

TEROSON® MS 9222

March 2023

PRODUCT DESCRIPTION

TEROSON® MS 9222 provides the following product characteristics:

Technology	SMP
Chemical Type	Silane Modified Polymer
Appearance (Component A)	White Paste
Appearance (Component B)	Black Paste
Appearance (mixed)	Grey Paste
Components	Two components - requires mixing
Mix Ratio, by volume (component A:B)	4 : 1
Viscosity	Thixotropic paste
Cure	Room temperature cure and atmospheric moisture
Application	Bonding & Sealing
Application temperature	15°C to 40°C (59°F to 104°F)
In service temperature	-40°C to 100°C (-40°F to 212°F)
Short exposure (up to 1hr)	120°C (248°F)
Specific Benefits	<ul style="list-style-type: none"> • Primerless adhesion to common painted surfaces • Excellent elasticity • Very good sag resistance • High initial tack (green strength) • Good paint compatibility • Good resistance to UV-aging and weathering • Odorless • Solvent and Isocyanate free

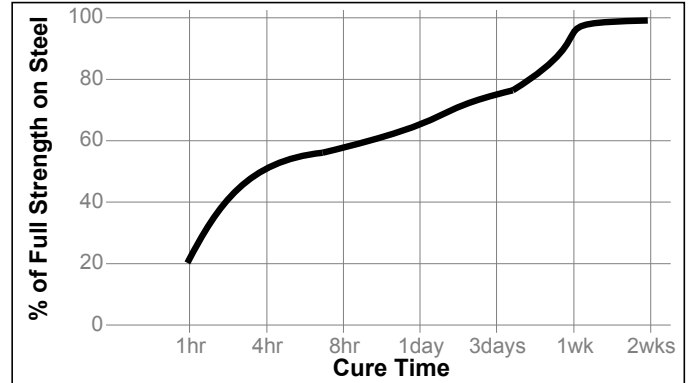
TEROSON® MS 9222 is a two-component, silane modified polymer with excellent bond strength to glass, metals, wood, ceramic and plastic. TEROSON® MS 9222 has excellent primer-less adhesion to common painted surfaces. Typical applications include bonding and sealing of large panel assemblies, glass enclosures, screw and rivet reduction in applications.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Component A	
Specific Gravity @ 23°C	1.42
Component B	
Specific Gravity @ 23°C	1.32
Mixture	
Specific Gravity @ 23°C	1.4
Extrusion Rate @ 23°C, g/min	88.8
Pressure 6 bar, D=3.5 mm, 15 seconds	

TYPICAL CURING PERFORMANCE

The mixing of component A and component B initiates the reaction and the product will form a solid elastomer in approximately 90 minutes, regardless of the thickness.



Open Time

Curing @ 23°C, 50% RH

Open Time, minutes 5

Skin Over Time

Skin over time is the time the surface of adhesive forms a skin upon exposure to atmospheric moisture at 23°C / 50% RH

Skin Over Time, minutes 51

Fixture Time

Fixture time is defined as the time to develop a shear strength of 0.1 N/mm².

Fixture Time, ISO 4587, minutes:

Steel @ 23°C 50

TYPICAL PERFORMANCE OF CURED MATERIAL

Cured for 1 week @ 23°C / 50 % RH

Physical Properties

Shore Hardness, ISO 868 , Durometer A	40
Elongation at break, ISO 527-3, %	600
Tensile Modulus, ISO 527-2	N/mm ² 2.9 (psi) (420)

Adhesive Properties

Cured for 1 week @ 23°C / 50% RH and 1.0 mm gap:

Lap Shear Strength, ISO 4587:

Aluminum (Alclad)	N/mm ² 2.1 (psi) (300)
Steel	N/mm ² 2.2 (psi) (320)
Stainless Steel	N/mm ² 2.1 (psi) (300)
Galvanized Steel	N/mm ² 2.2 (psi) (320)
Polycarbonate	N/mm ² 1.6 (psi) (230)
ABS	N/mm ² 0.5



	(psi)	(72)
Aluminum 2011 T3	N/mm ²	0.8
	(psi)	(120)
Aluminum 6061	N/mm ²	1.6
	(psi)	(230)
T Peel strength, ISO 11339:		
Aluminum (Alclad)	N/mm	16.1
	(lb/in)	(90)
Aluminum 2011 T3	N/mm	17.6
	(lb/in)	(100)
Knife Bead Adhesion, ISO 21194, % Cohesive Failure:		
Waxed Acrylic Topcoat		100%
Waxed Polyester Topcoat		75%
Waxed Polyester Topcoat (metallic color)		100%
5052 Aluminum		0%
6061 Aluminum		100%

Chemical/Solvent Resistance

Cured for 1 week @ 23°C, on Aluminum (Alclad) with 1.0 mm gap, aged under conditions indicated and tested @ 23°C.

Environment	°C	% of initial strength	
		500 h	1000 h
Water	23	67	63
Isopropanol	23	6	0
Motor oil (10W30)	23	117	119
Water/Glycol	23	81	53
Gasoline (unleaded)	23	0	0

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).

TYPICAL ENVIRONMENTAL RESISTANCE

Cured for 1 week @ 23°C / 50% RH
 Tested for 6 weeks with 25 cm distance no significant
 Osram Vitalux 300W, dry UV changes

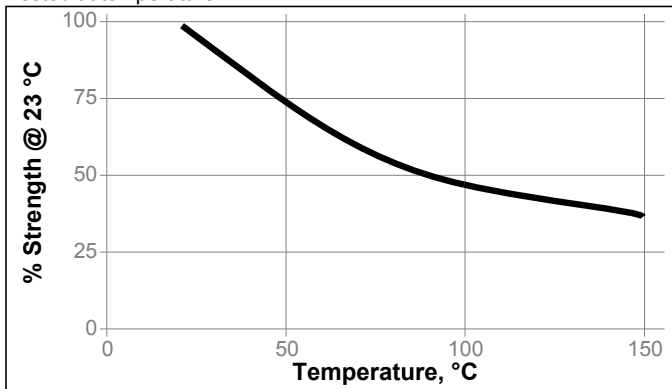
Lap Shear Strength, ISO 4587, Aluminum (Alclad),
 1.0 mm gap

Where aqueous washing systems are used to clean the surfaces before bonding, it is important to check for compatibility of the washing solution with the adhesive. In some cases these aqueous washes can affect the cure and performance of the adhesive.

This product is not normally recommended for use on plastics (particularly thermoplastic materials where stress cracking of the plastic could result). Users are recommended to confirm compatibility of the product with such substrates.

Hot Strength

Tested at temperature



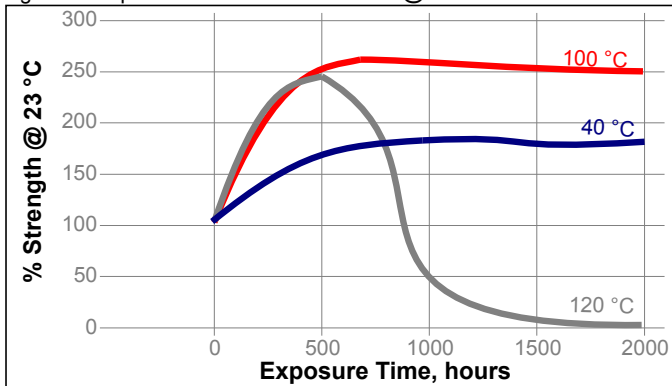
Directions for use

Surface Preparation:

- For best performance, the substrate must be clean, dry, oil- and grease free.
- For cleaning TEROSON® brand cleaners/primers are suitable.
- Depending on the substrate it may be necessary to roughen the surface or to use a primer to provide best adhesion.
- When manufacturing plastics, external release agents are often used; these agents must be removed prior to bonding or sealing.
- Especially for plastics and coatings - powder coatings - TEROSON® SB 450 may improve adhesion.
- When bonding and sealing PMMA and polycarbonate under tension, stress corrosion cracking may occur. Application trials before use are necessary.

Heat Aging

Aged at temperature indicated and tested @ 23 °C



Application:

- TEROSON® MS 9222 is contained in a cartridge set (component A and B) which also contains a static mixer.
- To open the cartridge, the cap must be removed and the plug pulled out. Now the static mixer is screwed onto it.
- The cartridge set is then placed into the suitable air gun. When the gun handle is activated, the material is pressed through the static mixer, whereby the two components are automatically mixed.
- The first 10 ml of mixed adhesive should be discarded due to the fact that they may not have been mixed thoroughly.
- If the application of adhesive is interrupted for more than 5 mins at 23°C, the static mixer should be replaced. Otherwise, the increase in viscosity could cause the static mixer to burst. At higher processing temperatures interruption times will decrease.
- TEROSON® MS 9222 is applied directly to the substrate. For the processing equipment that we recommend, the processing pressure should not exceed 5 bars.
- The parts that are to be bonded must be joined within the specified processing time.



8. Keep assembled parts from moving during cure. The bond should be allowed to develop full strength before subjecting to any service load.
9. When processing from the drum, the system must be depressurized during longer shutdowns without material removal (> 1hr) to avoid material damage.

Cleaning

1. Excess uncured material can be easily wiped away with non-polar solvents or TEROSON® brand cleaner.
2. Cured material can be removed mechanically.

Painting:

1. After skin formation TEROSON® MS 9222 can be painted with usual commercial available paints.
2. Early overpainting does not inhibit curing but slows down the curing process.
3. Overpainting should be carried out within 3 days max.
4. Considering the great variety of paint systems available, sufficient trials should always be carried out to confirm suitability of our product.

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 Henkel representative.

Product Specification

The technical data contained herein are intended as reference only and are not considered specifications for the product. Product specifications are located on the Certificate of Analysis or please contact Henkel representative.

Approval and Certificate

Please contact a Henkel representative for related approval or certificate of this product.

Data Ranges

The data contained herein may be reported as a typical value and/or range. Values are based on actual test data and are verified on a periodic basis.

Temperature/Humidity Ranges: 23 °C / 50% RH = 23±2 °C / 50±5% RH.

Conversions

(°C x 1.8) + 32 = °F
 kV/mm x 25.4 = V/mil
 mm / 25.4 = inches
 µm / 25.4 = mil
 N x 0.225 = lb
 N/mm x 5.71 = lb/in
 N/mm² x 145 = psi
 MPa x 145 = psi
 N·m x 8.851 = lb·in
 N·m x 0.738 = lb·ft
 N·mm x 0.142 = oz·in
 mPa·s = cP

Disclaimer

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