8331S

Silver Conductive Epoxy Adhesive

8331S is an electrically conductive, silver-filled 2-part epoxy adhesive with a long working time. It is smooth, non-sagging, thixotropic, and bonds well to a wide variety of substrates.

It can be used as a solder replacement for bonding heat-sensitive electronic components, or for making conductive connections where soldering is not an option, such as when bonding to glass, soft metals, or plastics.

8331S has been formulated to be economical. For a higher fill version that maximizes conductivity, use 8330S. For a shorter working time and room temperature cure, use 8331.



Features & Benefits

Creates permanent electrical connections

Extended working time

Low cure temperature of 65 °C

Room temperature storage

Long shelf life

Meets NASA's low outgassing standard

Cure Instructions

The product will not cure at room temperature. Cure the adhesive in an oven at one of these time/temperature options:

Temperature	65 °C	80 °C	100 °C
Time	2 h	1 h	30 min

Available Packaging

Part #	Packaging	Net Vol.	Net Wt.
8331S-15G	2 Syringe kit	6 mL	14.7 g
8331S-50ML	2 Jar kit	50 mL	123 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.

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Liquid Properties

Density	2.4 g/mL (Mixed) 2.5 g/mL (A) 2.4 g/mL (B)	ASTM D1475
Viscosity @ 25 ˚C	950 000 cP (A) 6 155 000 cP (B)	Brookfield Engineering labs Inc. IPCTM-65- Method 2.4.24.4
Mix Ratio	1:1 (Volume) 1.2:1 (Weight)	—
Working Time [a]	4 h 30 min	—
Set Time [a]	5 h 45 min	—
Peak Exotherm [b]	23 °C	ASTM D2471
Shelf Life	1.5 y (8331S-15G) 3 y (8331S-50ML, 8331S-200ML)	—

[a] Ambient temperature of 22 °C
[b] Based on a 2 mL sample in a fixed container geometry.

Cured Properties

Color	Silver grey	—
Density	1.1 g/mL	Hydrostatic Weighing
Service Temperature Range	-40–150 ˚C	—
Resistivity	6.0 x 10^{-3} Ω·cm	ASTM D257
Hardness	60 D	ASTM D2240
Tensile Strength	14 N/mm^2	ASTM D638
Compressive Strength	65 N/mm^2	ASTM D695
Lap Shear	4.5 N/mm^2 (Stainless steel) 7.1 N/mm^2 (Aluminum)	ASTM D1002
Water Absorption	0.1 %	—
Outgassing @ 125 °C for 24 h	0.4 %	—
Glass Transition Temperature (T_g)	34 ˚C	ASTM E1545
Coefficient of Thermal Expansion (CTE)	78 ppm/˚C (Prior T_g) 158 ppm/˚C (After T_g)	ASTM E831
Thermal Conductivity @ 25 ˚C Specfic Heat Capacity @ 25 ˚C Thermal Diffusivity @ 25 ˚C	1.3 W/(m·K) 0.8 J/(g·K) 0.7 mm^2/s	ASTM E1461
Weight Loss @ 155 °C (600 hrs)	0.3 %	–

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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 plunger.
6. Clean nozzle to prevent contamination and material buildup.
7. Replace the cap on the syringe.

Can or Jar

1. Stir each part individually to re-incorporate material that may have separated.
2. Measure 1.2 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.

Disclaimer: This information is believed to be accurate. It is intended for professional end-users who have the skills required to evaluate and use the data properly. M.G. Chemicals Ltd. does not guarantee the accuracy of the data and assumes no liability in connection with damages incurred while using it.