

ThermoBond 3830

High Thermally Conductive Adhesive

| Typical Properties | | | |
|---------------------------------|---------------------|------------|------------------|
| Property | Unit | Value | Test Method |
| Color / Component A | | White | Visual |
| Color / Component B | | White | Visual |
| Mixing Ratio | By volume or weight | 1:1 | ITM |
| Density (as Mixed) | Gram /cc | 1.4 | ASTM D792 |
| Viscosity as Mixed at 25°C | cps | 230,000 | ASTM D2196 |
| Property as Cured | | | |
| Color | | White | Visual |
| Hardness | Shore A | 63 | ASTM D2240 |
| Adhesion (Al/Al Lap Shear @25C) | psi | 580 | ASTM D3163 |
| Thermal Conductivity | W/m-K | 3.2 | ASTM D5470 |
| Dielectric Constant | @100Hz | 3 | ASTM D150 |
| Dissipation Factor | @100 Hz | < 0.01 | ASTM D150 |
| Dielectric Strength | Volt/mil AC | 500 | ASTM D149 |
| Volume Resistivity | Ohm-cm | 2.5E+14 | ASTM D257 |
| Tg | °C | -120 | TGA |
| CTE | ppm/°C | 120 | IPC-TM-650 |
| Useful Temperature Range | °C | -55 to 200 | TGA |
| Cure Profile | | | |
| Cure at 125°C | Min | 15 | DSC |
| Pot Life at 25°C | Min | 30 | Viscosity double |
| Weight Loss in Cure | Weight % | < 0.5% | TGA |

These figures are only intended as a guide and should not be used in preparing specifications.

Processing Instruction

Important! ThermoBond 3830 is platinum cure system. Please keep applied surface clean and avoid using this material on any surface that contains sulfur, amine, phosphorous, organo-metals, acid, etc. because these containments could inhibit the cure of the material.

For the package in a container (not in a cartridge), to ensure homogeneity of the material, it is suggested that the component be stirred thoroughly before it is removed or processed in order to uniformly disperse any fillers that might have settled during storage.

We recommend running preliminary tests to optimize conditions for the particular application. Comprehensive processing instructions can be obtained by contacting directly to United Adhesives Inc.

Storage

ThermoBond 3830 has a shelf life of at least 6 months when stored below 21 °C in the originally sealed container. The 'Best use before end' date of each batch appears on the product label. Storage beyond the date specified on the label does not necessarily mean that the product is no longer usable. In this case however, the properties required for the intended use must be checked for quality assurance reasons.

Safety information

Addition curing ThermoBond 3830 silicone adhesive contains neither toxic nor corrosive substances that might require special handling precautions. General hygiene regulations should be observed. Comprehensive instructions are given in the corresponding Material Safety Data Sheets. They are available on request from United Adhesives Inc.

Characteristics

ThermoBond 3830 is a very high thermally conductive adhesive using Boron Nitride as filler to provide superior thermal conductivity. It is a non-slump, addition-curing, ready-to-use, two-component silicone that cures at elevated temperature to a rubber with excellent bonding strength. The cured material provides stress compliance for thermal cycles. ThermoBond 3830 is both dispensable and printable.

Special Features and Benefits

- High thermal conductivity
- Almost constant properties from -50 to 180 °C
- Low modulus for stress compliance
- Low bleeding, low volatile
- Strong adhesion to many substrates without using primer

Typical Applications

- Bonding of electronic parts to dissipate heat
- Automotive electronics
- Semiconductor and Telecommunications
- Between high heat power device and heat sink
- Thermally conductive vibration dampening
- Couple thermal stress while dissipating heat

ThermoBond 3830 has a shelf life of at least 6 months when stored in cold (below < 21 °C) in the originally sealed container.