

# TIM-816HTC

## Two Part-Thermally Conductive Epoxy

### DESCRIPTIONS

**TIM-816HTC** is a **highly thermally conductive**, two parts thixotropic epoxy adhesive. With a relatively low heat or room temperature cure, it develops excellent bond strength to most substrates including metals, wood, engineering thermoplastics, composite matrix and ceramics. It offers high heat transfer, low shrinkage and low coefficient of thermal expansion.

**Applications:** This adhesive is principally used to form thermally conductive joints in fabricated heat sinks and power devices. Fabricating cold plates and heat sinks. Bonding semiconductors and transistors to heat sinks.

### INSTRUCTION FOR USE

1. Weigh each 100 grams of Resin (Part-A) to 100 grams (Part-B) .
2. Mix until uniform. Scrape the sides and bottom of container repeatedly during mixing.
3. Apply to clean bonding surfaces and cure as recommended to achieve the desired properties.
4. Typical cured properties were determined using recommended cure schedule. Some difference in properties may occur with the alternate or other cure schedules.

**Note:** Refer to Safety Data Sheet (**SDS**) for additional health and safety information.

### AVAILABILITY

2 Parts Kits: 50cc and 400cc dual cartridges. 2 gallon & 10 gallon pail,

Typical Property	Test Method	Value
Type		Two Parts A & B
<b>Special Feature</b>		<b>Very High Thermal Conductivity. Superior metal to metal bonding.</b>
Color	Visual	Gray
Mix Ratio by by weight		100:100
Viscosity (Mixed) Pa.S	Brookfield	80-120
Specific Gravity	ASTM D792	1.7
Pot Life @ 25°C. (100 grams) Minutes		80-120
Cure Schedule		24-48 hrs@25°C or 30 minutes@ 90°C
Operating Temperature Range.°C		-55°C to 160°C
Shelf Life, 25C		12 months
<b>Cured Properties (70°C, 2 hours)</b>		
Hardness, Shore D	ASTM D2240	86
Glass Transition Temperature.°C	DSC	90°C
Lap Shear Strength to Aluminum. PSI	ASTM D1002	> 3500
Coefficient Of Thermal Expansion (CTE), 10 <sup>-6</sup> /°C.	ASTM E831	Below Tg 60, Above Tg >150
<b>Thermal Conductivity (W/m-K)</b>	ASTM D5470	<b>2.7</b>
Dielctric Strength (V/Mil)	ASTM D149	420
Dissipation Factor (1KHz)	ASTM D150	0.08
Volume Resistivity (Ohm-cm)	ASTM D257	10 <sup>^11</sup>

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