chlorate Sodium Chloride	Red to clear Liquid Colorless Crystals to White Lumps White Crystals or Powder White Crystals Grayish Powder Colorless Crystals Colorless to white Crystals	1 1 1 1 1 1 1 1	1 1 1 1 - 1	- - - - - 1	- - - - 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 2	1 1 1 1 2	1 1 1 1 1 1 1	1 1 1 1 1	1 1 1 1 - 1	1 1 1 1 1 1	1 1 1 1 1 1	X 1 2 1 -	1 1 1 1 -	1 1 1 1	X - X X - X	X - 2 2 - X	- - 1 1



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NOTE: Ratings are for the effect		T	K	Ĺ	S	Р	С	D	D	Α	Н	V	М	J	Z	G		_	,			
on the <i>polymer only</i> ! Chemical	Form (at room temperature unless otherwise stated)	Teflon®/Neoflon®	Gatron™	UHMWPE	Sanitron [™]	EPDM	NBR	SBR	NR	Neoprene	Butyl	Fluorocarbon	Hypalon [®]	CPE	Nylon	PVC	Iron/Carbon Steel	Stainless Steel 304	Stainless Steel 316	Aluminum	Brass	Polypropylene
Sodium Chlorite Solution Sodium Chromate	Colorless to cloudy Liquid Yellow, translucent Crystals	2	-	-	-	X -	X 1	2	2	X 1	2	X 1	2 X	-	X 2	2	-	-		-	-	-
Sodium Cyanide Sodium Cyanide Sodium Dichromate	In Water White Crystaline Powder Red to red-orange Crystals	1 1 1	1	-	-	1 1 1	1 1 1	1 1 2	1 1 2	1 1 2	1 1 1	1 1 1	1 1 2	1 1 1	1 1 -	1 1 1	2 2 -	1	1	X X -	X X -	- - 1
Sodium Ferricyanide Sodium Ferrocyanide	Ruby-red Crystals Yellow, transparent Crystals	1	-	-	-	-	-	-	-		-	-	-	-	-	1 1	-	-	-	-	-	1
Sodium Fluoride (70%) Sodium Hydrate	White Liquid White Solid	1	1	1	-	2	- 2	2 2	2	- 2	2	- 2	- 2	-	- 2	1 2	-	-	2	-	-	-
Sodium Hydrochlorite	Pale greenish Liquid Colorless needles	1	2	-	-	2	X	2	X	X	2	1	1	-	2	2	-	-	-	-	-	<u>-</u>
Sodium Hydrosulfide Sodium Hydrosulfite	Lemon colored Powder or flake	1	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-
Sodium Hydroxide (10%) Sodium Hydroxide (40%)	Colorless Liquid Colorless Liquid	1 1	1	1 1	1	2	2	1	1	1	2	1 1	1	1	X	-	2	1	1	X	X	-
Sodium Hydroxide (50%) (Under 212°F/100°C) Sodium Hydroxide (50%) (Under 115°F/46°C)	Colorless Liquid Colorless Liquid	1	1	2	1	2	- X	- 1	1	2	1	X	1	1	- X	-	2	2	2	- X	<u>-</u>	÷
Sodium Hydroxide (50%) (Under 180°F/82°C) Sodium Hydroxide (60%)	Colorless Liquid White Liquid	1 1	1	2	1 -	2	X	X 2	X 2	2	2	X	2	1	X	-	X X	2	2	X	X X	-
Sodium Hydroxide (25%) Sodium Hypochlorite (20%)	Colorless Liquid White Liquid	1	1	1 1	1	2 1	2 X	1 X	1 X	1 X	2	1 X	1 1	X 1	- 2	- 1	X X	X X	2	X X	X X	-
Sodium Hypochlorite (5%) Sodium Hyposulfate	White Liquid Large, transparent Crystals	1	2	1	-	1	X	X	Х	-	-	1	1	1	1	1	Х	X	2	X	Х	-
Sodium Metallic	Silver Solid	2	-	-	-	1	2	-	-	- 0	-	-	-	-	-	-	-	-	-	-	- - V	-
Sodium Metaphosphate Sodium Nitrate	Colorless Crystals to white Powder Colorless crystal	1 1	1	-	-	2 2	2 X	2 X	2 X	2 X	2 2	2	2 2	1	1 1	1 1	X 1	1 2	1	1 2	X 2	-
Sodium Perborate Sodium Peroxide	White, amorphous Powder Yellowish white Powder	1 1	1	2	-	2	X -	X -	X -	X 1	2 1	- 1	X 1	2	2 X	- 1	X X	1	1	1	X X	-
Sodium Phosphate Sodium Silicate	Colorless Crystals to white Powder Lumps of greenish glass	1 1	1	-	- 1	2	- 1	2	2	X 1	2 1	- 1	- 1	1	1	1 1	-	1	1	X	X	- 1
Sodium Sulfate	White Crystals or Powder	1	1	-	-	1	1	2	2	1	1	1	1	1	1	1	-	-	-	-	-	1
Sodium Sulfate Decahydrate (Glauber's Salt) Sodium Sulfhydrate	Crystals or Powder Colorless to cloudy Liquid	1	2	-	-	1	2	1 X	1	2	2	2	2	-	2	2	-	-	-	-	-	-
Sodium Sulfide Sodium Sulfide Solution	Yellow/Brick red flakes or Crystals Colorless to cloudy Liquid	1 1	1	-	-	1 1	1 2	2	2	1 2	1 1	1 2	1 2	1 -	1 X	1	-	-	-	-	-	1
Sodium Sulfite Sodium Sulfite Solution	White Crystals or Powder Colorless to cloudy Liquid	1	2	-	-	2	2	2	2	2	2	2	2	1	1 X	1	1	1	1	-	-	<u>-</u>
Sodium Sulphydrate Sodium Thiocyanate Solution	Colorless needles Colorless to cloudy Liquid	1	2	-	-	1 1	2	2	-	2	1 2	2	2	-	2	2	-	-	-	-	-	-
Sodium Thiosulfate (HPO)	White Powder	1	1	-	-	-	1	1	1	1	1	-	1	1	1	1	X	1	1	2	X	-
Sodium Tripolyphosphate (STPP) Solnus Oils	White Powder Liquid	1	1	-	-	X	1	-	-	-	2 X	- -	-	-	1	1	1	1	1	X 1	1	÷
Sour Crude Oil Soybean Oil	Liquid Pale yellow oil	- 1	- 1	- 1	2	- X	- 2	- X	X	2	2	- 1	- 2	-	- 1	X 2	- 1	- 1	- 1	-	-	-
Spent Acid Stannic Chloride	Liquid Colorless, fuming Liquid	1	2	2	X	X	X 2	X 2	X 2	X	X	1	2 X	X 1	X	X 2	- X	1	1	-	- X	-
Stannic Sulfide	Yellow to brown Powder	1	2	-	-	-	2	-	2	-	2	-	2	-	-	-	-	-	-	-	-	<u>-</u>
Stannous Chloride (Under 150°F) Starch	White Mass White amorphous Powder	1 1	1	-	1	2 1	1 2	1	1 1	1 2	1	1 1	1 1	1 -	X 1	1 1] -	-	-	-	-	1
Starch gum (Dextrin) Stauffer Jet 1	Yellow or White Powder Liquid	1 1	1	-	-	1	1	-	-	1	X -	1	-	-	1	1 -	- 1	1 1	1	- 1	- 1	1
Stauffer Jet 2	Liquid	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	_



for recommendations for chemicals not listed.				Ga	ate	s I	Hose / Polymers										Couplings Adapters					
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NOTE: Ratings are for the effect on the <i>polymer only</i> !		e e			0	<u>. </u>	Ü		<u> </u>	٨			IVI	J			teel	304	316		<u>o</u>	
Charrie	Form (at room temperature	Teflon [®] /Neoflon	Gatron		Sanitron	EPDM	NBR	SBR	~	Neoprene	Butyl	Fluorocarbon	Hypalon [®]	CPE	Nylon	PVC	Iron/Carbon Steel	Stainless Steel 304	Stainless Steel 316	Aluminum	Brass Polypropylene	
Chemical	unless otherwise stated)	Τe	<u> </u>	5	ő				폴				Í	Ö	ź	Δ	<u>1</u> 2	ťŠ	ΰ	₹	<u> </u>	
	Gas Colorless Waxy Solid	1	1 '	1	1	2	2	2	2 2	2	ONL 2	. Y	2	1	1	1	- Х	2	1	X	 Х -	
Stearin	Colorless crystal or Powder	1		-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-		
STPP (Sodium Tripolyphosphate)	Clear petroleum distillate White Powder		2 · 2 ·	-	2	X 2	2	X 2	X 2	-	X 2	1 X	-	1 -	1 -	2	2	1 2	1 1	- Х	1 - X -	
	Liquid Colorless Oily Liquid	1	2 .	-	- Х	- Х	- Х	- X	- X	-	- X	2	-	2	1	2	2	- X	- 2	- X	 2 -	
	Liquid		1 .	-	1	-	1	1	1	1	1	-	1	-	-	-	1	1	1	-		
	Liquid		1 .	-	1	1	1	1	1	1	1	1	2	-	-	-	-	-	-	-		
0 / 1	Liquid In Water	_		- 1	1	2	1 X	1 X	1 X	1	2	1	2	1	- X	<u>-</u>	-	-	-	-		
	Colorless Liquid		χ.	-	-	-	-	X	X	-	-	2	2	1	-	-	-	-	-	-		
Sulfate Liquors (Under 150°F/66°C)	<u>.</u>	1		-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	- 1	
,	Yellow Crystals	-	2 .	-	-	- V	- ~	- v	- v	- X	- v	- 1	2	-	2	2	- ~	-	-	-	 X -	
	Yellow Oily Liquid Colorless Gas or Liquid	-		_	1	X 2	X	X	X -	-	2 2	X	-	-			Χ -	X	2	÷	^ -	
Sulfur Dioxide (Dry)	-	1	2 -	-	-	2	X	X	Χ	Χ	X	1	2	-	Χ	1	2	1	1	1	1 -	
	Colorless Liquid	1		1	-	1	Х	Х	Х	2	2	Χ	2	-	-	X	-	-	-	-		
Sulfur Dioxide (Moist) Sulfur Hexaflouride (Gas)	- Colorless Gas	1	- ' 1 .	1	-	1	X 2	X 2	X 2	2	1 1	2	2	-	- 1	X 2	-	-	-	-		
	Solid		2	- 1	-	2	X	X	X	Х	Х	1	X	X	-	1	2	2	2	2		
	Colorless Water Solution			1	1	1	2	1	1	1	1	1	1	1	Χ	-	-	Χ	Χ	2	ХХ	
	Colorless Liquid			X	X	X	X	X	X	Χ	X	2	X	X	-	-	2	X	2		X -	
,	Colorless Water Solution Colorless Water Solution			1	1	1	2 X	2 X	2 X	1	1	1	1	1	X	-	X	X	2		X - X -	
	Colorless Liquid	-	•	1	1	1	Х	Х	Х	X	1	1	1	1	X	-	Х	X	2	Х	X -	
Sulfuric Acid (75%)	Colorless to Brown Solution			1	1	2	Χ	Χ	Χ	Χ	2	1	2	2	Χ	-	Χ	Χ	2	Χ	Х -	
	Colorless Liquid		_	1	2	X	X	X	X	X	X	1	X	X	X	-	X	X	2		X -	
	Colorless to Brown Oily Liquid Colorless Liquid			1	2	X	X X	X	X X	X	X X	1	X X	X	X	-	X	X	2		X - X -	
	Colorless to Brown Oily Liquid			1	2	Х	Х	Х	X	Х	Х	1	X	X	X	-	Х	X	2	Х	X -	
Sulfuric Acid, Fuming (Oleum)	Colorless to Dark Brown Oily Liquid			K	Χ	Χ	Χ	Χ	Χ	Χ	Χ	1	Χ	Χ	Χ	Χ	-	-	1	-	- X	
	Colorless Liquid Colorless Liquid			1	1	1	X	X	X	- V	2	1	1	1	- v	1	- ~	X	2	1	X X	
	Liquid		1 .	1	1 -	1 X	X 1	X	Χ -	X	X X	1	1	1	X 1	2	X 1	X 1	2	X 1	X -	
	Liquid	1	1 .	- 1	-	Χ	1	-	-	-	Χ	1	-	-	1	2	1	1	1	1		
Suntac WR Oils	Liquid			-	-	Χ	1	-	-	-	Χ	1	-	-	1	2	1	-	1	1		
	Liquid Liquid		1 · 1 ·	-	X -	X X	1	-	-	-	X X	1	-	-	1 1	2	1	1	1	-		
	Viscous Liquid		1 .	-	1	-	-	1	1	2	-	1	-	-	-	-		1	1	-		
Т	·																					
	Black liquid	1	2 -	-	Χ	Χ	1	Χ	Χ	Χ	Χ	2	Χ	-	-	Χ	-	Χ	2	-		
	Liquid			-	2	X	2	Χ	Χ	2	Χ	1	Χ	-	-	-	-	X	2	-		
	White to clear Solid or Liquid Faint Yellow Powder		-	- 1	2	2	2 X	2	2	2	2 1	- 1	2	1	1 1	2	2	2	2	1 2	2 - X -	
	Yellow Liquid			-	-	-	x	2	2	2	X	1	2	1	1	1	2	1	1	2	X -	
Tar (Bituminous) (Under 100°F/38°C)	=			2	Х	Χ	2	X	X	2	Χ	1	-	X	-	-	1	1	1	1	2 -	
	Yellow to dark brown Liquid White Crystalline Powder			1	X 1	- 1	2	- 2	2	2	- 1	- 1	- 1	- 1	1	2	-	- 2	- 2	- 2		
	Colorless Viscous Liquid		1 1 ·	<u>'</u>	-	1	2	2	2	2	2	X	2	1	-	2	-	2	1	2	1 -	

39496-000 July 30, 2009 Supersedes 39496-000 July 30, 2007

Contact Denver Product Application for recommendations for chemicals not listed. Phone (303) 744-5070 1 = Preferred - Constant Contact																		_			
,		Gates Hose / Polymers												Couplings / Adapters							
1 = Preferred - Constant Contact					str.																
2 = Acceptable - Intermittent		® (®	₃de [₌]	Bev. M																
Contact X = Not Recommended - = No Data		Stallion	Mustang®	Renegade	Food & Bev. Mstr.																
		<u>ν</u>	≥ K	L	S	Р	С	D	D	Α	Н	V	М	J	Z	G					
NOTE : Ratings are for the effect on the <i>polymer only</i> !		glon ®										<u>_</u>					Steel	∋ا 304	əl 316		9
	Form	Teflon [®] /Neoflon [®]	- □	WPE	™uoл	5				rene		Fluorocarbon	lon®		_		ron/Carbon	Stainless Steel 304	Stainless Steel 316	mnu	Brass
Chemical	(at room temperature unless otherwise stated)	Teflor	Gatron"	UHMWPE	Sanitron	EPDM	NBR	SBR	N.	Neoprene	Butyl	Fluor	$Hypalon^{^{\otimes}}$	CPE	Nylon	PVC	Iron/C	Stainle	Stainle	Aluminum	Brass
TEL (Tetraethyl Lead) Tellus Oils	Colorless Oily Liquid Liquid	1 1	2 1	-	-	X	2 1	X -	X -	X -	X X	1 1	X -	-	2 1	1	1	- 1	1	1	1 -
Tenol Oils Tergitol (Ethoxylates and Ethoxysulfates of Alcohol)	Liquid -	1 1	1 2	-	-	X -	1	-	-	-	X -	1 -	-	-	1	2	1 2	1 1	1	-	 2 -
Terpineol Tertiary Butyl Alcohol	Colorless Liquid or Crystal Colorless Liquid or Crystal	1 1	1 2	-	-	-	2	X -	X -	-	X -	1	2	1 -	2	2	-	-	-	-	
Tetrachlorobenzene Tetrachloroethane (Acetylene Tetrachloride)	White Crystal Colorless Liquid	1 1	X	X	- X	X	-	X	X	-	X	2 1	X	X	1	X	-	-	-	-	
Tetrachloroethylene Tetrachloromethane	Colorless Liquid Colorless Liquid	1	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	
Tetrachloronaphthalene Tetradecanol	Oily Liquid to Crystaline Solid White Solid	1 1	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	
Tetraethyl Lead (TEL) Tetraethylene Glycol	Colorless Oily Liquid Colorless Liquid	1 1	2	-	-	X -	2	X -	X 2	X -	X 1	1 2	X 2	-	2	1		-	-	-	
Tetrahydrofuran (THF) Tetrahydroxydicyclopentadiene (JP 10) ²	Colorless Liquid -	1 -	X -	-	- X	2 X	X X	X X	X X	X	2 X	1 1	X X	-	1	X	2	-		-	- X
Tetralin Theobromo Oil (Cocoa Butter)	Colorless Liquid Liquid above 95°F (35°C)	1 1	1	2	X 2	X -	X 2	X	X	X 2	X -	1	X -	-	2	-	1	1	1	-	- X
THF (Tetrahydrofuran) Thiopen	Colorless Liquid -	1	X -	-	-	2 X	X	X	X	X	2	2	- -	-	1 -	- -	2	-	-	-	- X
Tin Tetrachloride Titanium Tetrachloride	Colorless Liquid Colorless Liquid	1 1	-	-	-	- X	2 X	-	2	X X	- X	2	2	-	-	-	- 1	2	2	- X	 X -
Toluene (Toluol) (Methyl Benzene) Toluene Diisocyanate (Hylene)	Colorless Liquid Yellow Liquid	1 1	2	2	X -	X 2	X X	X	X X	X X	X 2	1 X	X X	X -	1	X -	1 -	1	1	1	1 -
Toluene Diisocyanate (Isocyanate) Toluidine	Water White to Yellow Liquid Yellow Liquid or White Crystal	1 1	2	-	X -	X -	X X	X -	X X	X -	X X	1 2	- X	-	-		1	1 -	1	-	
Toluol (Toluene) Transformer Oil (Askarel Types)1	Colorless Liquid Liquid	1 1	2	2	X	X	X	X	X X	X X	X X	1 1	X X	X 1	1 1	X X	1	1 1	1	1	1 -
Transformer Oil (Petroleum Type) ¹ Transmission Fluid (Type A)	Liquid Liquid	1	1	-	-	X	1	X	X	2	X	1	X -	1	2	2	1	1	1	1	1 - 1 -
Tributoxyethyl Phosphate Tributyl Phosphate	Yellow Liquid Colorless Liquid	1 1	1	X	-	2 X	X	X	X	- X	2 X	- 1	X	X 2	2	-	1	-	-	X X	
Tricalcium Aluminate (Calcium Aluminate) Trichlorobenzene	Crystals or Powder White Crystal or colorless Liquid	1 1	2	-	-	-	- X	- X	1 X	- X	- X	2	- X	-	-	-	-	-	-	-	
Trichloroethane 1,1,1 (Methyl Chloroform) Trichloroethylene	Colorless Liquid Colorless Liquid	1	X 1	- X	X	X	X	X	X	X	X	1	X	X 2	X 2	Υ	- X	-	1	- X	 1 -
Trichloropropane Tricresyl Phosphate	Colorless Liquid Colorless Liquid	1 1	-	- X	-	- 1	2 X	- X	X	2 X	X 2	1 1	X	- 1	- 1	-	- 1	-	2	- X	
Triethanolamine (TEA) Triethylamine	Colorless Viscous Liquid Colorless Liquid	1	1	-	-	2	2	2 X	2 X	2	2 X	X 2	2	1 -	-	2	Ŀ	1	1	-	1 -
Triethylene Glycol Trihydroxybenzoic Acid (Gallic Acid)	Colorless Liquid In Alcohol or Glycerol	1 1	- 1	- 1	- 1	- 1	2 X	2	2	- X	2	2 1	2	- 1	- X	- X	- X	- 1	- 1	-	 - 1
Trimethyl Phosphite Trimethylbenzene (Mesitylene)	Colorless Liquid Liquid	- 1	-	X -	- X	- Х	- X	- X	- X	- X	- X	- 1	-	- -	- 1	- X	Ŀ	-	-	-	
Trinitrophenol (Picric Acid) Trioctyl Phosphate	Yellow Crystals Liquid	1 -	2	2 X	2	2	2	2	2	2	2	1 -	2	-	X -	1	X -	1	1	X -	X 1
Triphenyl Phosphate Tripolyphosphate (STPP), (Sodium)	Colorless Powder White Powder	- 1	2	X	-	- 2	-	2	2	-	2	- X	-	-	-	-	-	- 2	1	- X	 X -
Trisodium Phosphate (TSP) Tung Oil	Colorless crystal Yellow drying oil	1 1	2	-	- X	1 X	2	2 X	X	2 X	2 X	1	X 2	-	-	2	- 1	1	1	1	1 -



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Phone (303) 744-5070 1 = Preferred - Constant Contact 2 = Acceptable - Intermittent Contact X = Not Recommended - = No Data		Stallion [®]	Mustang®	Renegade"	Food & Bev. Mstr.																	
NOTE: Ratings are for the effect on the <i>polymer only</i> !		T ®u	K	L	S	Р	С	D	D	Α	Н	V	M	J	Z	G	3 6	2	116			
Chemical	Form (at room temperature unless otherwise stated)	Teflon [®] /Neoflon [®]	Gatron™	UHMWPE	Sanitron	EPDM	NBR	SBR	NR	Neoprene	Butyl	Fluorocarbon	Hypalon [®]	CPE	Nylon	PVC	Iron/Carbon Steel	Stainless Steel 304	Stainless Steel 316	Aluminum	Brass	Polypropylene
Turpentine	Liquid oil	1	Χ	1	Χ	Χ	2	Χ	Χ	Χ	Χ	1	Χ	2	1	1	-	1	1	1	2	_
U Ucon Hydrolube Types 150CP, 200CP Ucon Hydrolube Types 275CP, 300CP, 550CP Ucon M1 Undecanol (Undecyl Alcohol) Undecyl Alcohol (Undecanol) Union Hydraulic Tractor Fluid Urea Solution (100%)	Liquid Liquid Liquid Colorless Liquid Colorless Liquid Brown Liquid Liquid	1 1 1 1 1	1 - 1 - 1 1		- - - - - 1	1 - 1 - X	1 1 1 1 1 1 2	X 1	- X - 2 2 - 1	- - - - 1	1 X 1 - X 2	- 1 - 2 2 -	- - 2 2 - 1	- - - - - 1	1 2 1 - 1 1	2 2 2 - - 2 2	1 - 1 - 1 1	1 - 1 - 1 1	1 - 1 - 1 1	1 - 1 - 1	1 - 1 - 1 1	
V																						
V Varnish Vegetable Oils Versilube F-50, F-44 Vinegar Vinyl Acetate	Liquids Liquid Brownish to colorless Liquid Colorless Liquid	1 1 1 1	2 - 1 1	1 - - X	X 2 - 1 2	X 2 2 - X	X - 2 2 X	X X 2 2 X	X X 2 2 X	X 2 2 2 X	X X 2 2 2	2 - 1 1 X	X 1 2 X X	- 1 - 2 1	1 1 1 -	- 2 2 1	2 1 1 X	1 1 1 2 1	1 1 1 1 2	1 1 X 1	2 - 1 X 2	
Vinyl Chloride (Monomer) Vinyl Fluoride Vinyl Trichloride (Trichloroethane) Vitrea Oils VM&P Naptha (Mineral Spirits)	Colorless Gas Colorless Liquid Liquid Colorless Liquid	1 1 1 1	2 1 - 1 1	- - -	- X - X	X X X X	X - X 1	X - X - X	X - X - X	X - X -	X X X X	2 1 1 - 1	X - X - X	X - X -	- X 1	X - X 2	2 - 1 1	1 - - 1 1	1 - - 1 1	1 - - 2	X - - 1	
Waste Paint Water Water (Brine) Water (Deionized) Water (Distilled) Water (Potable)	Liquid to semi-Solid paste Liquid Liquid Liquid Liquid Liquid Liquid	1 1 1 1 1	- 1 1 -	- 1 - 1 1	- 1 1 1	- 1 1 -	- 1 2 - 1	- 1 1 - 1	- 1 1 - 1	- 1 2 - 2	- 1 1 - 1	- 1 1 -	- 1 1 - 1	- 1 - -	- 1 1 -	- 1 1 - 1	2	- 1 - -	1	- 1 - -	- 1 - -	- 1 - 1
Water Glycols	Liquid	1	1	1		-		-	- -	- -	- -	-	-	-	1	1	-	-	-	-	-	-
Water in Oil Emulsions White & Bagley No. 2190 Cutting Oil Wines Wood Oil	Liquid Liquid Liquid Liquid Liquid	1 1 1	1 - 2 1	1 - -	2 - 1 -	- X X	- X 1	- X X	- X X	- X 2	- X X	- 1 1	- X 2	- 1 1	1 - 1 1	1 - - 1	- 2 -	- - 2 -	- 2 -	- - 1 -	- - - -	
X Xylene (Dimethylbenzene) Xylenol (Dimethylphenol)	Colorless Liquid White solid, liquid @ 68°F (20°C)	1	2	X -	X -	X -	X -	X -	X -	X -	X	1	X -	X	X -	X -		-	-	-	<u>-</u>	
Z Zeric Zinc Acetate Zinc Chloride Solutions Zinc Chromate Zinc Hydrate Zinc Oxide Zinc Sulfate Solutions	- White Crystal Colorless to cloudy Liquid Yellow Solid - White or gray Powder Colorless to cloudy Liquid	1 1 1 1 1	1 1 1 - -		- 1 - -	X 2 - - - 2	1 X 1 - - 2	- 2 2 - - X	- 2 2 - - X	X 1 - - 2	X 2 2 - - 2	X 1 - -	X 1 1 -	- 1 1 - -	2 X 1 - - 2	2 1 2 - 1 1 2	- 1 X - - X	- 1 2 1 - - 2	- 1 1 1 - - 1	- 1 X - - X	- 1 X - - X	



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