

# Dow Corning® Brand TC-5688 Thermally Conductive Compound

*Non-curing, premium performance thermally conductive compound*

## Description

Dow Corning® TC-5688 Thermally Conductive Compound was developed exclusively for Intel microprocessors 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 Features

- Thermal conductivity: 5.67 W/m·K
- Designed to perform over non-coplanar substrates
- Excellent performance at variable bond line thickness
- Achieves minimum potential bond line and thermal resistance at low pressure
- High reliability against pump-out

## Potential Uses

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

## Typical Applications

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

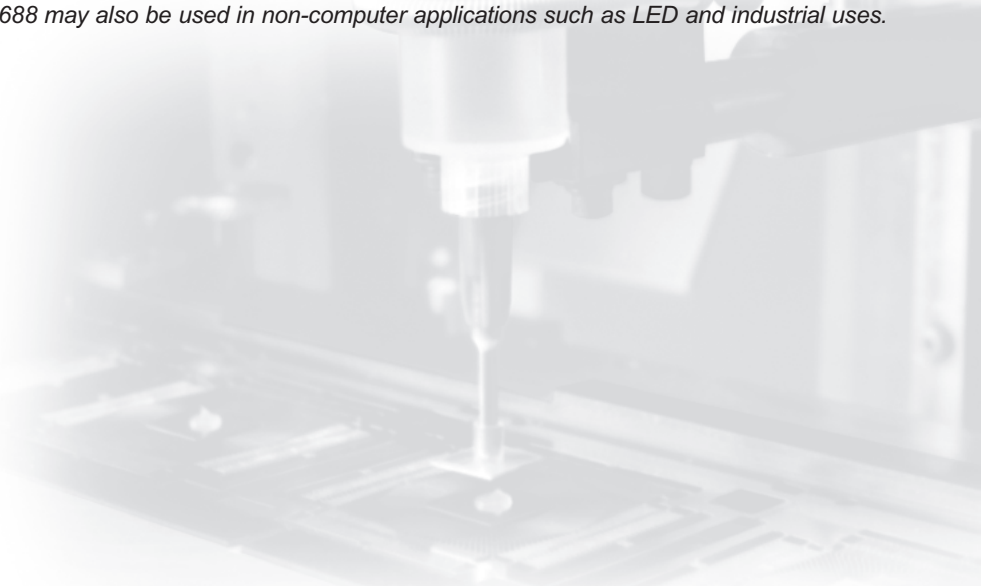
## Application Methods

- Screen print
- Stencil print
- Dispense

## Material Properties

Property	Dow Corning® TC-5688 Typical Values
Description	Thermally conductive compound
Form	Non-curing compound
Viscosity average	65,000-100,000 cP
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 <sup>2</sup> /W
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

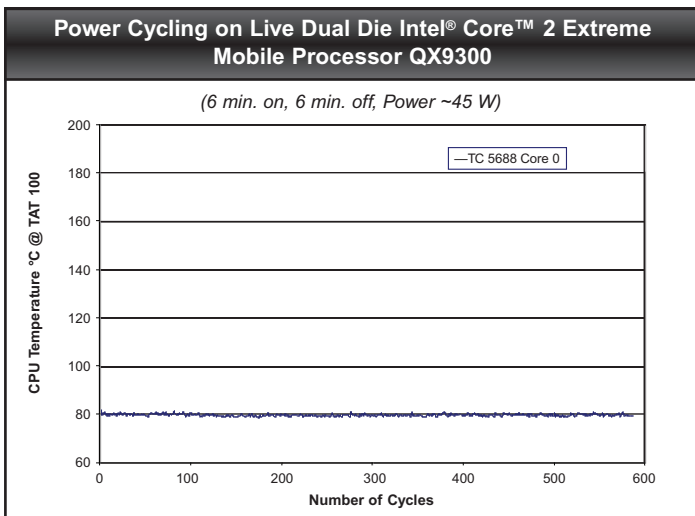
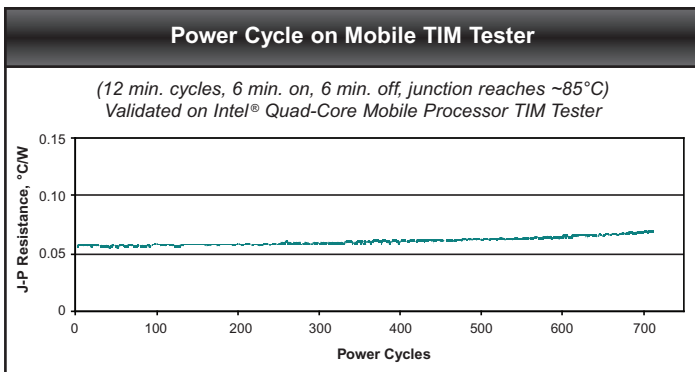
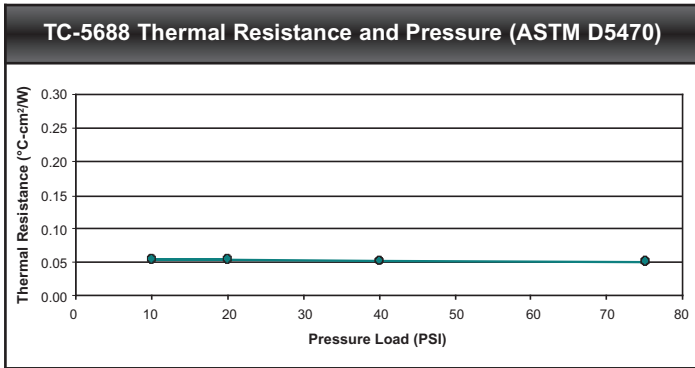
*TC-5688 may be used to cool any IC in a computing system with an Intel® microprocessor. TC-5688 may also be used in non-computer applications such as LED and industrial uses.*



## Important Features and Benefits

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

## Performance Data



## Learn More

For additional information or Material Safety Data Sheets on the complete line of *Dow Corning®* thermal interface management solutions, please call your local sales office, visit [dowcorning.com/electronics](http://dowcorning.com/electronics), or send a message to [electronics@dowcorning.com](mailto:electronics@dowcorning.com).

Front images: AV11148, AV02251

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Form No. 11-1714B-01

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