



Dow Corning® TC-2030 Thermally Conductive Adhesive

Two-part heat-cured thermally conductive adhesive

Description

Dow Corning® TC-2030 Thermally Conductive Adhesive is a two-part adhesive with thermal conductivity of 2.7 W/mK.

Dow Corning TC-2030 Thermally Conductive Adhesive uses field-proven, reliable alumina fillers to new levels of loading, rheology and bond line control to achieve a step change in elongation and thermal performance stability after aging.

Dow Corning TC-2030 Thermally Conductive Adhesive was specifically developed for a broad industry need for heat dissipation at medium to large bond line thickness (BLT). Minimum BLT is approximately 130 µm. Dow Corning has extensive experience in processing this material and can provide valuable customer support.

Key Features

- Thermal conductivity: 2.7 W/mK
- Excellent performance at medium to high BLT
- Mechanical reliability – maintains stable elongation after accelerated aging tests
- Adhesive reliability – adhesion stays stable or improves after accelerated aging
- Thixotropic for accurate needle dispense
- Adhesion to various substrates

Potential Uses

Thermal interface material for a variety of electronic devices

Typical Applications

- Lid sealant
- LED assembly attach
- High-power modules
- Underhood automotive electronics
- Power steering, anti-lock braking and electronic stability control modules

Application Method

- Automated or manual needle dispense

Material Properties

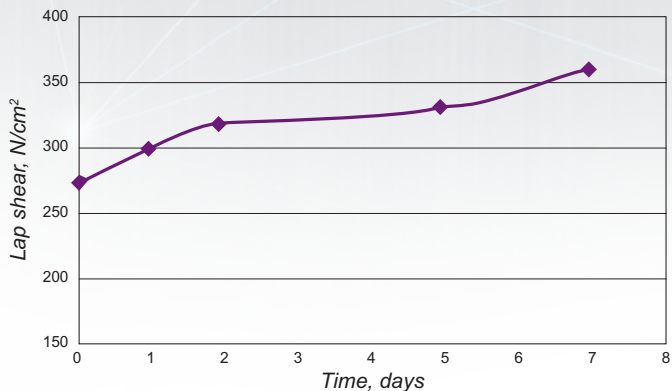
Property	Dow Corning® TC-2030 Thermally Conductive Adhesive
Description	Thermally conductive adhesive
Form	Two-part, heat cure
Mix ratio	1:1
Viscosity, Part A	250 Pa-s
Viscosity, Part B	200 Pa-s
Viscosity, mixed	220 Pa-s
Density (cured)	2.90 g/cm ³
Thixotropy	1.7
Viscosity after 4 hours of working time @ 25°C	230 Pa-s
Tensile strength	4.7 MPa
Heat cure time at 130°C	60 minutes
Elongation	50%
Durometer, Shore A (JIS)	92
Unprimed adhesion (lap shear to aluminum)	370 N/cm ²
Thermal conductivity	2.7 W/mK
Volume resistivity	4.3 E+15 ohm*cm
Dielectric strength	21 kV/mm
Minimum BLT	130 µm
Thermal resistivity at minimum BLT	0.8°C/W

Important Features and Benefits

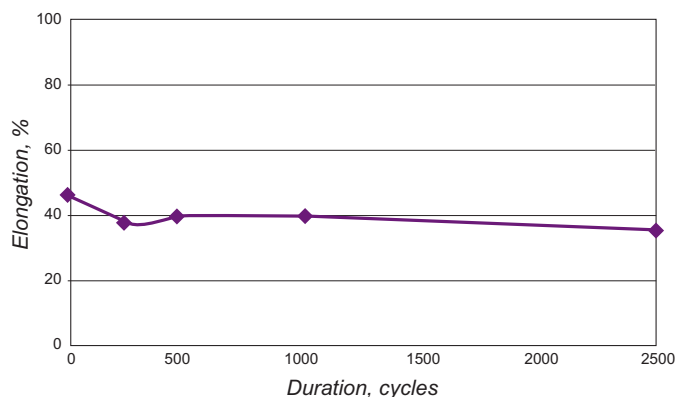
Features	Benefits
High thermal conductivity	<ul style="list-style-type: none"> • Reduced thermal resistance • Performance at medium to thick bond lines (150 µm)
Stable elongation	<ul style="list-style-type: none"> • High reliability • No cracking; maintains structural integrity and thermal transfer properties
Adhesion to various substrates	Adheres to: <ul style="list-style-type: none"> • Anodized aluminum • Cast aluminum • Tin-plated copper • Copper • Printed circuit board • Others

Performance Data

Dow Corning® TC-2030 Thermally Conductive Adhesive
Pressure Cooker Aging
Adhesion strength aged at 120°C/100% RH



Dow Corning® TC-2030 Thermally Conductive Adhesive
Thermal Shock Aging
Elongation after thermal shock between -40°C and 140°C



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