



## Maximum Heat Dissipation from Electronic Assemblies

MG Chemicals offers thermally conductive epoxy adhesives for bonding heat sinks, LEDs, and other heat generating electronic components.

### Features & Benefits

- Creates strong permanent thermal bonds
- Eliminates need for mechanical fasteners
- Excellent thermal conductivity (*TC*)
- Provides strong electrical insulation
- Room temperature storage
- Maintains bonds in severe environments
- Excellent chemical resistance
- Excellent mechanical stability
- A wide variety of working times (*w.t.*)

### Applications

- Bonding heat sinks
- Power semiconductor devices
- Flip chip BGA heat spreaders
- Battery modules and battery packs
- LED lighting
- Power Supplies
- Automotive lighting
- Appliances

### One-part

**9460TC** – *TC* of 0.8 W/(m·K), unlimited *w.t.*, no mixing, heat cure only

### Two-part

**8329TFF** – *TC* of 0.8 W/(m·K), 5 min *w.t.*, dispensable, UL 94V-0 rated - flame retardant

**8349TFM** – *TC* of 0.9 W/(m·K), 20 min *w.t.*, dispensable, meets UL 94V-0 - flame retardant

**8329TCM** – *TC* of 1.4 W/(m·K), 45 min *w.t.*, non-sagging

**8329TFS** – *TC* of 0.8 W/(m·K), 4 hours *w.t.*, dispensable, heat cure only

**8329TCS** – *TC* of 0.8 W/(m·K), 4 hours *w.t.*, non-sagging, heat cure only

### Dispensing accessories

**Dispensing gun** – 8DG-50-1-1

**Mixing tips** – 8MT-50 (standard)

8MT-50-FT (fine flow)



# Thermally Conductive Adhesives



	8329TCS	8329TCM	8329TFS	8349TFM	8329TFF	9460TC
<b>UNCURED PROPERTIES</b>						
Number of components	2	2	2	2	2	1
Mixed density [g/mL]	2.27	2.41	2.11	1.63	1.63	1.64
Working time	4 h	45 min	4 h	20 min	5 min	Unlimited
Service cure @ 22 °C	—	5 h	—	90 min	5 h	—
Room temp. cure [h]	Heat cure	24	Heat cure	16 hours	4 h	Heat cure
Heat cure [min @ °C]	120 @ 65 60 @ 80 20 @ 100	60 @ 65 45 @ 80 20 @ 100	180 @ 65 80 @ 80 30 @ 100	20 @ 65 10 @ 80 —	15 @ 65 10 @ 80 —	120 @ 80 60 @ 100 30 @ 120
<b>CURED PROPERTIES</b>						
Resistivity [ $\Omega$ -cm]	$2 \times 10^{13}$	$9 \times 10^{12}$	$1.0 \times 10^{12}$	$6.5 \times 10^{12}$	$7.9 \times 10^{12}$	$7.4 \times 10^{16}$
Service temperature range [°C]	-40 to 150	-40 to 150	-40 to 150	-65 to 120	-40 to 150	-65 to 150
Glass transition temperature (T <sub>g</sub> ) [°C]	8.8	46	9	80	25	106
CTE prior T <sub>g</sub> [ppm/°C]	36	71	47	20	34	36
CTE after T <sub>g</sub> [ppm/°C]	173	131	164	120	146	72
Thermal conductivity @ 25 °C [W/(m·K)]	1.4	1.4	1.2	0.9	0.8	0.8
Thermal diffusivity @ 25 °C [mm <sup>2</sup> /s]	0.7	0.6	0.6	0.4	0.3	0.5
Specific heat capacity @ 25 °C [J/(g·K)]	0.9	0.9	1.0	1.4	1.4	1.2
Color	Silver grey	Silver grey	Silver grey	Black	Beige	White
Hardness	62D	77D	68D	92D	82D	86D
Tensile strength [N/mm <sup>2</sup> ]	11	10	4.2	25	13	9.1
Compressive strength [N/mm <sup>2</sup> ]	43	34	42	115	65	78
Lap shear (stainless steel) [N/mm <sup>2</sup> ]	4.7	6.4	5.0	6.7	7.1	6.0
Lap shear (aluminum) [N/mm <sup>2</sup> ]	4.4	6.1	6.3	4.4	8.3	3.2

## AVAILABLE PACKAGING

Net contents	6 mL (2 syringe kit)	6 mL (2 syringe kit)	25 mL (Dual-syringe)	25 mL (Dual-syringe)	25 mL (Dual-syringe)	3 mL (Syringe)
	50 mL (2 jar kit)	50 mL (2 jar kit)	45 mL (Dual-cartridge)	45 mL (Dual-cartridge)	45 mL (Dual-cartridge)	10 mL (Syringe)
	200 mL (2 can kit)		—	—	—	—

