

## Technical Data Sheet

# Resin

## E-SOLDER® 3022

- Silver Epoxy
- Conductive, Room Temperature Curing Adhesive
- High Electrical Conductivity
- Good Adhesion Properties

### Description

E-SOLDER® 3022 is an epoxy silver paste recommended for applications requiring low electrical resistance and good adhesive properties. E-SOLDER® 3022 requires the addition of Hardener No. 18 to harden and cure. E-SOLDER® 3022 may be cured at room temperature; however the application of heat will accelerate and shorten the cure time.

### Application

Typical applications of E-SOLDER® 3022 are lead terminations, printed circuits and shielding on bases which will not withstand the elevated temperatures required for fired-on coatings or solders.

### Processing

E-SOLDER® 3022 requires a 100:8 mix ratio. To 100 parts of E-SOLDER® 3022, part A by weight, add 8 parts of part B, hardener No. 18. The hardener and silver epoxy must be weighed carefully and mixed thoroughly until uniform. Suggested cure cycle per temperature; 77°F (25°C) for 24 hrs or 149°F (65°C) for 3 hrs or 185°F (85°C) for 1.5 hours.

### Packaging

E-SOLDER® 3022 is available in 2 oz. squeeze tube kits and 8 oz. containers.

### Storage conditions – Shelf life

E-SOLDER® 3022 should be stored in a cool place. Elevated temperatures accelerate the aging of E-SOLDER® 3022. This results in an increase in viscosity and grainy appearance with time. Although resistivity appears to be unaffected the handling and dispensing properties become more difficult. Shelf life at 77°F (25°C) is up to 12 months, during which viscosity can increase or crystallization of the epoxy can occur. Crystallization is completely reversible if part A is placed in an oven at 110°F (43.3°C) for a few hours.

Physical Properties	Test norm	Unit	Value
Color			Silver
Specific Gravity			2.1
Viscosity @ 25°C (77°F)			Paste
Mix Ratio			100:8
Pot Life (mixed) @ 25°C (77°F)		hours	1-2
Technical Properties	Test norm	Unit	Value
Volume Resistivity @ 25°C (77°F)*		ohm-cm	0.019***
Volume Resistivity @ 65°C (149°F)		ohm-cm	0.003
Lap Shear Tensile Strength, Aluminium to aluminium, 25°C	ASTM D1002	psi	1,800
Glass Transition Temperature, T <sub>g</sub>	DMA, RT-180°C, 5°C/min	°C	84
Coefficient of Thermal Expansion	Below T <sub>g</sub>	ppm/°C	55
Coefficient of Thermal Expansion	Above T <sub>g</sub>	ppm/°C	189
Thermal Conductivity	ASTM D7984	W/m·K	0.907
Operating Temperature		°C	150
NASA Data Reference Number			GSFC3207

\*Volume Resistivity at 25°C cure will continue to improve with time.

### Health and safety

Precautions: May cause skin sensitization. Do not get on skin, in eyes, or on clothing. Avoid inhalation. Use good ventilation. In case of skin contact, wash with soap and water. If eye contact occurs, flush with water and get prompt medical attention.

Safety Data Sheets defining the known hazards and describing safety precautions appropriate for this product are available upon request from Von Roll USA, Inc., Schenectady, NY, (518) 344-7100 and/or [www.vonroll.com](http://www.vonroll.com). Similar information for solvents and other chemicals to be used with this product may be obtained from the appropriate supplier and used accordingly. We recommend following all hygiene and safety standards while processing material.

### Liability

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