

Technical Data Sheet

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Silcoset 158 1-Part Adhesive Sealant

Introduction

Silcoset 158 is a ready to use, one part room temperature vulcanizing (RTV) elastomer, which cures on exposure to moist air to give a permanently elastic rubber. Sealant 158 has excellent temperature resistance in its cured state.

It is recommended for industrial applications where a high modulus sealant with good adhesive properties is required.

Key Features

- Good Electrical Insulation.
- Resistance to ageing, weathering, ozone and corona.
- Resistance to oxidation and many oils, chemicals and solvents.
- Excellent bonding to a wide range of substrates.
- Flexibility from -60°C to +300°C.

Use and Cure Information

How to Use

All surfaces to be bonded should be dry and free from grease, oil, dust, release agent and flaking material. Non-porous surfaces, including that of cured silicone rubber, should be degreased with solvent e.g. 1,1,1 trichloroethane or toluene.

Application and Cure

On exposure of the applied Sealant to atmospheric moisture, the curing process begins with the formation of a surface skin and progresses right through the material with the elapse of timer.

Cure rate is dependent on humidity and temperature but under normal conditions a tack free surface will be obtained in 4 to 5 minutes and a 4 mm thickness will be cured within 24 hours. The maximum thickness to be cured in one operation should not be greater than 12 mm if only one surface is exposed to atmosphere.

The rate of cure can be increased by heating, but temperatures in excess of 80°C should not be used with Sealant thicknesses greater than 0.3 mm. It should be noted that conditions of high temperature and low humidity during cure can adversely affect the adhesion and physical properties of the Sealant .

Silcoset 158 liberates traces of acetic acid during the curing process. Under normal conditions the acetic acid is rapidly dispersed, but in confined situations it may be necessary to provide supplementary ventilation. Silcoset 158 is odourless and taint free when fully cured.

Silcoset 158 is easy to apply from tubes, cartridges or drums suitable for multi-point systems. Since it does not contain solvent, there is little shrinkage. It will bond to most surfaces without using a primer although where necessary special priming systems are available.

Property	Test Method	Value
Uncured Product		
Colour:		Black
Appearance:		Thixotropic paste
Tack Free Time:		4 minutes *
3mm Cure Through:		7 hours *
Extrusion Rate:		270g / minute
* measured at 23+/-2°C and 65% relative humidity.		

Cured Elastomer (after 7 days cure at 23+/-2°C and 65% relative humidity)		
Tensile Strength:	BS903 Part A2	2.30 MPa
Elongation at Break:	BS903 Part A2	290 %
Youngs Modulus:		0.70 MPa
Modulus at 100% Strain:	BS903 Part A2	0.94 MPa
Tear Strength:	BS903 Part A3	5.5 kN/m
Hardness:	BS903 Part A26	38° IRHD
Specific Gravity:	BS 903 Part A1	1.07
Linear Shrinkage:		<0.8 %
Peel Strength:		5.3 N/mm
Thermal Conductivity:		0.20 W/mK
Coefficient of Thermal Expansion:		
Volumetric Linear		924 ppm / °C
Min. Service Temperature:		308 ppm / °C
Max. Service Temperature:	AFS 1540B	-60 °C
		300 °C

Electrical Properties

Volume Resistivity:	ASTM D-257	1.00x10 ¹⁶ Ω.cm
Surface Resistivity:	ASTM D-257	3.57 x 10 ¹⁵ Ω
Dielectric Strength:	ASTM D-149	18 kV/mm
Dielectric Constant at 1MHz:	ASTM D-150	3.0
Dissipation Factor at 1MHz:	ASTM D-150	2.5x10 ⁻³

Adhesion Testing

Good unprimed adhesion to many substrates including glass stainless steel, aluminium and most plastics. Customers are advised to carry out their own tests on clean, degreased substrates to ensure satisfactory adhesion is achieved.

All values are typical and should not be accepted as a specification.

Health and Safety - Material Safety Data Sheets available on request.

Packages – 75 ml, 310 ml cartridges and 20 litre pails
Arrangements can be made to supply in other bulk containers.

Storage and Shelf Life – Expected to be 24 months in original, unopened containers below 40°C.