

CoolTherm® SC-2000 RW Thermally Conductive Silicone Gap Filler

Technical Data Sheet

CoolTherm® SC-2000 RW (Reworkable) gap filler is a two-component, soft-curing, thermally conductive silicone gap filler designed to provide excellent thermal conductivity for electronic applications, while retaining desirable properties associated with silicones. CoolTherm SC-2000 RW gap filler cures at room temperature to produce a compliant, thermal interface material.

Features and Benefits:

Reworkable – cures to a soft, compliant material, allowing for reworkability of cured parts.

Low Density – material is approximately 2.0 g/cm³, minimizing added weight while simultaneously achieving 2.0 W/m·K thermal conductivity.

Low Abrasion – contains fillers with low hardness to minimize abrasion.

Thixotropic Viscosity – achieves lower viscosity and high flow rates during dispensing for quick assembly; provides minimal flow after dispensing to maintain position.

Low Compression Force – exhibits low compression forces during assembly; material is easily compressed from the bead height down to the bondline thickness needed for the application.

Application:

Mixing – Mix CoolTherm SC-2000 RW resin with CoolTherm SC-2000 RW hardener at a 1:1 ratio, by volume. Handheld cartridges or automatic meter/mix/dispense (MMD) equipment should be used to avoid any air entrapment in the material. Manual mixing is not recommended.

Applying – Apply material using handheld cartridges or automatic meter/mix/dispense equipment.

- Handheld Cartridges
 1. Load the cartridge into the applicator gun and remove the end caps. Note that a small amount of silicone at the plug and around the plungers is normal and does not impact the performance of the product.
 2. Level the plungers by expelling a small amount of material to ensure both sides are level.
 3. Attach mixing tip and expel a mixer's length of material.
 4. Apply material to substrate and mate the parts within the working time of the gap filler. Clamp in position until material reaches handling strength.
- Meter/Mix/Dispense Equipment
 1. Ensure the correct style/type of MMD system is used with this material.
 2. Warming the dispense lines will lower viscosity, increase dispensing speed, and maintain consistency in the dispensing environment. Recommended maximum line temperature is 45°C.
 3. Contact your Parker LORD representative if assistance is needed with selecting and using equipment.

Typical Properties*

	SC-2000 RW Resin	SC-2000 RW Hardener	Mixed
Appearance	White Paste	Pink Paste	Light Pink Paste
Viscosity, cP @ 25°C Parallel Plate, 10/s Shear Rate	55,000	60,000	65,000
Specific Gravity	2.0	2.0	2.0
Working Time, minutes @ 25°C	–	–	90

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

Typical Cured Properties*

Thermal Conductivity, W/m·K Hot Disc Transient Method, ISO 22007-2	2.0
Hardness Shore OO, ASTM D 2240	65
Tensile Strength, MPa (psi) ASTM D 638	0.08 (11.6)
Elongation at Break, % ASTM D 638	39
Modulus, MPa ASTM D 638	0.61
Volume Resistivity, ohm-cm @ 25°C ASTM D 257	3×10^{13}
Dielectric Strength, kV/mm (V/mil) ASTM D 149 @ 0.9 mm thickness	11 (279)
Cyclic Siloxane Content, ppm ASTM F 2466	< 200

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Curing – Allow material to cure for 24 hours at room temperature (25°C) or for 30 minutes at 120°C. 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 upon receipt at 5-30°C in original, unopened container. Cartridges should be stored tip down.

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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