

# TECHNICAL DATA SHEET

## ALPATEC 540 HK 1 part textile coating

### 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' odour, which quickly dissipates after cure. It exhibits good primer-less adhesion to many substrates including but not limited to; aluminium, nonferrous metals, steel, glass, enamelled 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

- Good resistance to chemicals (detergent)
- Good tear resistance
- Excellent elongation
- High transparency

### Key Applications

- Solvent free

### Application

Processing / Fixation ALPATEC 540 HK is ready for use and can be pumped directly from the original packaging without prior mixing. ALPATEC 540 HK vulcanises under the influence of air humidity. Fixation begins with skin formation on the surface and develops to the inside. At 23 °C and 50 % rel. air humidity, ALPATEC 540 HK forms a non-sticky surface within 3 to 5 minutes. Within 24 hours a layer with approx. 2 mm has totally vulcanised. Low temperatures and low air humidity delay the curing process; higher values accelerate the curing process. Thicker silicone layers need longer curing times. A layer thickness of > 5 mm should be avoided. Adhesion of the silicone is achieved by the mechanical anchorage in the substrate. Therefore it is important to have a good penetration of the silicone into the substrate.

### 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 pre-treat 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

Property	Test Method	Value
Color		Transparent
Cure Type		Acetate
Density, uncured	DIN 53 479, 23	1.02 g/cm <sup>3</sup>
Flow, 10 ml		63 mm
Self Bonding		Yes
Skin formation time, paper method	DIN 50 014 - 23/50-2	4 min
Viscosity	Brookfield HTBD, 23	180000 cP

#### Cured Product

##### Standard climate DIN 50 014 - 23/50-2. Vulcanizate tested after 14 days

Elongation at Break	DIN 53 504, S 3 A	530 %
Hardness Shore A	DIN 53 505	17
Tear Resistance (N/mm)	ASTM D 624, Die B	3.5 N/mm / 20 ppi
Tensile Strength	DIN 53 504, S 3 A	1.7 N/mm <sup>2</sup> / 247 psi

#### Storage

Max Storage Temperature	30 °C / 86 °F
Min Storage Temperature	5 °C / 41 °F
Shelf Life	6 mths

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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.

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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**

### **Safety**

Please observe our safety data sheets and the safety remarks on our container labels when handling our products. The dangerous goods regulations and the accident prevention regulations of the professional associations must be particularly observed. Keep the safety data sheet of the applied product at hand since it provides you with useful instructions for the safe use and disposal of the product as well as for actions to be taken in case of accidents.

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