

SilSo Resist 21004 2-part liquid silicone rubber

Description

This is a two component silicone elastomer which crosslinks through polyaddition reaction. Particularly well suited for LSR applications. Generally processed with injection moulding equipment.

Product contains high molecular chains designed to increase chemical resistance to various water-based media.

Key Features

- Simple demoulding
- Low linear shrinkage
- Good compression recovery
- Crosslinking acceleration through temperature increase

Use and Cure Information

IMPORTANT:

The 'A' part of the product contains the platinum catalyst. Great care should be taken when using automatic dispensing equipment. Please ensure that it is not contaminated by residual hydride containing rubber in the dispensing equipment, as curing will result. If in doubt, it is advised to thoroughly purge the equipment with a suitable hydrocarbon solvent or silicone fluid.

Mixing

Both the 'A' and 'B' parts should be well stirred to ensure the material is uniform. If utilizing machine-dispense, ensure the mixing device has sufficient elements to fully homogenize the components of the formulation. Place the required amount of 'A' and 'B' parts by weight at the mix ratio shown opposite.

Inhibition of Cure

Great care must be taken when handling and mixing all addition cured silicone elastomer systems, ensuring that all the mixing tools are clean and constructed in materials which do not interfere with the curing mechanism. Certain substances may impair or even completely prevent the curing behaviour of addition crosslinking silicone. Typical indications are sticky surfaces between silicone and contact surfaces.

The following substances are particularly critical:

- substances containing nitrogen (amines, polyurethanes, epoxy resins)
- substances containing sulphur (polysulphides, polysulphones, natural and synthetic rubbers (EPDM))
- organometal compounds (organotin compounds, vulcanisates and hardeners of condensation crosslinking silicones)

Curing conditions

The rate of cure is significantly influenced by temperature. Therefore mixing of the components at temperatures between 15 and 25 °C is recommended to ensure adequate pot life for handling. Crosslinking is slowed down by reducing the temperature, whereas it is accelerated by increasing it. A curing temperature range of 150 - 165°C is recommended. Prolonged exposure to temperatures above 170°C could damage the organic components of this hybrid LSR.

A detailed rheometer report can be made available upon request.

The end user must test in their application and process as the quantity of material, size of part, and method of applying heat will influence time and temperature requirements.

Health & Safety

Safety Data Sheets available on request.

Packaging

CHT silicone elastomers are available in a variety packaging including bulk containers. Please contact our sales department for more information.

Property

Uncured Product

| Property | Test Method | Value |
|---------------------------|-------------|----------------------|
| Cure Type | | Addition |
| Density A | BS ISO 2781 | 1.09 |
| Density B | BS ISO 2781 | 1.1 |
| Mix Ratio By Weight | | 1:1 |
| Pot Life hrs at 23°C/73°F | | > 48 hours |
| Viscosity Mixed | Brookfield | 340,000 cP |

Cured Product

| | | |
|------------------------|-------------|--------------------------|
| Color | | Light grey |
| Elongation at Break | ISO 37 | 250 % |
| Hardness Shore A | DIN 53 505 | 53 |
| Linear Shrinkage (%) | | < 0.1 % |
| Tear Resistance (N/mm) | BS ISO 34-1 | 18 N/mm / 103 ppi |
| Tensile Strength | ISO 37 | 5 N/mm2 / 725 psi |

Storage

| | |
|-------------------------|----------------------|
| Max Storage Temperature | 30 °C / 86 °F |
| Shelf Life | 6 mths |

Revision Date 27 Mar 2024

Revision No 4

Download Date 29 Apr 2024

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