

CoolTherm® SC-1200 Thermally Conductive Silicone Gap Filler

Description

LORD CoolTherm® SC-1200 thermally conductive silicone gap filler is a two-component system designed to provide excellent thermal conductivity for electronic applications, while retaining desirable properties associated with silicones.

Features and Benefits

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

Durable – composed of an addition-curing polydimethyl siloxane polymer that will not depolymerize when heated in confined spaces.

Environmentally Resistant – provides excellent thermal shock resistance.

Application

Mixing – Mix CoolTherm SC-1200 resin with CoolTherm SC-1200 hardener at a 1:1 ratio, by weight or volume. Handheld cartridges or automatic meter/mix/dispense 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.
 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
Contact your LORD representative if assistance is needed using this equipment.

Avoid applying CoolTherm SC-1200 gap filler 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 gap filler to the surface and allow it to set for the normal cure time. A liquid layer of silicone will remain on the surface if an inhibitor is present.

Typical Properties*

	SC-1200 Resin	SC-1200 Hardener	Mixed
Appearance	Dark Gray Paste	Off-white Paste	Gray Paste
Viscosity, cps @ 25°C	70,000	70,000	–
Specific Gravity	2.9	2.9	2.9
Working Life, min @ 25°C	–	–	160

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

LORD TECHNICAL DATA

Typical Cured Properties**

Volume Resistivity, ohm-cm @ 25°C	1.4 x 10 ¹³
Thermal Conductivity, W/m·K Hot Disc Transient Method	2.0
Hardness Shore OO, ASTM D 2240	80
Tensile Strength, MPa (psi) ASTM D 1002	0.31 (45)
Elongation at Break, % ASTM D 638	60
Moisture Absorption, % ASTM D 570-81	<0.1
Cyclic Siloxane Content, ppm ASTM F 2466	<200

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Cure schedule minimum of 24 hours at 25°C.

Curing – Allow material to cure for 24 hours at room temperature (25°C) or for 60 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 from date of manufacture when stored at 15-30°C in original, unopened container. Cartridges should be stored tip down. Do not repackage or store material in unvented containers.

Cautionary Information

Before using this or any 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 technical data sheet 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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