

AS1504 1 part Industrial 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

- Flexible from -50°C/122°F to +300°C/572°F
- Good electrical insulation properties
- Excellent adhesion to most substrates

Application

Suitable for but not limited to, high temperature adhesive applications in automotive, FIPG and white goods sealing and bonding

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

Test Method Value

Thixotropic paste
23+/-2°C and 50+/-5% humidity
7 hr
Acetoxy
Paste
Yes
4 min

Cured Product

7 days at 23+/-2°C and 50+/-5% humidity

100% Modulus (N/mm²)
CTE Linear ppm/°C
CTE Volumetric ppm/°C
Color
Density
Elongation at Break
Hardness Shore A

0.98 MPa / 142 psi
294 ppm / °C
882 ppm/°C
Red
BS ISO 2781 1.09 g/cm³
ISO 37 410 %
ASTM D 2240-95 35

Linear Coefficient of Thermal Expansion (ppm/°C)
Linear Shrinkage (%)
Max Working Temp
Min Working Temp
Tear Resistance (N/mm)
Tensile Strength
Thermal Conductivity
Youngs Modulus (N/mm²)

294 ppm/°C
0.8 %
300 °C / 572 °F
-50 °C / -58 °F
BS ISO 34-1 6.3 N/mm / 36 ppi
ISO 37 2.5 N/mm² / 363 psi
0.2 W/mK
0.71 N/mm² / 103 psi

Electrical Properties

Dielectric Constant
Dielectric Strength (V/mil)
Dielectric Strength kV/mm
Dissipation Factor
Volume Resistivity (Ohms cm)

ASTM D-150 2.68
>457 V/mil
ASTM D-149 >18 kV/mm / 0 V/mil
ASTM D-150 0.002
ASTM D-257 3.95E+15 ohms cm

Adhesion Testing

Lap Shear Stainless Steel 304 kg/cm²

ASTM D1002 5 kg/cm²

Storage

Max Storage Temperature
Shelf Life

40 °C / 104 °F
24 mths