



Solder plus Support

Epoxy 4089

Surface Mount Epoxy

Features:

- For Dispensing Applications
- Robust Handling Characteristics
- Fast Curing
- One Part Epoxy
- Non-Stringing Formula
- High Shear Strength

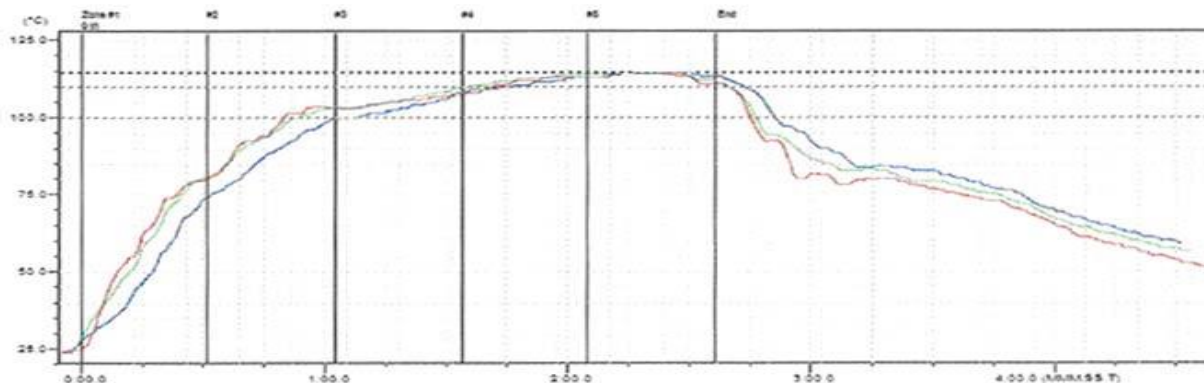
Description:

Epoxy 4089 is a single part, epoxy adhesive used for bonding SMT components to a PWB prior to double sided reflow or wave solder assembly. Epoxy 4089 has been formulated for use in all types of high speed dispensing equipment including, air pressure, auger valve, piston and pinch tube. Epoxy 4089 will not string or tail and provides consistent dot shape, size and volume. With a 6 month unrefrigerated shelf life, Epoxy 4089 has robust storage properties eliminating many of the handling issues associated with other chip bonder epoxies. Epoxy 4089 has sufficient tack force needed for use with high speed placement equipment.

Application:

- Epoxy 4089 is delivered ready to use in deaerated EFD 10cc and 30cc syringes. Fuji and Iwashita packaging is also available.
- Adhesive dispense quality depends upon dispense pressure, time, nozzle size, and temperature.
- Bond strength will vary depending on component type, adhesive dot size, cure and type of solder mask.

Reflow Profile:



Time from Ambient to 75°C	Time from 75°C to 100°C	Time from 100°C to Peak: 120°C ± 5°C	Maximum Time at 120°C ± 5°C	Maximum Time Ambient to Peak
30 seconds ± 10	30 seconds ± 10	60 seconds ± 10	60 seconds	< 3 minutes

Cleaning:

- Uncured adhesive may be removed from the PCB with isopropyl alcohol.
- Cured epoxy or removal of components bonded with Epoxy 4089 can be accomplished with the application of heat. A temperature of approximately 120°C will soften the material for easier removal.

Handling and Storage:

- This material has an unrefrigerated shelf life of 6 months. If the material should harden or crystallize, Epoxy 4089 can be reheated to 40°C for 8 hours to be returned to a useable condition.
- Clean dispensing nozzles thoroughly after each use. Avoid leaving adhesive in nozzles for extended periods of time as it will harden. Nozzles can be cleaned with butyldiglyme, benzyl alcohol, or xylene.
- Keep container sealed when not in use. Care should be taken not to allow product contamination or air entrapment when transferring to, or storing in, other containers.

Safety:

- Use with adequate ventilation and proper personal protective equipment.
- Refer to the accompanying Material Safety Data Sheet for any specific emergency information.
- Do not dispose of any hazardous materials in non-approved containers.
- Non-REACH compliant.

Physical Properties:

Parameter	Value
Visual	Thick Liquid
Odor	Aromatic (slightly)
Color	Red
Viscosity	300-500 kcps (relative to production batch)
Specific Gravity	1.13 (water = 1)
Flash Point	N/A
Boiling Point	>260°C

Mechanical Specifications (@25°C):

Parameter	Value
Heat Deflection Temp	97°C
Tensile Strength	11,500 psi
Elongation %	4.6
Tensile Modulus	4.9 psi x 10 ⁵
Torque Strength	45 N.mm ± 15

Corrosion Testing:

Parameter	Requirements	Results
Copper Mirror Test	Bellcore GR78 Core	Passed
Chloride Ion Test	Bellcore GR78 Core	Passed
Silver Chromate	Bellcore GR78 Core	Passed

Surface Insulation Resistance:

Test	Conditions	Specifications	Results
SIR 35/85, 4 Days	Pattern Up	8.9E09 Ohms Min.	1.4E10 Ohms Passed
SIR 35/85, 4 Days	Pattern Down	8.9E09 Ohms Min.	1.2E11 Ohms Passed

Electromigration:

Test	Conditions	Specifications	Results
85/85, 21 days	Taiyo PSR 4000 Mask	Rf/Ri > 0.1	1.19E10/ 3.9E10 3.28 Passed
85/85, 21 days	Ciba Geigy Probimer 52 Mask	Rf/Ri > 0.1	9.05E9/ 3.33E9 0.37 Passed

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 AIM IS ISO9001:2008 & ISO14001:2004 CERTIFIED

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