

BONDERITE M-PT 99CWN

POST TREATMENT

(KNOWN AS PARCOLENE 99CWN)

Issued 1/28/2015

1. Introduction:

BONDERITE M-PT 99CWN (known as PARCOLENE 99CWN) is a chromium free product specifically formulated as a conversion coating/post-treatment process designed for zinc phosphate lines that process a high percentage of aluminum metal. Spray or immersion applications may be used. This Duplex™ System enhances the bonding of adhesives and organic finishes.

2. Operating Summary:

<u>Chemical:</u>	<u>Bath Preparation per 100 gallons:</u>
BONDERITE M-PT 99CWN (known as PARCOLENE 99CWN)	1-5 gallons (application equipment dependant)
<u>Operation and Control (Rinsable):</u>	
Concentration (points)	10 to 35
Time (seconds)	5 to 30
pH	3.3 to 3.7
Temperature (°Fahrenheit)	70° to 120°

3. The Process:

The complete process sequence normally consists of the following steps:

- A. Cleaning
- B. Rinsing
- C. Conversion Coating
- D. Water Rinsing (twice)
- E. **BONDERITE M-PT 99CWN** solution
- F. Water Rinsing (DI preferred)
- G. Drying

4. Materials:

BONDERITE M-PT 99CWN

BONDERITE M-AD 700 (known as PARCO NEUTRALIZER 700)

BONDERITE M-AD 95B (known as PARCOLENE 95B)

Testing Reagents and Apparatus



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5. Equipment

Process tank, housing, pumps and piping should be fabricated from 316L or 304L stainless steel or polypropylene. The 316L being preferred for maximum tank life. A secondary choice is 316 stainless steel fabricated with approved welding techniques or CPVC plastic. In spray applications, nozzles fabricated from 316 stainless steel or PP (Polypropylene) are preferred.

Heat exchanger plates or other heating devices should be polished 316L stainless steel. All process circulation pump seals, valve seats, door seals, etc., which come into contact with the process solution and occasional acid equipment cleaners, should be EPDM, FKM or PTFE.

Chemical feed pump parts and other elastomers which may come into contact with the concentrated replenishing chemical should be EPDM, FKM or PTFE.

Support equipment available from Henkel Technologies for this process includes: chemical feed pumps, level controls, transfer pumps and bulk storage tanks.

Your local sales representative should be consulted for information on Henkel Technologies automatic process control equipment for this process and any additional questions.

All equipment which will be in contact with **BONDERITE M-PT 99CWN** or processing solution should be thoroughly cleaned prior to use with the process. This includes such items as chemical metering pumps, solution tank, spray nozzles, spray zone shields and housings. Our representative will supply a recommended clean-out procedure which may be followed.

6. Surface Preparation:

This post-treatment follows the water rinse after the conversion coating treatment solution. Effort should be given to provide an adequate rinse following the conversion coating step to avoid excessive contamination of the post-treatment.

7. Treating with the BONDERITE M-PT 99CWN Processing Solution:

Buildup:

Recommended buildup is 1 to 5 gallons of **BONDERITE M-PT 99CWN** per 100 gallons of processing solution volume.

Fill the tank about three-fourths full with water. Add the proper amount of **BONDERITE M-PT 99CWN** and then add sufficient water to bring the solution up to the working level. Mix thoroughly and heat to the operating temperature. **BONDERITE M-AD 95B** defoamer may be required in spray applications. Add 0.1 ounce per 100 gallons of **BONDERITE M-AD 95B** until foam subsides.

Operation:

Time: 5 seconds to 2.0 minutes.

Temperature: Ambient to 120° Fahrenheit.

The solution concentration may be increased or reduced to meet specific line conditions. Our representative will assist in establishing the proper concentration.

Replenishment:

BONDERITE M-PT 99CWN Makeup will be used for replenishment.



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8. Testing and Control:

Never pipet by mouth, use a pipette filler.

Concentration:

The concentration of the treatment solution is determined by a simple titration.

Since this is a reverse titration, the treatment bath is used to titrate the solution prepared below.

Pipet (or discharge from a buret) exactly 10 ml of Titrating Solution 15 into a 150 ml beaker, add 50 ml of water, then 5 ml of Reagent Solution 44. The endpoint for this titration is reached when the purple color completely disappears resulting in a clear or slightly brown solution.

The concentration may be determined from the following table:

<u>Titration (ml)</u>	<u>Concentration % by volume</u>
26.7	1.5
20.0	2.2
14.7	3.0
10.8	4.5
9.8	6.0
7.8	7.5

NOTE: The greater the concentration, the lower the number of mls (points) of titration.

pH Adjustment:

When **BONDERITE M-PT 99CWN** is used as a rinsable (reactive) coating during initial tank charge it is necessary to raise the pH of the bath to about 3 to prevent the treatment from etching the substrate. It is normally required that BONDERITE M-AD 700 be added initially to a rinsable coating bath at 500 ml to 2000 ml per 100 gallons of bath. If the product is used dry-in-place, no pH adjustment is used.

9. Water Rinsing:

After treatment, the metal must be thoroughly rinsed with water. The rinse should be overflowed continuously at a rate which will keep it clean and free from scum and other contamination. DI or RO water is preferred.

10. After Treatment:

Drying:

Parts coming from the water rinse after treatment should be dried in an indirectly fired oven or by other means which will not contaminate the metal with fumes, oil or partially burned gases.

Products with cavities or pockets which trap moisture should be blown dry with a jet of clean, compressed air.

If handling of the dried, unpainted work is necessary, operators should wear clean lint free cotton gloves.



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11. Storage Requirements:

BONDERITE M-PT 99CWN should be protected from freezing. If the chemical is frozen, it will be irreversibly damaged and should not be used. **BONDERITE M-PT 99CWN** may precipitate if stored at temperatures below 40° or above 100° Fahrenheit. The product must be stored between 40° and 100° Fahrenheit. If exposed to temperatures outside that range for short periods, the product should be immediately returned to the proper temperature and stirred.

12. Waste Disposal Information:

Applicable regulations covering disposal and discharge of chemicals should be consulted and followed.

Disposal information for **BONDERITE M-PT 99CWN** is given on the Material Safety Data Sheet for each product.

The processing bath is pH 3 to 4 and contains fluorides. Waste treatment and neutralization may be required prior to discharge.

13. Precautionary Information:

When handling the chemical product used in this process, the first aid and handling recommendations on the Material Safety Data Sheet for the product should be read, understood, and followed.

The processing solution is acidic and may be irritating to skin and may cause burns to eyes. Avoid contact with skin and eyes. In case of contact follow the recommendations for contact given on the Material Safety Data Sheet for **BONDERITE M-PT 99CWN**.

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Testing Reagents and Apparatus
(Order only those items which are not already on hand)

<u>Code</u>	<u>Quantity</u>	<u>Item</u>
89000-202** 2*		Beaker, 150-ml
592477 1		Buret Assembly, 25-ml Automatic
89003-350** 2*		Pipet, 10-ml Volumetric
53497-009** ...2.....		Pipet Filler
53600-108** 1		500 ml Pitcher, Graduated, Plastic
593846 2.5 L		Reagent Solution 44 (50% H ₂ SO ₄)
592428 1.0 L		Titration Solution 15 (0.042N KMnO ₄)

* Includes one more than actually required, to allow for possible breakage.

**VWR Part #: vwr.com or 800-932-5000

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