

Dow Corning® TC-5688 Thermally Conductive Compound

Non-curing, premium performance thermally conductive compound

Material Properties

| Property | Dow Corning® TC-5688 Thermally Conductive Compound |
|--|--|
| Description | Thermally conductive compound |
| Form | Non-curing compound |
| Viscosity average | 75,600 centipoise at 1 rpm |
| Specific gravity | 2.67 |
| Non-volatile content at 105°C | 99.97% |
| Volatile content at 105°C | 0.03% |
| Color | Gray |
| Thermal resistance (ASTM D5470) @ 40 psi | 0.05°C-cm ² /W @ 21 microns bond line thickness |
| Thermal conductivity | 5.67 W/m-K |
| Container size | 1 kg tub |
| Mix ratio | 1-part (no mixing) |
| Shelf life | 12 months from date of manufacture |

Description

Dow Corning® TC-5688 Thermally Conductive Compound was developed exclusively for Intel microprocessor in collaboration with the Intel Mobile Platforms Group. TC-5688 was developed and optimized for multi-chip packages and employs a proprietary formula of advanced silicone polymers that interacts with thermally conductive filler particles to form a matrix that is highly resistant to pump-out and other common failure mechanisms. The result is a thermal compound that delivers extreme performance and exceptional reliability for your thermal interface needs.

Key Characteristics

- Thermal conductivity: 5.67 W/m-K
- Designed to perform over non-coplanar substrates
- Excellent performance at gradient bond line thickness
- Achieves minimum potential bond line and thermal resistance, independent at low pressure
- High stability and reliability

Potential Uses

Thermal interface material for a variety of high-end electronic devices

Applications

- Multi-chip packages
- Bare die mobile processors
- Devices with multiple heat dissipating substrates and one heat sink
- Microprocessors
- Power modules
- LED assemblies

Application Methods

- Screen print
- Stencil print
- Dispense

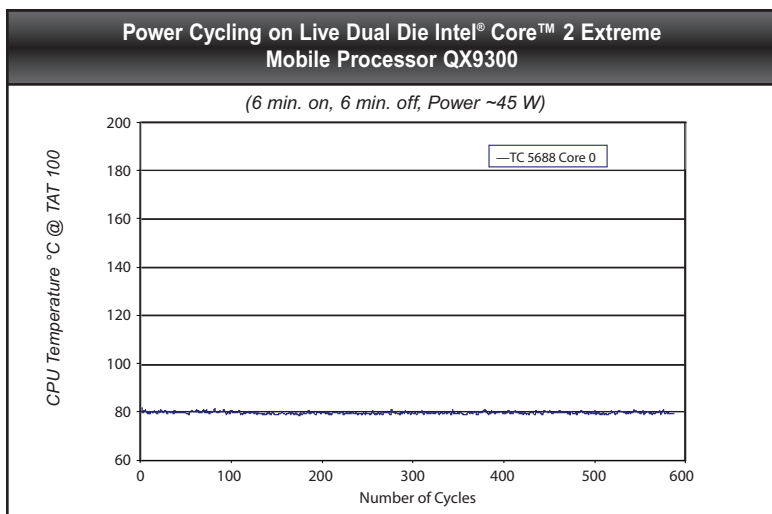
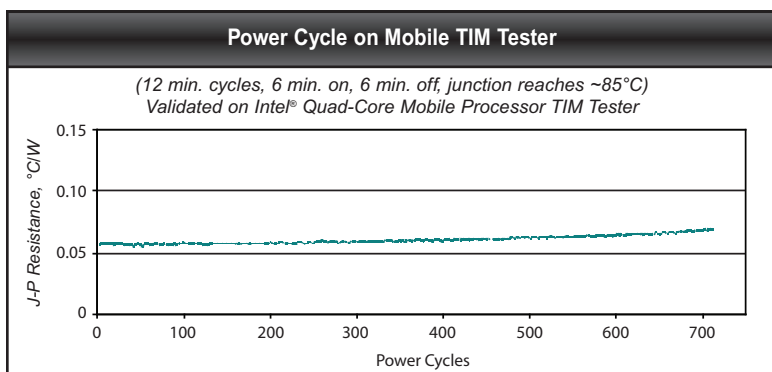
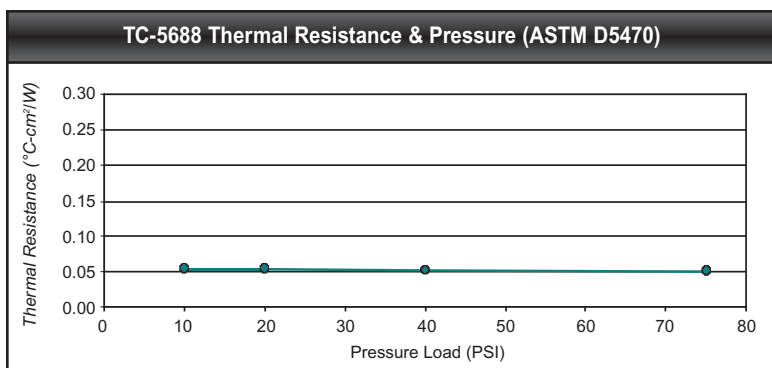
TC-5688 may be used to cool any IC in a computing system with an Intel® microprocessor. TC-5688 may also be used in non-computer applications such as LED and industrial uses.



Important Features and Benefits

| Features | Benefits |
|--|--|
| High thermal conductivity | <ul style="list-style-type: none"> Reduced thermal resistance Performance at varying bond line thickness for non-coplanar substrates |
| Advanced silicone fluid interacts with filler particles to create a more stable matrix | <ul style="list-style-type: none"> Exceptional resistance to pump-out Greater stability and reliability Long shelf life |

Competitive Comparison



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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