



## Product Information

# DOWSIL™ TC-4605 Thermally Conductive Encapsulant

**DOWSIL™**

## Two-part, Heat-cure, Thermally Conductive Encapsulant

**Description:**

DOWSIL™ TC-4605 Thermally Conductive Encapsulant is a two component silicone rubber material. It is designed especially for the use in the manufacture of electrical and PCB system products and modules. It cures with heat to form elastic, thermal conductive and flame retardant rubber.

**Key Features:**

- 1 W/m·K thermal conductivity
- Excellent dielectric properties
- Low viscosity
- Repairable
- UL 94 V0

**Typical Applications:**

- On-board charger
- Inverter
- Converter
- Transformer
- Automotive PCB system assemblies

**Potential Uses:**

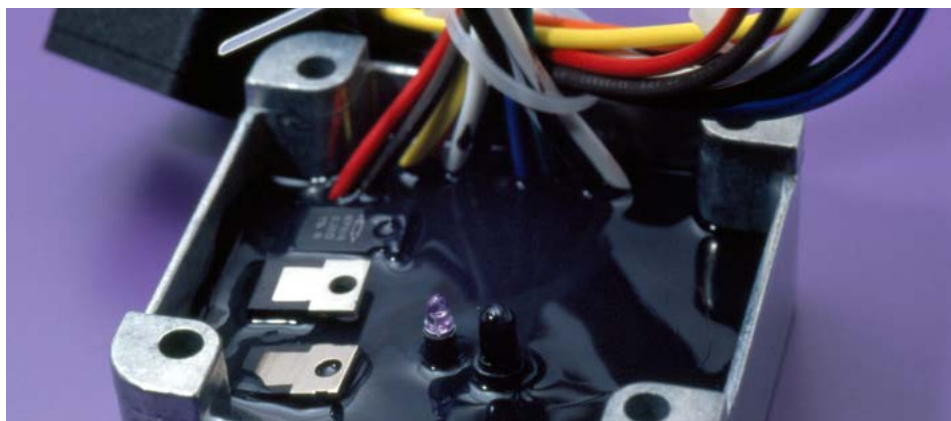
Protection from different environmental conditions and thermal management for PCB systems.

**Features and Benefits:**

- Good reliability
  - Provides stable performance under different environmental conditions
- Lower viscosity
  - Provides good flow and workability
  - Reduces the possibility of void and bubbles
- Mechanical protection

**Application Method:**

- Manual mixing and potting
- Automated or manual needle dispense

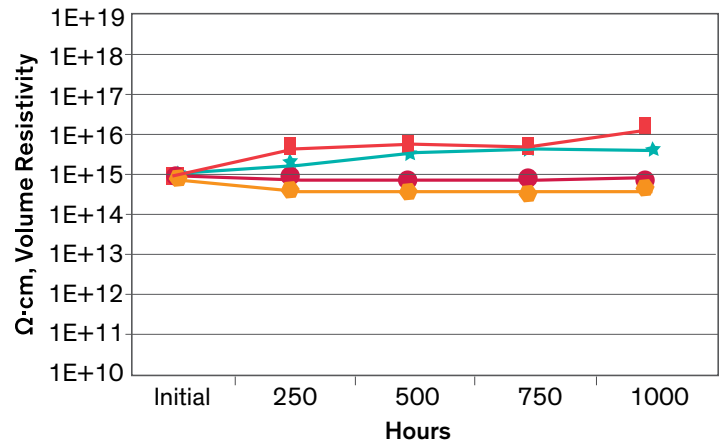
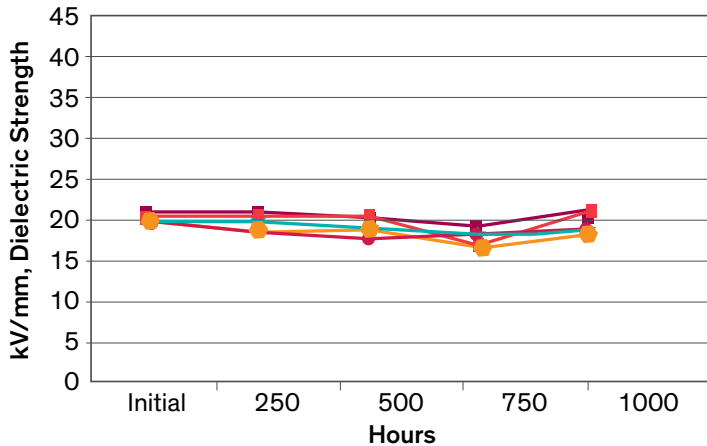
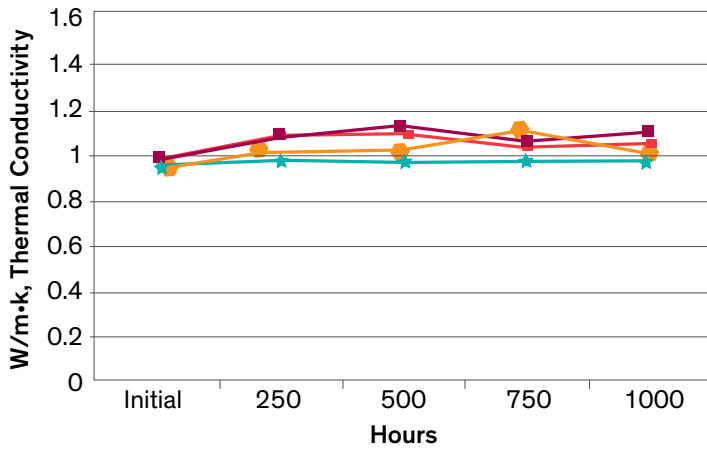
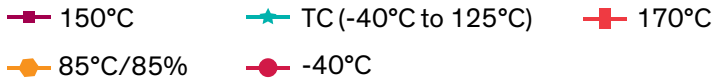


| Property                  | DOWSIL™ TC-4605 Thermally Conductive Encapsulant |
|---------------------------|--------------------------------------------------|
| Color (mixed)             | Gray                                             |
| Form                      | Two-part, Heat-cure                              |
| Mix ratio                 | 1:1                                              |
| Viscosity, Part A         | 3100 cP                                          |
| Viscosity, Part B         | 2500 cP                                          |
| Viscosity, mixed          | 2900 cP                                          |
| Durometer, Shore A        | 30                                               |
| Specific gravity (cured)  | 1.67 g/cm <sup>3</sup>                           |
| Pot life at RT            | 135 min                                          |
| Thermal conductivity      | 1.00 W/m·K                                       |
| Adhesion to aluminum      | 110 psi                                          |
| Tensile strength          | 110 psi                                          |
| UL flammability at 1.5 mm | 94 V-0                                           |
| Elongation                | 100%                                             |
| Shelf life                | 9 months                                         |
| Dielectric strength       | 21 kV/mm                                         |
| Volume resistivity        | 3.30E+14                                         |

*Imagine*

## Performance Data for DOWSIL™ TC-4605

### Thermally Conductive Encapsulant



### Learn More

We bring more than just an industry-leading portfolio of advanced silicone-based materials. As your dedicated innovation leader, we bring proven process and application expertise, a network of technical experts, a reliable global supply base and world-class customer service.

To find out how we can support your applications, visit [consumer.dow.com/pcb](http://consumer.dow.com/pcb).

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