# CoolTherm® SC-6717 Silicone Resin

Technical Data Sheet

CoolTherm® SC-6717 silicone resin is formulated for use with CoolTherm SC-6731 hardener to create a two-component, solvent-free RTV silicone system. The silicone system is ideal for potting, encapsulating and coating applications.

## Features and Benefits:

**Low Stress** – exhibits low shrinkage and stress on components as it cures.

**Versatile** – room temperature curing formulation is not subject to hardener poisoning.

**High Dielectric Strength** – cured system provides high dielectric strength in a thermally conductive material.

**Broad Temperature Range** – can be used on parts and devices that experience operating temperatures from -55°C to +260°C.

## Application:

**Mixing** – Thoroughly stir CoolTherm SC-6717 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.

To promote adhesion, substrates can be primed with LORD® P-1291 primer prior to silicone application.

**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.

## Typical Properties*

| | |
|---|---|
| Appearance | Red Liquid |
| Viscosity, cP @ 25°C | 17,000 |
| Specific Gravity @ 25°C | 1.45 |

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

## Typical Properties* of Resin Mixed with Hardener

| | CoolTherm SC-6731 Hardener | | |
|---|---|---|---|
| Mix Ratio, Resin to Hardener by Weight | 100:0.1 | 100:0.5 | 100:5 |
| Working Life, hours @ 25°C | 6 - 8 | 2 - 3 | 1.5 - 2 |
| Cure Time, hours @ 25°C | 24 | 12 - 16 | 8 - 12 |

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

| Typical Cured Properties** | |
|---|---|
| Thermal Conductivity, W/m·K<br>Hot Disc Transient Method, ISO 22007-2 | 0.3 |
| Coefficient of Linear Thermal Expansion, ppm/°C | 110 |
| Hardness<br>Shore A | 60 |
| Tensile Strength, MPa (psi) @ 25°C | 4.83 (700) |
| Elongation at Break, % | 140 |
| Volume Resistivity, ohm-cm @ 25°C | 1 x $10^{14}$ |
| Dielectric Strength, kV/mm (V/mil)<br>ASTM D 149 | 19.7 (500) |
| Dielectric Constant @ 25°C<br>ASTM D 150 | 4.0 |
| Dissipation Factor @ 25°C<br>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.

## Shelf Life/Storage:

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

## 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.



OD DS3576 06/23 Rev.5

Parker Lord
**Engineered Materials Group**

111 LORD Drive
Cary, NC 27511-7923
USA

**phone +1 877 275 5673**

www.Parker.com/APS