



TPSC-R

THERMAL PROTECTION SILICONE COATING

Silicone Compound for High Temperature Applications



Product Description

TPSC-R is a two part Silicone compound used for coating various high temperature resistant. This two component silicone compound when mixed cures to form a soft elastomer that can be coated over parts that need good thermal resistance. This material has been found useful for protecting the exterior surface of space vehicles from aerodynamic heating. This product has been specifically developed for easy mix ratio of 100:5 of two components (Part A and Part B). This material is stable over a wide temperature range. The adhesion of this compound to various substrates makes it suitable for different applications in various industries.

Applications

- Heat Resistant coatings for launching space vehicles
- Coatings that act as a shield in the presence of excessive heat
- Coatings with excellent heat ageing characteristics
- Coatings for protecting components from aerodynamic heating

Key Performance Properties

- Easy manual mixing
- Room Temperature Cure with easy Mix Ratio of 100:5
- Excellent Thermal oxidation resistance
- Excellent Dielectric properties
- Low volatility and low shrinkage
- Chemically inert
- Outstanding thermal stress protection

Typical Data

Property	Unit	Value
Uncured Properties		
Colour		Red
Viscosity at 25°C	mPa.s	A Part : 18000 B Part :25
Cured Properties		
	A:B =100:5	
Processing work (pot) life at 25°C	Min	115
Cure Time at 25°C	Hours	24
Density at 25°C	g.cm ⁻³	0.98-1.05
Hardness	Shore A	27
Tensile Strength at RT	MPa	0.3
Tensile Strength at 120 °C	MPa	0.3
Elongation at RT	%	100
Elongation at 120 °C	%	100
Lap Shear Strength at RT	MPa	0.3
Lap Shear Strength at 120 °C	MPa	0.3
Specific heat at 80°C	Cal/g/°C	0.3
Coefficient of Thermal Expansion	10 ⁻⁴ /°C	3
Thermal Conductivity at 100°C	Cal/ °C sec.cmX10 ⁻⁴	4
Weight loss at 250°C	%	2

Storage and Transport

The warranty period is 6 months from date of shipment if stored in the original unopened container at ambient temperature of less than 27°C

The Silicone Compound described in this brochure will provide a mechanical bond, which is adequate for most uses. However, they require a primer to obtain a chemical bond to various substrates. For a chemical bond, if primers are needed please contact us.

Note: Thoroughly stir TPSC-R Base (Part-A) before use, as filler separation may occur upon prolonged storage.

TPSC-R is a product manufactured by **Performance Polymers**, B-88, 3rd Cross 3rd Main, Opp. ESI Sub-Regional Office, DDUTT, Industrial Suburb, 2nd Stage, Yeshwantpur, Bangalore 560 022, Phone: +91-8023379779, e-mail: ceo@performancepolymers.in web: www.moldsil.com

Limited Warranty : The information mentioned in this data sheet is a description of the product to the best of our knowledge. Recommendations for use do not constitute a warranty of the fitness for a particular use. It is the user's responsibility to thoroughly test the product in a particular application to determine its performance and safety.