COOLTHERM® SC-6709 SILICONE RESIN

Technical Data Sheet

CoolTherm® SC-6709 silicone resin is formulated for use with various CoolTherm and CircalokTM hardeners to create a two- component, solvent-free RTV silicone system. The silicone system is an ideal potting compound for any application where rapid heat transfer, high temperature service and a flexible system are required.

CoolTherm SC-6709 resin can be catalyzed with CoolTherm SC-6731, CoolTherm SC-6730, or Circalok 6732 hardener. CoolTherm SC-6730 hardener is blue-green in color and assures thorough mixing by visual examination.

Features and Benefits

Low Viscosity: maintains low viscosity for complete and void-free encapsulation.

High Thermal Conductivity: provides thermal conductivity for applications where superior heat dissipation are required.

Low Coefficient of Thermal Expansion: minimizes the possibility of cracking during severe temperature cycling.

Broad Temperature Range: can be used on parts and devices that experience operating temperatures from -68°C to +205°C.

Application

Mixing: Thoroughly stir CoolTherm SC-6709 resin within its shipping container to ensure uniform dispersion. Transfer amount of resin needed to a clean container and add proper amount of hardener by weight.

Thoroughly mix silicone system to ensure catalyzation.

Applying: Apply material using automatic meter/mix/dispense equipment.

Curing: Cure time will vary depending on hardener used. Refer to cure schedule indicated. This time-at-temperature profile refers to the time the material should be allowed to cure once it reaches the target temperature. Allowance should be made for oven ramp rates, parts with large thermal mass and other circumstances that may delay material reaching the target temperature.

Shelf Life/Storage

Shelf life is six months when stored at 25°C in original, unopened container.

Typical Properties*

Appearance	White Liquid
Viscosity, cP @ 25°C	32,000
Specific Gravity @ 25°C	1.80

*Data is typical and not to be used for specification purposes.

Typical Properties* of Resin Mixed with Hardener

	CoolTherm SC-6731 Hardener	CoolTherm SC-6730 Hardener		Circalok 6732 Hardener
Mix Ratio, Resin to Hardener by Weight	100:0.5	100:5	100:10	100:0.5
Gel Time, hours @ 25°C	1 - 2	0.5 - 1	0.5 - 1	2 - 3
Cure Time, hours @ 25°C	12 - 16	8 - 12	8 - 12	6 - 8

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Typical Cured Properties**

Thermal Conductivity, W/m·K Hot Disc Transient Method, ISO 22007-2	1.0
Coefficient of Linear Thermal Expansion, ppm/°C	50
Hardness Shore A	50
Tensile Strength, MPa (psi) @ 25°C	2.14 (310)
Elongation at Break, %	115
Moisture Absorption, % 10 days @ 25°C	0.08
Volume Resistivity, ohm-cm @ 25°C	1 x 10^{15}
Dielectric Strength, kV/mm (V/mil) ASTM D 149	21.7 (550)
Dielectric Constant @ 25°C ASTM D 150	5.1
Dissipation Factor @ 25°C ASTM D 150	0.02

**Data is typical and not to be used for specification purposes.
Cured properties are the same regardless of the hardener used.

Cautionary Information

Before using this or any Parker Lord product, refer to the Safety Data Sheet (SDS) and label for safe use and handling instructions.

Verify Volatile Organic Compounds (VOC) requirements with the applicable local, regional and state air quality authorities before importing, selling or using this product. VOC rules, thresholds and reporting obligations vary by jurisdiction; compliance is the responsibility of the importer/seller/owner.

For industrial/commercial use only. Must be applied by trained personnel only. Not to be used in household applications. Not for consumer use.

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