

**NovaTherm™ 500 Series 500-310
Thermally Conductive Adhesive
Specification Data**



DESCRIPTION

NovaTherm 500 Series 500-310 is a thermally conductive silicone adhesive that provides fast tack-free time, flame resistance, excellent thermal conductivity, electrical insulation, and mechanical properties.

FEATURES & BENEFITS

- Flexible BLT Thermal Interface Management
- Wide range of compatibility
- Fast tack-free time
- Single component gap filling
- Primerless adhesion
- Excellent dielectric properties
- High volume auto dispensable
- Room temperature curing
- Solvent free formulations
- UL 94 V-0 recognized

APPLICATIONS

Specially formulated to retain its physical properties even during service in extreme environmental conditions, this product is ideal for applications that require a Thermal Interface Material with superior bond strength and flame resistance. It is designed for electronics, automotive/transportation, appliance, power supply, HVAC, lighting, 5G telecommunication network and industrial applications. This material is well suited for sealing and bonding applications to a wide variety of plastic and non-porous substrates.

INSTALLATION

As with all single component materials, work life and cure times of NovaTherm 500-310 are dependent upon environmental conditions such as temperature, humidity, and application thickness. Adhesion should be checked on small samples prior to full scale production.

AVAILABILITY

Consult your Novagard sales representative for packaging options and volume requirements.

STORAGE

Novagard NovaTherm 500- 310 may be stored in the original unopened containers at, or below, 80°F for up to three months.

PRECAUTIONS

Consult and obey all applicable local, state, and federal regulations for disposal of solvent and silicone waste. For additional information consult product S.D.S.

Do not use in or around highly oxidative chemicals such as liquid oxygen, chlorine, or peroxides. Not recommended for surfaces that are to be painted.

PRODUCT SPECIFICATIONS

| Physical Property | Test Method | Performance Range |
|-------------------------------------|---|--|
| Form | By Design | One- Part, Semi-Flowable, Easily Dispensable |
| Appearance | Visual | White |
| Skin Over Time (minutes) | 1/8" @ 50% RH & 77°F | 12 - 14 |
| Tack-Free Time (minutes) | ASTM D2377 - 14(2019) | 14 - 15 |
| Specific Gravity | ASTM D1875 | 2.2 |
| Through Cure (days) | ASTM D7750 - 12(2017) 1/8" @ 50% RH & 77°F | 7 |
| Density at 25°C (g/cc) | ASTM D0792 | 2.22 |
| Viscosity (cPs) @ 10s ⁻¹ | ASTM D4440 | 79,000 |

TYPICAL PROPERTIES*

| Physical Property | Test Method | Typical Value |
|-------------------------------------|--------------|---|
| Tensile Strength (psi) | ASTM D412 | ≥ 700 |
| Elongation (%) | ASTM D412 | ≥ 60 |
| Hardness (Shore A) | ASTM D2240 | 75±5 |
| Thermal Conductivity (Tc) (W/mK) | ASTM D5470 | 1.0 |
| Volume Resistivity @ 100V (Ω-cm) | ASTM D257-14 | 1.0 x 10 ¹⁶ - 1.0 x 10 ¹⁷ |
| Dissipation Factor (50 kHz) | ASTM D150 | 4.3 |
| Dielectric Constant (50 kHz) | ASTM D150 | 0.0034 |
| Dielectric Strength (kV/mm) | ASTM D149 | ≥ 45 |
| Adhesion (psi) Glass Aluminum | ASTM D910 | Yes ≥ 200 |
| Flammability Class | UL 94 | V-0 |

* The values outlined reflect testing that was conducted under laboratory conditions, actual results may vary.

ADDITIONAL INFORMATION

Novagard believes that the information provided is a true and accurate description of the typical characteristics of the aforementioned product, however, it is the responsibility of the individual user to thoroughly test the product in their specific application to determine performance, efficacy, and safety.