

Silcoset 153 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

- UL recognised in file No. E334038
- Aerospace approved Rolls Royce MSRR 9410
- Flexible from -60°C/140°F to +250°C/482°F
- Excellent adhesion to many substrates

Key Applications

- NATO Stock reference 8030-99-225-0471
- Germany food contact approval LFGB §31 (1), §35 LMBG L 00.90-7 and DIN 10955

Application

Designed for aviation and aerospace applications

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 °C 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.

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.

Property

Uncured Product

Appearance

Cure Profile

Cure Through to 3 mm Depth

Cure Type

Extrusion Rate g/min

Rheology

Self Bonding

Tack Free Time / Skin Formation at 23°C/73°F

Cured Product

7 days at 23+/-2°C and 60+/-5% humidity

100% Modulus (N/mm2)

CTE Linear ppm/°C

CTE Volumetric ppm/°C

Color

Density

Elongation at Break

Hardness IRHD

Linear Shrinkage (%)

Max Working Temp

Min Working Temp

Tear Resistance (N/mm)

Tensile Strength

Thermal Conductivity

UL File No.

Youngs Modulus (N/mm2)

Electrical Properties

Dielectric Constant

Dissipation Factor

Volume Resistivity (Ohms cm)

Storage

Max Storage Temperature

Shelf Life

Test Method

Value

Thixotropic paste

23+/-2°C and 60+/-5% humidity

7 hr

Acetoxy

304 g/min

Paste

Yes

4 min

0.91 MPa / 132 psi

292 ppm / °C

876 ppm/°C

Translucent

BS ISO 2781

1.05 g/cm3

ISO 37

280 %

BS ISO 48

39

0.9 %

250 °C / 482 °F

-60 °C / -76 °F

BS ISO 34-1

5.5 N/mm / 31 ppi

ISO 37

2.32 N/mm2 / 336 psi

0.2 W/mK

E334038

0.65 N/mm2 / 94 psi

ASTM D-150

3.2

ASTM D-150

0.0012

ASTM D-257

4.7E+14 ohms cm

40 °C / 104 °F

24 mths

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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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