

Thermally Conductive Adhesives — 2-Part Epoxy



Thermally conductive epoxy for the assembly and repair of electronics

Features and Benefits:

- Excellent thermal conductivity
- Electrically insulating
- 1:1 mix ratio
- Good adhesion to most electronic substrates
- Fast cure versions meet UL 94 V-0
- Room temperature storage and long shelf life

Applications:

- Attaching heat sinks
- Bonding LED's
- Bonding heat generating devices in electronic assemblies
- Creating thermal connections between devices and external cases

Dispensing gun and tips available for dispensable versions.



We offer a choice of six Thermally Conductive Adhesives:

Choose a working time:

- **4 minutes:** good when rapid curing is required at ambient temperature
- **45 minutes:** good when a moderate working time and rapid curing is required at elevated temperature
- **4 hours:** good when long working time is required for assembly operations

And then a viscosity:

- **Dispensable:** can be dispensed automatically and through a mix tip
- **Thixotropic:** Thixotropic paste providing highest thermal conductivity

To select the part number suited to your application:

	Viscosity		Working Time	
	4 Minutes	45 Minutes	4 Hours	
Dispensable	8329TFF	8329TFM	8329TFS	
Thixotropic	8329TCF	8329TCM	8329TCS	

Thermally Conductive Adhesive Comparison Chart

	8329TCS	8329TFS	8329TCM	8329TFM	8329TCF	8329TFF
UNCURED PROPERTIES						
Mix ratio by volume	1:1	1:1	1:1	1:1	1:1	1:1
Mixed density	2.27 g/mL	2.11 g/mL	2.47 g/mL	2.19 g/mL	1.73 g/mL	1.94 g/mL
Viscosity	Thixotropic	Dispensable	Thixotropic	Dispensable	Thixotropic	Dispensable
CURED PROPERTIES						
Application Parameters						
Working life	4 h	4 h	45 min	45 min	4 min	4 min
Service cure ^{a)} /Set time ^{b)}	N/A	N/A	5 h ^{a)}	5 h ^{a)}	15 min ^{b)}	15 min ^{b)}
Full cure @22 °C (72 °F)	Heat cure only	Heat cure only	24 h	24 h	4 h	4 h
Full cure @65 °C (149 °F)	2 h	3 h	1 h	2 h	10 min	15 min
Thermal Properties						
Constant service temperature	-40 to 150 °C	-40 to 150 °C	-40 to 150 °C	-40 to 150 °C	-40 to 150 °C	-40 to 150 °C
Glass transition temperature (T _g)	8.8 °C	9.1 °C	46 °C	39 °C	23 °C	25 °C
CTE prior T _g	36 ppm/°C	47 ppm/°C	71 ppm/°C	67 ppm/°C	23 ppm/°C	34 ppm/°C
CTE after T _g	173 ppm/°C	164 ppm/°C	131 ppm/°C	125 ppm/°C	107 ppm/°C	146 ppm/°C
Thermal conductivity @25 °C (75 °F)	1.4 W/(m·K)	1.2 W/(m·K)	1.4 W/(m·K)	1.1 W/(m·K)	1.0 W/(m·K)	0.8 W/(m·K)
Thermal diffusivity @25 °C (75 °F)	0.7 mm ² /s	0.6 mm ² /s	0.7 mm ² /s	0.5 mm ² /s	0.4 mm ² /s	0.3 mm ² /s
Specific heat capacity @25 °C (75 °F)	0.9 J/(g·K)	1.0 J/(g·K)	0.9 J/(g·K)	1.1 J/(g·K)	1.3 J/(g·K)	1.4 J/(g·K)
Physical Properties						
Color	Dark grey	Dark grey	Dark grey	Black	Off white	Beige
Hardness	62D	68D	77D	72D	82D	82D
Tensile strength	11 N/mm ²	4.2 N/mm ²	10 N/mm ²	4.5 N/mm ²	13 N/mm ²	13 N/mm ²
Compressive strength	43 N/mm ²	42 N/mm ²	34 N/mm ²	44 N/mm ²	48 N/mm ²	65 N/mm ²
Lap shear (stainless steel)	4.7 N/mm ²	5.0 N/mm ²	6.4 N/mm ²	9.0 N/mm ²	5.0 N/mm ²	7.1 N/mm ²
Lap shear (aluminum)	4.4 N/mm ²	6.3 N/mm ²	6.1 N/mm ²	6.6 N/mm ²	8.6 N/mm ²	8.3 N/mm ²
Electrical Properties						
Breakdown voltage @3.175 mm	23 900 V	23 300 V	24 300 V	19 500 V	42 700 V	45 900 V
Dielectric strength @3.175 mm	165 V/mil	186 V/mil	195 V/mil	160 V/mil	342 V/mil	367 V/mil
Volume resistivity	2 x 10 ¹³ Ω·cm	1 x 10 ¹² Ω·cm	9 x 10 ¹² Ω·cm	9 x 10 ¹² Ω·cm	3 x 10 ¹² Ω·cm	8 x 10 ¹² Ω·cm

Refer to TDS for more information.

Available Packaging



6 mL Syringes
8329TCM-6ML
8329TCS-6ML



25 mL Dual Syringe
8329TFM-25ML
8329TFS-25ML



50 mL Dual Cartridge
8329TCF-50ML
8329TFF-50ML
8329TFM-50ML
8329TFS-50ML



50 mL Kit
8329TCM-50ML
8329TCS-50ML



200 mL Kit
8329TCM-200ML
8329TCS-200ML