ISO-9002 Registered

CSL-519 Technical Data Sheet

Heat Conductive Silicone Sealant

1. PRODUCT NAME
CSL-519 Heat Conductive Silicone Sealant

2. FEATURES
- Neutral cure formulation
- Non-corrosive
- High thermal conductivity
- High dielectric strength
- Provides maximum protection for electronics

3. PRODUCT DESCRIPTION
CSL-519 Heat Conductive Silicone Sealant is a one-part, non-slump, moisture curing RTV (room temperature vulcanizing) silicone which cures to form a tough, high modulus rubber with long-term flexibility and durability. The neutral curing mechanism is ideally suited for use in confined areas since no objectionable odors are evolved. After cure, the wide heat stability range of CSL 519 is from -40°C to 260°C (-40°F to 500°F) and the sealant can be applied to surface temperatures from -18°C to 50°C (0°F to 120°F). CSL-519 has the advantage over heat sink compounds in that it cures fully in place and will not bleed or migrate into other components.

CSL-519 is generally used to thermally couple electrical/ electronic devices to heat sinks. It can be used as an effective thermal coupler for any heat sink device where efficient cooling and electrical isolation is required. It can also be used where a seal against moisture must be made.

CSL-519 can be used in the following applications:
- Thermocouple Wells
- Solar panels
- Heat exchangers
- Thermo-electric coolers
- Thermal coupling and sealing in appliances

4. INSTALLATION
CSL-519 is ready to use and requires no mixing or additives. Curing begins as soon as the sealant is exposed to air. At conditions of 25°C(77°F) and 50% relative humidity, the sealant will 'skin' in 10 minutes and fully cure in 24 hours (1/8" bead). Higher humidity accelerates cure. Tooling should

Typical Properties
These values are not intended for use in preparing specifications

Uncured	
Type	100% silicone, one-part RTV
Appearance	Smooth, non-slump paste
Specific Gravity	1.53
Slump/Sag	Nil
Extrusion Rate (3.2mm (1/8") orifice, 90psi)	100 g/min.
Application Temperature Range	-18°C to 50°C (0°F to 120°F)
Cure System	Neutral, Moisture Cure
Skin-Over Time at Standard Conditions*	15 min.
Cure Time at Standard Conditions*	24 hr.
Cured	At Standard Conditions* for 7 Days
Durometer Hardness (ASTM D2240, Shore A)	40 points
Tensile Strength (ASTM D412)	17.5 kg/cm^2 (250 psi)
Elongation at Break (ASTM D412)	350%
Tear Resistance (ASTM D624, Die B)	7 kN/m (40 ppi)
Thermal Conductivity	2.5 x 10^{-4} cal/(sec.cm.°C)
Dielectric Strength (ASTM D149)	385 V/mil (152 kV/cm)
Volume Resistivity (ASTM D257)	3.0 x 10^{15} ohm.cm
Shrink Factor	Nil

*Standard Conditions are 25°C (77°F) and 50% relative humidity

be done before 'skinning' takes place. In applications where partial or total confinement of the sealant is prevalent, the time required for proper cure is generally lengthened by the degree of confinement.

CSL-519 has excellent unprimed adhesion to most substrates. If there is any doubt about contamination, surfaces should be solvent-wiped with an oil-free solvent such as naphtha. Do not use oil based solvents such as Varsol. Priming for CSL-519 is normally not required for application to most substrates. Unprimed adhesion can be readily tested by applying a small trial bead and allowing 7 days for maximum adhesion to occur.

5. PACKAGING

CSL-519 is available in 300ml (10.2 fl oz) caulking cartridges and 19L (5 US gallon) pails.

6. STORAGE

CSL-519 when stored in original, unopened container has a shelf life of 12 months from date of shipment.

7. SAFETY PRECAUTIONS

CSL-519 uses a neutral cure system, so no acetic acid or objectionable by-products are evolved during cure. Adequate ventilation should be provided with extensive use of this sealant. On direct contact, uncured sealant may irritate eyes. Flush well with water and call a physician. Avoid prolonged contact with skin. See Material Safety Data Sheet available on this product. KEEP OUT OF REACH OF CHILDREN.

8. WARRANTY

CSL Silicones Inc. warrants that its products will meet its specifications. CSL shall in no event be liable for incidental or consequential damages. Except as expressly stipulated, CSL's liability, expressed or implied, is limited to the stated selling price of any defective goods.

Data is subject to change without notice and it is therefore recommended that this information not be used for specification writing. For additional information on specific applications, contact the manufacturer.