

CoolTherm® SC-6705 Silicone Encapsulant

Technical Data Sheet

CoolTherm® SC-6705 encapsulant is a two-component, addition-cure silicone system for use in applications where high temperature service and a flexible system are required.

Features and Benefits:

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

Broad Temperature Range – can be used on parts and devices that experience operating temperatures from -55°C to +205°C.

Reversion Resistant – provides excellent reversion resistance at high temperatures; will not cause corrosion.

UL Rated – provides excellent flame retardancy; UL 94 V-0 certified.

Application:

Mixing – Thoroughly mix each component prior to combining resin and hardener. Mix CoolTherm SC-6705 resin with CoolTherm SC-6705 hardener at a 1:1 ratio, by weight or volume.

Applying – Apply encapsulant using automatic meter/mix/dispense equipment.

Avoid applying encapsulant to surfaces that contain cure inhibiting ingredients, such as amines, sulfur, or tin salts. If bonding surface is in question, apply a test patch of encapsulant to the surface and allow it to set for the normal cure time.

Curing – Allow encapsulant to cure for 2 hours at 65°C, or 24 hours at room temperature. 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 of each component is six months when stored at 25°C in original, unopened container.

Typical Properties*

	SC-6705 Resin	SC-6705 Hardener	Mixed
Appearance	Black Liquid	Off-white Liquid	Black Liquid
Viscosity, cP @ 25°C	3000	2900	2500
Specific Gravity	1.35	1.35	1.35
Working Life, hours @ 25°C	–	–	1-2

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



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Typical Cured Properties*

Thermal Conductivity, W/m·K	0.35
Hardness Shore A	60
Tensile Strength, MPa (psi)	2.07 (300)
Elongation at Break, %	100
Volume Resistivity, ohm-cm @ 25°C ASTM D 257	1×10^{14}
Dielectric Strength, kV/mm (V/mil) ASTM D 149	17.7 (450)
Dielectric Constant 100 Hz, ASTM D 150	3.2
Dissipation Factor 100 Hz, ASTM D 150	0.005

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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.

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

Values stated in this document represent typical values as not all tests are run on each lot of material produced. For formalized product specifications for specific product end uses, contact the Customer Support Center.

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