TECHNICAL DATA SHEET

Silcoset 151
1 part Adhesive Sealant

Description

This is a 1-part, RTV (Room Temperature Vulcanizing) silicone adhesive sealant. It is one in a range of Acetoxy cure products which are solvent free. During cure, it liberates a very small amount of acetic acid, giving rise to the familiar 'vinegar' odor, which quickly dissipates after cure. It exhibits good primer-less adhesion to many substrates including but not limited to; aluminum, non ferrous metals, steel, glass, enameled surfaces, fabrics ceramics, thermosetting, thermoplastics and wood and cures rapidly at room temperature when in contact with atmospheric moisture. This product is not to be recommended for use with galvanized metals, ferrous metals, copper and its associated alloys or in electronic assemblies.

Key Features

- Aerospace approved MSRR 9085
- Flexible from -60/-76°F to +300°C/572°F
- FDA CFR 177,2600 for aqueous and fatty foods
- EC 1935/2004 framework EN 1186-1 / EN1186-3 compliance

Key Applications

- Germany food contact approval LFGB §31 (1), §35 LMBG L 00.90-7 and DIN 10955
- Flexibility from - 60 to +300°C
- NATO Stock ref: 5970-99-224-1408
- Rolls Royce MSRR 9085

Application

Conveyor belts in food industry

These products are highly resistant to weathering and aging, largely stable to many solvents, oils, water, sea water, industrial waste gasses, diluted acids, saline solutions detergents, cleaners, propellants and fruit acids.

Use and Cure Information

This product is a ready for use 1 Part system and can be directly dispensed from the original container without mixing. If supplied in cartridges it can be applied using either manual or pneumatic dispensing guns. It can also be applied from bulk containers using conventional drum dispensing equipment.

All surfaces to which the sealant is to be applied should be clean, dry and free from grease, dust, dirt, and loose material. Priming of surfaces is not normally required but in some cases it may be necessary to pretreat the surface. Please check this in each individual case. For degreasing of non-porous surfaces such as metal, and glass, KORASOLV GL is recommended (use undyed crepe paper or similar). If using as an adhesive, it should be applied to one clean surface and the other clean surface brought into contact with it within the stated tack free time. For optimum bond strength, the thickness of the sealant joint should be a minimum of 1 mm.

The sealant will cure upon exposure to atmospheric moisture, ideally between 20 to 70 ºC and >40% humidity. Time taken for cure will depend on the thickness of the joint, humidity and temperature. Increasing the temperature and humidity will accelerate the curing process, do not cure the sealant at or above 70°C as bubbles may form in the sealant and affect the overall physical properties and adhesion. Low temperatures and humidity will retard the curing process. Since curing times progressively increase with the thickness, the sealant depth should be limited to 10 mm. Joints should be left undisturbed for at least 24 hours, but preferably longer to effect sufficient depth of cure. Full cure requires 7 days at thicknesses of 1 - 5 mm and 14 days at thicknesses of 5 - 10 mm.

"For pneumatic dispensing of 310 ml cartridges, the recommended pressure is 2.25 to 3.45 bar (40 to 50 psi). Dispensing pressure above the recommended limits may lead to gas bypassing the piston, causing spluttering at the nozzle and poor bead quality"

Solvents and cleaning agents.

Property	Test Method	Value
Uncured Product		
Appearance		**Viscous liquid**
Cure Profile		**23+/-2°C and 60+/-5% humidity**
Cure Through to 3 mm Depth		**12 hr**
Cure Type		**Acetoxy**
Extrusion Rate g/min		**92 g/min**
Rheology		**Self Level**
Self Bonding		**Yes**
Tack Free Time / Skin Formation at 23°C/73°F		**10 min**
Viscosity Mixed	Brookfield	**210000 cP**
Cured Product		
7 days at 23+/-2°C and 60+/-5% humidity		
100% Modulus (N/mm2)		**1.71 MPa / 248 psi**
CTE Linear ppm/°C		**297 ppm / °C**
CTE Volumetric ppm/°C		**892 ppm/°C**
Color		**White**
Density	BS ISO 2781	**1.14 g/cm3**
Elongation at Break	ISO 37	**180 %**
Hardness IRHD	BS ISO 48	**43**
Linear Coefficient of Thermal Expansion (ppm/°C)		**297 ppm/°C**
Linear Shrinkage (%)		**0.5 %**
Max Working Temp		**300 °C / 572 °F**
Min Working Temp		**-60 °C / -76 °F**
Tear Resistance (N/mm)	BS ISO 34-1	**6.2 N/mm / 36 ppi**
Tensile Strength	ISO 40	**2.93 N/mm2 / 425 psi**
Thermal Conductivity		**0.2 W/mK**
Youngs Modulus (N/mm2)		**1.59 N/mm2 / 231 psi**
Electrical Properties		
Dielectric Constant	ASTM D-150	**3.5**
Dielectric Strength (V/mil)		**535 V/mil**
Dielectric Strength kV/mm	ASTM D-149	**22 kV/mm / 559 V/mil**
Dissipation Factor	ASTM D-150	**0.0025**
Volume Resistivity (Ohms cm)	ASTM D-257	**3.49E+16 ohms cm**
Storage		
Max Storage Temperature		**40 °C / 104 °F**
Shelf Life		**24 mths**

CHT Germany GmbH: Postfach 12 80, 72002 Tübingen, Bismarckstraße 102, 72072 Tübingen, Germany
Telephone: 07071/154-0, Fax: 07071/154-290, Email: info@cht.com, Homepage: www.cht.com / www.cht-silicones.com

For cleaning of the substrates to be bonded : KORASOLV GL.

For cleaning working tools and for removing fresh uncured material: KORASOLV GL

Care must be taken when cleaning synthetic materials which tend to form stress cracks, for example, polycarbonate and acrylic. Please contact our technical service team for advice.

For removal of vulcanized product this can be done by mechanical means or by use of a chemical digester, please contact our technical service team for advice.

Health & Safety

Health and Safety

Safety Data Sheets available on request.

Packaging

CHT Adhesives are available in a variety packaging including cartridges and bulk containers. Please contact our sales department for more information.

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CHT Germany GmbH: Postfach 12 80, 72002 Tübingen, Bismarckstraße 102, 72072 Tübingen, Germany
Telephone: 07071/154-0, Fax: 07071/154-290, Email: info@cht.com, Homepage: www.cht.com / www.cht-silicones.com