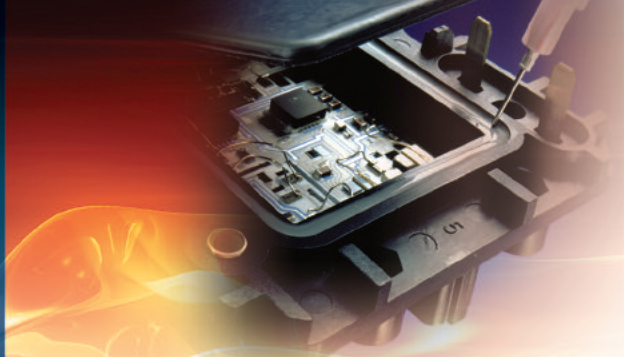
TC-2030



Electronics
Solutions

DOW CORNING

Dow Corning® TC-2030 Thermally Conductive Adhesive

Two-part, heat cured thermally conductive adhesive

Description

Dow Corning® TC-2030 is a two-part thermally conductive adhesive with thermal conductivity of 2.7 W/mK. TC-2030 uses field-proven, reliable alumina fillers to new levels of loading, rheology and bondline control to achieve a step-change in elongation and thermal performance stability after aging. TC-2030 was specifically developed for a broad-industry need for heat dissipation at medium to large bond line thickness (BLT). Minimum BLT is approximately 150 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

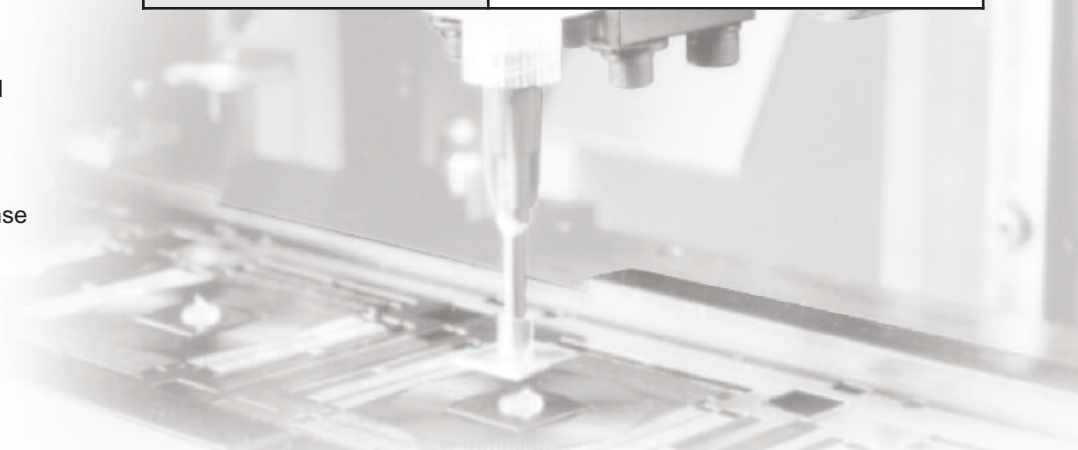
- Lid sealant
- LED assembly attach
- High power modules
- Under hood automotive electronics
- Power steering, antilock braking and electronic stability control modules

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	210,000 cP
Viscosity Part B	180,000 cP
Viscosity mixed	190,000 cP
Specific gravity	2.9
Thixotropy	1.8
Working time – viscosity after 4 hours @ 25°C	230,000 cP
Tensile strength	655 psi
Heat cure time at 130°C	60 minutes
Elongation	45%
Durometer Shore A	90
Unprimed adhesion (lap shear to aluminum)	410 psi
Thermal conductivity	2.7 W/mK
Volume resistivity	1.3 E+13 ohm*cm
Dielectric strength	525 volts/mil

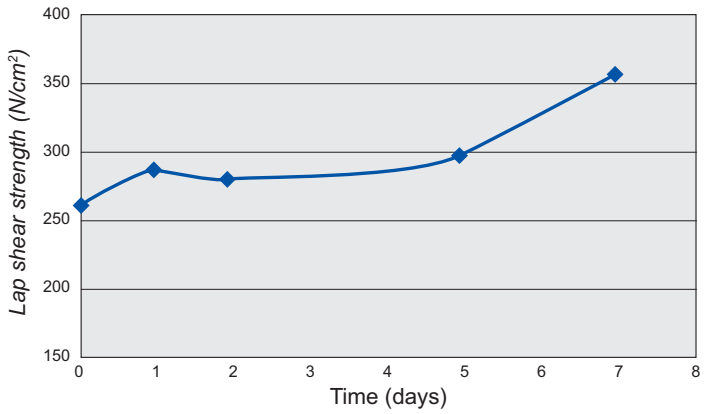


Important Features and Benefits

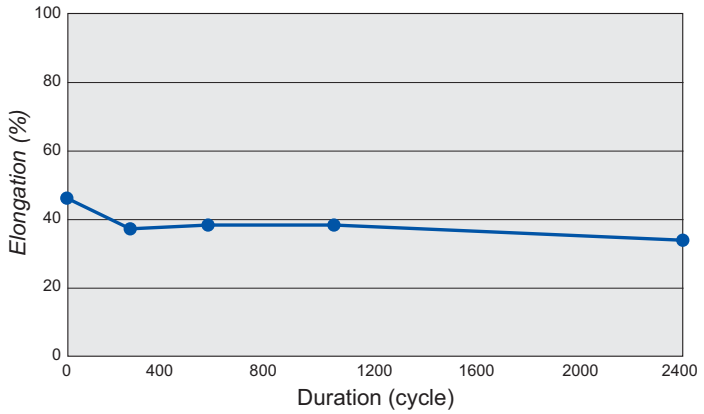
Features	Benefits
High thermal conductivity	• Reduced thermal resistance • Performance at medium to thick bond lines (150µm)
Stable elongation	• High reliability • No cracking, maintains structural integrity and thermal transfer properties
Adhesion to various substrates	Adheres to: • Anodized aluminum • Cast aluminum • Tin plated copper • Copper • Printed circuit board • Others

Performance Data

TC-2030 Pressure Cooker Aging
Adhesion strength aged at 120°C/100% RH



T-2030 Thermal Shock Aging
Elongation after thermal shock between -40°C and 140°C



Need Additional Help?

Dow Corning offers a broad range of thermal products and solutions to meet your current and emerging needs.

For additional information on the complete line of *Dow Corning*® brand thermal management products, please call your local sales office, see *www.dowcorning.com/electronics,* or e-mail *electronics@dowcorning.com.*

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