

LOCTITE® SI 5905™ White

Known as LOCTITE® 5905™ White
January 2015

PRODUCT DESCRIPTION

LOCTITE® SI 5905™ White provides the following product characteristics:

| | |
|-----------------------------|---|
| Technology | Silicone |
| Chemical Type | Oxime silicone |
| Appearance (uncured) | White paste ^{LMS} |
| Components | One component - requires no mixing |
| Viscosity | Thixotropic paste |
| Cure | Moisture cure, Room temperature vulcanizing (RTV) |
| Application | Gasketing, Sealing or Bonding |
| Specific Benefit | Non-corrosive, Nonslumping |

LOCTITE® SI 5905™ White is designed primarily as a form in place (FIP) gasket or sealant to seal devices. The white color allows LOCTITE® SI 5905™ White to blend into the color scheme of many parts to minimize the visibility of the sealant material. It has an excellent bead height profile, is easy to dispense, has good resistance to most engine fluids, and excellent adhesion to plastic substrates. Typical applications include rigid and flexible flange type covers made of either metal or plastic, timing covers, oil sumps and oil filled gauge type sight glass covers. LOCTITE® SI 5905™ White may not be suitable for applications involving long term contact with ethylene glycol. The thixotropic nature of LOCTITE® SI 5905™ White reduces the migration of liquid product after application to the substrate.

TYPICAL PROPERTIES OF UNCURED MATERIAL

| | |
|---------------------------------------|---------------------------|
| Specific Gravity @ 25 °C | 1.2 to 1.4 ^{LMS} |
| Flash Point - See SDS | |
| Flow, ISO 7390, mm: | |
| After 2 minutes | ≤0.5 ^{LMS} |
| Extrusion Rate, g/min: | |
| Pressure 0.62 MPa, temperature 25 °C: | |
| Semco Cartridge | 250 to 550 ^{LMS} |

TYPICAL CURING PERFORMANCE

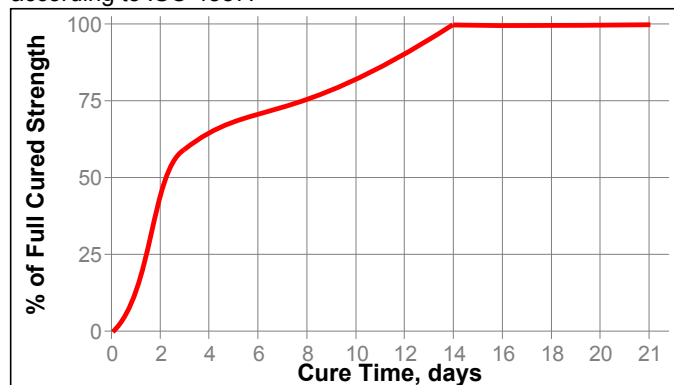
Skin Over Time

Skin over time is the time the surface of the adhesive forms a skin upon exposure to atmospheric moisture at 25 ± 2 °C, 50 ± 5% RH.

| | |
|-------------------------|-------------------------|
| Skin Over Time, minutes | 12 to 30 ^{LMS} |
|-------------------------|-------------------------|

Cure Speed

The graph below shows shear strength developed with time on grit blasted mild steel lapshears at a bond gap of 1.0 mm. Cure condition 23±2 °C, 50±5% RH. Strength is determined according to ISO 4587.



TYPICAL PROPERTIES OF CURED MATERIAL

Cured for 7 days @ 25 °C / 50±5 % RH

Physical Properties:

| | |
|--------------------------------------|---|
| Shore Hardness, ISO 868, Durometer A | 36 |
| Elongation, ISO 37, % | ≥250 ^{LMS} |
| Tensile Strength, ISO 37 | N/mm² ≥1.6 ^{LMS} (psi) (≥232) |

TYPICAL PERFORMANCE OF CURED MATERIAL

Adhesive Properties

Cured for 7 days @ 25 °C / 50±5 % RH, 1 mm gap

Lap Shear Strength, ISO 4587:

| | |
|-------------------|---|
| Mild steel | N/mm² 1.0 (psi) (145) |
| Glass | N/mm² 1.0 (psi) (145) |
| Polycarbonate | N/mm² 1.5 (psi) (215) |
| Aluminum (Alclad) | N/mm² ≥0.8 ^{LMS} (psi) (≥116) |

TYPICAL ENVIRONMENTAL RESISTANCE

Cured for 7 days @ 25 °C / 50±5 % RH

Heat Aging

Aged @ 125 °C for 168 hours

Lap Shear Strength, ISO 4587:

| | | |
|---------------------------|-------------------|-------|
| Aluminum to Glass | N/mm ² | 2.6 |
| | (psi) | (380) |
| Aluminum to Polycarbonate | N/mm ² | 2.6 |
| | (psi) | (380) |

Aged @ 200 °C for 168 hours

Lap Shear Strength, ISO 4587:

| | | |
|-------------------------------|-------------------|-------|
| Aluminum to Aluminum (Alclad) | N/mm ² | 2.0 |
| | (psi) | (290) |

Heat Aging

Aged at temperature indicated and tested @ 22 °C

Aged @ 200 °C for 168 hours:

| | |
|--|-----|
| Change in Durometer, Points (Initial = 36) | 17 |
| Change in Tensile Strength, % | 50 |
| Change in Elongation, % | -55 |
| Volume Swell, % | -12 |

Typical Fluid Immersion Properties

Aged @ 150 °C for 168 hours:

5W30 oil:

| | |
|--|-----|
| Change in Durometer, Points (Initial = 36) | -24 |
| Change in Tensile Strength, % | -35 |
| Change in Elongation, % | -43 |
| Volume Swell, % | 17 |

GENERAL INFORMATION

This product is not recommended for use in pure oxygen and/or oxygen rich systems and should not be selected as a sealant for chlorine or other strong oxidizing materials.

For safe handling information on this product, consult the Safety Data Sheet (SDS).

Directions for use:

1. LOCTITE® SI 5905™ White should be applied as a bead to clean surface.
2. If utilized as a formed in place gasket it should be assembled within 15 minutes for optimum results.
3. Excess material can be easily wiped away with non-polar solvents.

Loctite Material Specification^{LMS}

LMS dated February 26, 2007. Test reports for each batch are available for the indicated properties. LMS test reports include selected QC test parameters considered appropriate to specifications for customer use. Additionally, comprehensive controls are in place to assure product quality and consistency. Special customer specification requirements may be coordinated through Henkel Quality.

Storage

Store product in the unopened container in a dry location. Storage information may be indicated on the product container labeling.

Optimal Storage: 8 °C to 21 °C. Storage below 8 °C or greater than 28 °C can adversely affect product properties. Material removed from containers may be contaminated during use. Do not return product to the original container. Henkel Corporation cannot assume responsibility for product which has been contaminated or stored under conditions other than those previously indicated. If additional information is required, please contact your local Technical Service Center or Customer Service Representative.

Conversions $(^{\circ}\text{C} \times 1.8) + 32 = ^{\circ}\text{F}$ $\text{kV/mm} \times 25.4 = \text{V/mil}$ $\text{mm} / 25.4 = \text{inches}$ $\mu\text{m} / 25.4 = \text{mil}$ $\text{N} \times 0.225 = \text{lb}$ $\text{N/mm} \times 5.71 = \text{lb/in}$ $\text{N/mm}^2 \times 145 = \text{psi}$ $\text{MPa} \times 145 = \text{psi}$ $\text{N}\cdot\text{m} \times 8.851 = \text{lb}\cdot\text{in}$ $\text{N}\cdot\text{m} \times 0.738 = \text{lb}\cdot\text{ft}$ $\text{N}\cdot\text{mm} \times 0.142 = \text{oz}\cdot\text{in}$ $\text{mPa}\cdot\text{s} = \text{cP}$ **Note:**

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Reference 0.1