

# ThermoBond 3831

## High Thermally Conductive Adhesive

Typical Properties			
Property	Unit	Value	Test Method
Color / Component		White / Grey	Visual
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 / Grey	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	60	DSC
Cure at 150°C	Min	30	DSC
Weight Loss in Cure	Weight %	< 0.5%	TGA

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

### Characteristics

ThermoBond 3831 is a very high thermally conductive adhesive using Boron Nitride as filler to provide superior thermal conductivity. It is a non-slump, addition-curing, one-component ready-to-use silicone that cures at elevated temperature to a rubber with excellent bonding strength. The cured material provides stress compliance for thermal cycles. ThermoBond 3831 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 3831 has a shelf life of at least 6 months when stored in cold (below < 4°C) in the originally sealed container.

### Processing Instruction

**Important!** ThermoBond 3831 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 3831 has a shelf life of at least 6 months when stored below 4°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 3831 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.

The figures listed in this datasheet are in good faith with the present state of our knowledge, but should not be used in substitution for user's tests. We reserve the right to alter product constants within the scope of technical progress or new developments. The suggestions for use in this sheet should be checked by preliminary trials because the user's processing conditions are out of our control. The suggestions for use should not be in substitution of user from the obligation of investigating the possibility of infringement of third parties' patents or rights. This datasheet does not constitute a warranty, either express or implied, of the fitness or suitability of the products for a particular purpose. For technical, quality, or product safety questions, please contact directly to United Adhesives Inc.