8329TCS

High Thermal Conductivity Adhesive

8329TCS is a 2-part epoxy with a long 4-hour working time. It is dark grey, smooth, viscous, thixotropic, and bonds well to a wide variety of substrates. It is a dark grey, smooth, thixotropic paste that cures to form a hard, durable polymer that is thermally conductive, yet electrically insulating.

Use this thermal adhesive paste to glue heat sinks to LEDs, CPUs, and other heat-generating components.

8329TCS has been designed for maximum thermal conductivity. It is highly viscous and must be mixed by hand prior to application. For a lower viscosity, use 8329TFS. For a shorter working time, use 8329TCM.

Features & Benefits

High thermal conductivity

1:1 mix ratio

Provides strong electrical insulation

High tensile strength

Bonds well to a wide variety of substances

Strong resistance to humidity, salt water, mild bases, and aliphatic hydrocarbons

Meets NASA's low outgassing standard

Cure Instructions

Allow to cure at room temperature for 3 days, or cure in an oven at one of these time/temperature options:

Temperature	65 °C	80 °C	100°C
Time	2 hours	1 hour	20 minutes

Available Packaging

Part #	Packaging	Net Vol.	Net Wt.
8329TCS-6ML	2 Syringe Kit	6 mL	13.8 g
8329TCS-50ML	2 Jar Kit	50 mL	116 g

Storage and Handling

Store between 16 and 27 ˚C in a dry area, away from sunlight (see SDS). To maximize shelf life, recap product firmly when not in use.

8329TCS

Liquid Properties

Density	2.4 g/mL (Mixed) 2.4 g/mL (A) 2.3 g/mL (B)	ASTM D1475
Viscosity @ 25 ˚C	970 Pa·s (A) 2 000 Pa·s (B)	Brookfield Engineering labs Inc. IPCTM-65- Method 2.4.24.4
Mix Ratio	1:1 (Volume) 0.95:1 (Weight)	—
Working Time	4 h	—
Shelf Life	3 y	—

Cured Properties

Color	Dark grey	—
Service Temperature Range	-40–150 ˚C	—
Resistivity	2 x 10^{13} Ω·cm	ASTM D257
Hardness	62 D	ASTM D2240
Tensile Strength	11 N/mm^2	ASTM D638
Compressive Strength	43 N/mm^2	ASTM D695
Lap Shear	4.7 N/mm^2 (Stainless steel) 4.4 N/mm^2 (Aluminum)	ASTM D1002
Glass Transition Temperature (T_g)	8.8 ˚C	ASTM E1545
Coefficient of Thermal Expansion (CTE)	36 ppm/˚C (Prior T_g) 173 ppm/˚C (After T_g)	ASTM E831
Thermal Conductivity @ 25 ˚C Specfic Heat Capacity @ 25 ˚C Thermal Diffusivity @ 25 ˚C	1.4 W/(m·K) 0.9 J/(g·K) 0.7 mm^2/s	ASTM E1461
Weight Loss @ 155 ºC (600 hrs)	1.3 %	–

Application Instructions

Read the product SDS for more detailed instructions before using this product.

Recommended Preparation

Clean the substrate with Isopropyl Alcohol, MG #824, so the surface is free of oils, dust, and other residues.

Syringe

1. Twist and remove the cap from the syringe. Do not discard cap.
2. Measure 1 part by volume of A.
3. Measure 1 part by volume of B.
4. Dispense material on a mixing surface or container, and thoroughly mix parts A and B together.
5. To stop the flow, pull back on the plumger.
6. Clean nozzle to prevent contamination and material buildup.
8. Re-place the cap on the syringe.

Can or Jar

1. Stir each part individually to re-incorporate material that may have separated during storage.
2. Measure 0.95 part by weight of A.
3. Measure 1 part by weight of B.
4. Thoroughly mix parts A and B together.
5. Apply adhesive to the application area.