United Adhesives

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ThermoBond 3821

High Thermally Conductive Adhesive

Typical Properties			
Property	**Unit**	**Value**	**Test Method**
Color / Component A		White	Visual
Color / Component B		Grey	Visual
Mixing Ratio	By vol. or wt.	1:1	ITM
Density (as Mixed)	Gram / cc	2.8	ASTM D792
Viscosity as Mixed at 25°C	cps	160,000	ASTM D2196
Property as Cured			
Color		Grey	Visual
Hardness	Shore A	90	ASTM D2240
Tensile Strength	MPa	1.1	ASTM D638
Elongation	%	45	ASTM D638
Adhesion (Al/Al Lap Shear) *	psi	> 550	ASTM D3163
Thermal Conductivity	W/m-K	2.0	ASTM D5470
Dielectric Constant	@100Hz	3.0	ASTM D150
Dissipation Factor	@100 Hz	< 0.01	ASTM D150
Dielectric Strength	Volt/mil AC	> 450	ASTM D149
Volume Resistivity	Ohm-cm	> 10E+14	ASTM D257
Tg	℃	-120	TGA
CTE	ppm/℃	98	IPC-TM-650
Useful Temperature Range	℃	-55 to 200	TGA
Cure Profile			
Cure at 25°C	Hours	2 to 4	DSC
Cure at 125°C	Min	15	DSC
Pot Life at 25°C	Min	30	Viscosity double
Weight Loss in Cure	Weight %	< 0.3%	TGA

These figures are only intended as a guide and should not be used in preparing specifications.
*) Heat cure at 125C for 30 min.

Characteristics

ThermoBond 3821 is a high thermally conductive adhesive. It is a non-slump, addition-curing, ready-to-use, two-component silicone that cures at room temperature or elevated temperature to a rubber with excellent thermal conductivity. With heat cure, the adhesive provides strong bonding strength to various substrates. The cured material provides stress compliance for thermal cycles. ThermoBond 3821 is both dispensable and printable.

Special Features and Benefits

- High thermal conductivity
- Almost constant properties from –50 to 180 ℃
- Low modulus for stress compliance
- Low bleeding, low volatile
- Strong adhesion to many substrates without using primer if cures at elevated temperature

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 3821 has a shelf life of at least 6 months when stored in cold (below < 21℃) in the originally sealed container.

Processing Instruction

Important! ThermoBond 3821 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 3821 has a shelf life of at least 6 months when stored below 21℃ 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 3821 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.