

THERMALLY CONDUCTIVE ADHESIVES

- *Thermally Conductive Grease*
- *Bonding Compound*
- *Potting Compound*

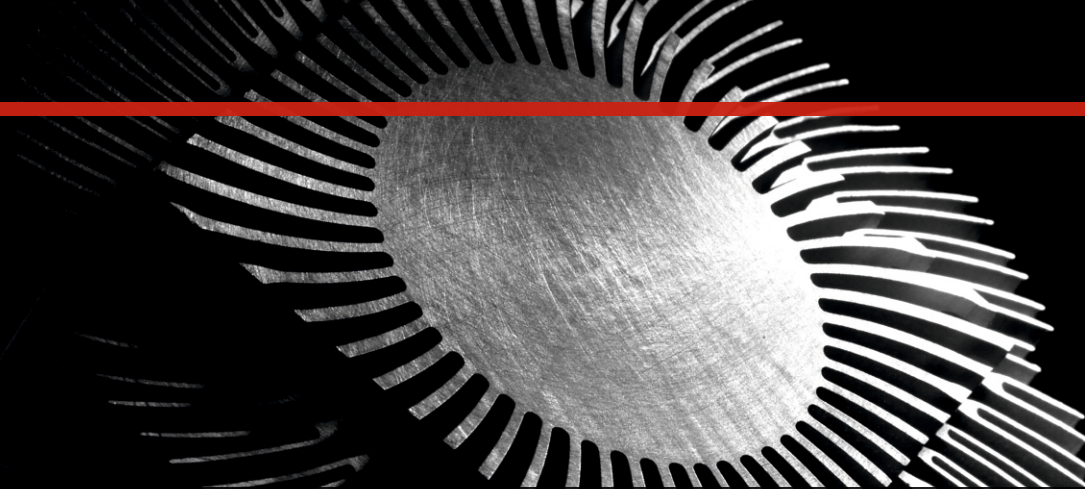
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A must for Industrialists, Engineers, Architects, Developers, Professionals & Consultants.



Faster, smaller computers and mobile devices that put the world at users' fingertips, Advanced LED lights using less energy and making displays brighter than ever and Next-generation batteries that power the electric car revolution, all these advances have one thing in common?

None of them would be possible without effective technologies for managing heat!!

To address these thermal demands, Metlok has developed a complete portfolio of high-performance, user-friendly products. Metlok with the Vision of Make in India has indigenously formulated a comprehensive range of thermal management solution in adhesive technology to suit a variety of current and future heat control needs.

Acrylic Technology | Epoxy Technology | Silicone Technology

Thermal Conductivity

Thermal conductivity is an intrinsic property of material which can be defined as the rate at which heat is transferred by conduction through a unit cross-section area of a material, when a temperature gradient exists perpendicular to the area.

Why thermal testing using ISO 22007?

ISO 22007 is a non-destructive transient thermal testing, which is faster, more precise and more accurate than steady-state measurements.

Advantages of ISO 22007 over conventional methods

No Separate Reference Temperature Measurement

Transient measurements allow a differential formulation of the thermal resistance wherein the reference temperature in a junction-to-case or junction-to-ambient thermal resistance measurement can be taken as the junction temperature at time $t = 0$.

High Reproducibility

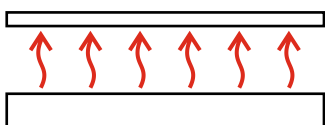
Transient thermal uses Electrical Test Method thus eliminating the need for a thermocouple and hence the time and expense of redesigning.

High Accuracy

Accuracy of conventional methods is limited to 0.5°C , despite readouts generally being to a precision of 0.1°C or better, whereas transient methods has a repeatability of 0.01°C , giving a 50-fold improvement in accuracy.

Faster Overall Measurements

In transient measurements it is possible to perform a partial transient measurement at much faster rate due to non-involvement of thermocouples.



Thermal Conductivity



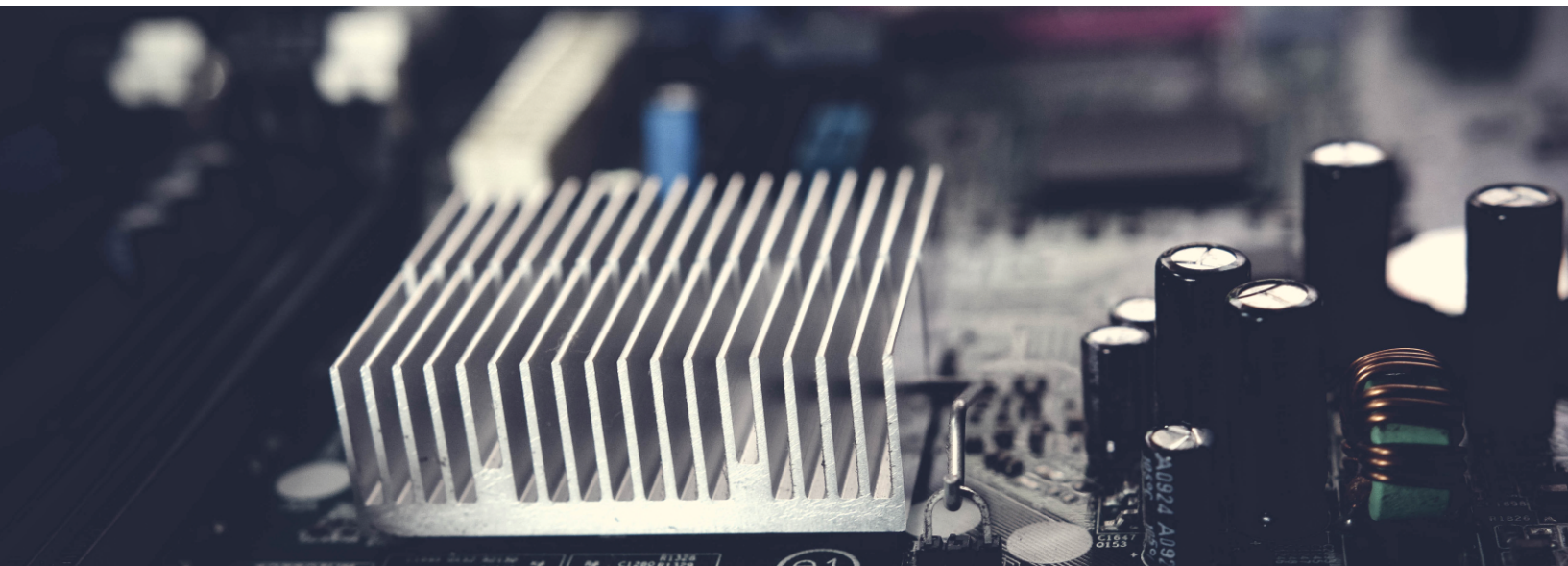
Conformability



Efficiency



Cost Effectiveness



Thermally Conductive Grease (TCG) Silicone Technology

It is a non-curing thermal interface material designed to transfer thermal energy from a heat source to a heat sink. This product delivers high thermal conductivity and electrical resistance over wide temperature range.

PRODUCTS



Appearance	Off White Paste	White Paste	White Paste	Grey Paste
Specific Gravity (25±2°C) ASTM D1875	1.84 ±0.03	2.19±0.03	2.93±0.03	2.75±0.03
Viscosity, Brookfield (25±2°C) ASTM D1084	(cP) 200000 - 250000	45000 - 50000	85000 - 90000	60000 - 70000
Cure	Non Curing	Non Curing	Non Curing	Non Curing
Thermal Conductivity (25±2°C) ISO 22007	(W/(m-K)) 0.7	1	2.2	3
Service Temperature	(°C) -50 to 150	-50 to 150	-50 to 200	-50 to 200
Shelf Life	(Months @ 25°C) 12	12	12	12
Pack Size	500g & 1Kg	500g & 1Kg	500g & 1Kg	500g & 1Kg

**My-T-THERM®****THERMALLY CONDUCTIVE** Adhesives

Thermally Conductive Adhesives Silicone Technology



PRODUCTS

My-T-Sil® 932
(1K Silicone)**My-T-Sil® 9320**
(Gap Filler)

Description		It is a one part neutral cure thermally conductive silicone sealant. It cures at room temperature by reaction with moisture in the air to a durable, flexible silicone rubber seal. It is useful for sealing & bonding application in Power modules, Adaptors, Inverters, Sensors and Electric control units.	It is a two component, thermally conductive silicone elastomer system specially designed to be used as a thermal gap filling interface in electrical and electronic components. It works with heat sink or metal cases to dissipate heat from critical electronic component.
Appearance		Grey Paste	Part A - Yellow Part B - White A+B = White
Specific Gravity (25±2°C)		2.05 ± 0.05	(A) 2.8 (B) 2.8
Viscosity (25±2°C)		Non-Slump Paste	(A) 200000 - 300000 (B) 200000 - 300000
Skin Over Time	(Min)	7 - 13	NA
Tack Free Time	(Min)	18 - 26	NA
Mix Ratio by Weight		NA	1:1
Hardness Shore A (25±2°C) ASTM D2240	50±5% RH	65 ± 5	60 ± 3
Thermal Conductivity (25±2°C) ISO 22007	(W/(m-K))	1	2
Tensile Strength ASTM D412	(N/mm²)	≥ 1	NA
Elongation ASTM D412	(%)	≥ 50	NA
Service Temperature	(°C)	-55 to +250	-55 to +180
Shelf Life	(Months)	6	6
Pack Size		600g	400ml (Dual Cartridge)

Thermally Conductive Adhesives Epoxy Technology

PRODUCTS

My-T-BOND®

2420

(1K Epoxy)

My-T-BOND®

2505

(2K Epoxy)

My-T-BOND®

2520

(2K Epoxy)

Description	It is a one-component thermally conductive heat curable epoxy adhesive. My-T-Bond® 2420 provide excellent heat dissipation by forming a thermal interface between the two substrates.	It is a low viscosity thermally conductive, room temperature curing 2K-Epoxy system. After curing, it cures to a tough polymer and develops good bonding strength. It is designed to bond and encapsulate various electrical and electronic assemblies and dissipate heat efficiently.	It is a thermally conductive, room temperature curing 2K-Epoxy system. After curing, it cures to a tough polymer and develops good bonding strength. It is designed to bond various electrical and electronic assemblies to dissipate heat efficiently.
Appearance	Grey	A+B = White	A+B = Blue
Specific Gravity (25±2°C)	1.85 ± 0.03	(A) 1.45 ± 0.03 (B) 1.55 ± 0.03	(A) 2.2 (B) 2.1
Viscosity (25±2°C)	275000 - 325000	(A) 6000 ± 1000 (B) 4000 ± 1000	(A) 280000 ± 15000 (B) 280000 ± 15000
Cure (Min)	Heat	Room Temperature	Room Temperature
Total Cure	30 min @ 180°C	24 Hrs	24 Hrs
Mix Ratio by Weight	NA	1:1	1:1
Hardness Shore A (25±2°C) ASTM D2240 50±5% RH	75 ± 3	55 ± 5	55 ± 5
Thermal Conductivity (25±2°C) ISO 22007 (W/(m-K))	2	0.56	2
Tensile Strength ASTM D897 (N/mm²)	15 - 20	5 - 10	≥ 3
Lap Shear Strength ASTM D1002 (N/mm²)	15 - 20	10 - 15	≥ 3
Service Temperature (°C)	-30 to +200	-30 to +200	-30 to +200
Shelf Life (Months)	6	6	6
Pack Size (Kg)	1 & 5	1 & 5	1 & 5

**My-T-THERM**®**THERMALLY CONDUCTIVE** Adhesives

Thermally Conductive Adhesives Acrylic Technology

PRODUCTS

My-T-THERM®**84**
(Acrylic)

Description		It is a thermally conductive adhesive designed for bonding heat generating components to heat sinks. The high thermal conductivity provides excellent heat dissipation for thermally sensitive components, while the controlled strength permits field and service repair.
Appearance		White / Off White paste
Specific Gravity (25±2°C)		2.33±0.03
Viscosity (25±2°C)		Paste
Cure	(Min)	Activator
Total Cure	(Hrs)	24
Thermal Conductivity (25±2°C) ISO 22007	(W/(m-K))	1.2
Tensile Strength ASTM D897	(N/mm ²)	8 - 12
Lap Shear Strength ASTM D1002	(N/mm ²)	6 - 10
Service Temperature		(°C) -50 to +150
Shelf Life		(Months) 6
Pack Size		(ml) 20 (Blister Pack)

Notes



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