

AS1745G

1 Part Non-Corrosive Neutral Cure Adhesive Sealant (Electronic Grade)

Description

This product is part of a range of high performance RTV's. It is a neutral cure silicone sealant specifically designed to meet the physical, chemical and temperature resistant requirements of MIL-A-46146B. It features exceptional physical properties and is compatible with many sensitive substrates including copper, brass, steel, aluminium and FR4, making this an ideal option for many electronic applications where high performance is paramount. The Alkoxy cure system produces a silicone sealant with excellent adhesion to most common substrates.

Key Features

- MIL 46146B physical / chemical requirements
- High mechanical strength
- High temperature resistance
- Non slumping adhesive paste

Application

Aerospace and engineering

Use and Cure Information

This product is a ready for use 1 Part system. 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, dirt, and loose material. Priming of surfaces is not normally required. 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 tack free time stated opposite. 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 30 °C and 40% to 70% Relative Humidity. Time taken for cure will depend on the thickness of the joint, humidity and temperature. Joints should be left undisturbed for at least 24 hours, but preferably longer to effect sufficient depth of cure. Full cure requires 7 days.

“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”

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.

Revision Date 29 Apr 2021
Revision No 1
Download Date 12 May 2021

Property

Uncured Product

Property	Test Method	Value
Appearance		Thixotropic paste
Cure Through to 3 mm Depth		72 hr
Cure Type		Alkoxy
Drying / Fixing Conditions		23+/-2°C and 50+/-5% humidity
Rheology		Paste
Self Bonding		Yes
Slump		1 mm/5mins
Tack Free Time / Skin Formation at 23°C/73°F		45 min

Cured Product

Property	Test Method	Value
7 days at 23+/-2°C and 50+/-5% humidity		
Colour		Grey
Density	BS ISO 2781	1.16 g/cm3
Elongation at Break (%)	ISO 37	830 %
Hardness Shore A	ASTM D 2240-95	35
Linear Coefficient of Thermal Expansion (ppm/°C)		267 ppm/°C
Max Working Temp (°C)		316 °C / 601 °F
Min Working Temp (°C)		-62 °C / -80 °F
Tear Resistance (N/mm)	BS ISO 34-1	42 N/mm / 242 ppi
Tensile Strength (N/mm2)	ISO 40	7.75 N/mm2 / 1124 psi
Thermal Conductivity (W/mK)		0.2 W/mK
Volume Coefficient of Thermal Expansion (ppm/°C)		800 ppm/°C
Youngs Modulus (N/mm2)		0.63 N/mm2 / 91 psi

Electrical Properties

Dielectric Constant	ASTM D-150	2.47
Dielectric Strength (V/mil)		457 V/mil
Dielectric Strength kV/mm	ASTM D-149	18 kV/mm / 457 V/mil
Dissipation Factor	ASTM D-150	0.0035
Volume Resistivity (Ohms cm)	ASTM D-257	8.8E+14 ohms cm

Adhesion Testing

Lap Shear Aluminium kg/cm ²	ASTM D1002	8.78 kg/cm ²
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Storage

Max Storage Temperature	40 °C / 104 °F
Shelf Life (mths)	12

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CHT make reasonable efforts to ensure that information set out in the technical data sheet is complete, accurate, and up-to-date. CHT do not, however, make any representations, warranties or guarantees (whether express or implied) that information set out in the technical data sheet is complete, accurate, or up-to-date or that the product will be suitable for your requirements. You should carry out your own testing to determine the applicability of such information and whether the product will be suitable. CHT reserve the right to modify the technical data sheet at any time.

The CHT technical service department is available to offer further information and advice and should it be needed to look at modifying current products or custom formulate a new one to meet your specific requirements. Please contact the technical service department.

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

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