EPOXY 4089

FEATURES

- Developed for Dispensing Applications
- Non-Stringing Formula
- Robust Handling Characteristics
- One Part Thermal Cure Epoxy
- High Shear Strength
- RoHS Compliant

DESCRIPTION

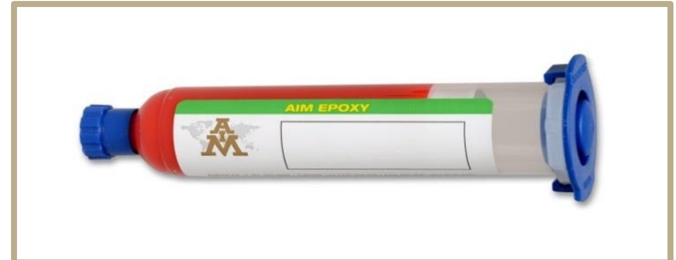
Epoxy 4089 is a single part, epoxy adhesive used for bonding SMT components to a PWB prior to double sided reflow or wave solder assembly. Epoxy 4089 has been formulated for use in all types of high speed dispensing equipment including air pressure, auger valve, piston and pinch tube. Epoxy 4089 will 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.

PHYSICAL PROPERTIES

Parameter	Result
Visual	Thick Liquid
Odor	Aromatic (Slightly)
Color	Red
Viscosity	300-500 kcps
Boiling Point	> 260°C (500°F)

MECHANICAL PROPERTIES

Parameter	Result
Heat Deflection Temp	97°C (207°F)
Tensile Strength	11,500 psi Typical
Elongation %	4.6 Typical
Tensile Modulus	4.9 psi x 10^5 Typical
Torque Strength	45 N.mm +/- 15 Typical



HANDLING & STORAGE

Parameter	Time	Temperature
Unrefrigerated Shelf Life	6 months	< 25ºC (77ºF)

Do not store near fire or flame. Keep away from sunlight as it may degrade product. Do not mix new and used adhesive in the same container. If the material should harden or crystallize it can be reheated to 40°C (104°F) for 8 hours to a useable condition.

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.

CLEANING

Uncured adhesive may be removed from the PCB with isopropyl alcohol. Cured epoxy or removal of bonded components can be accomplished with the application of heat at 120°C (250°F) which will soften Epoxy 4089 to aid removal.

SAFETY

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

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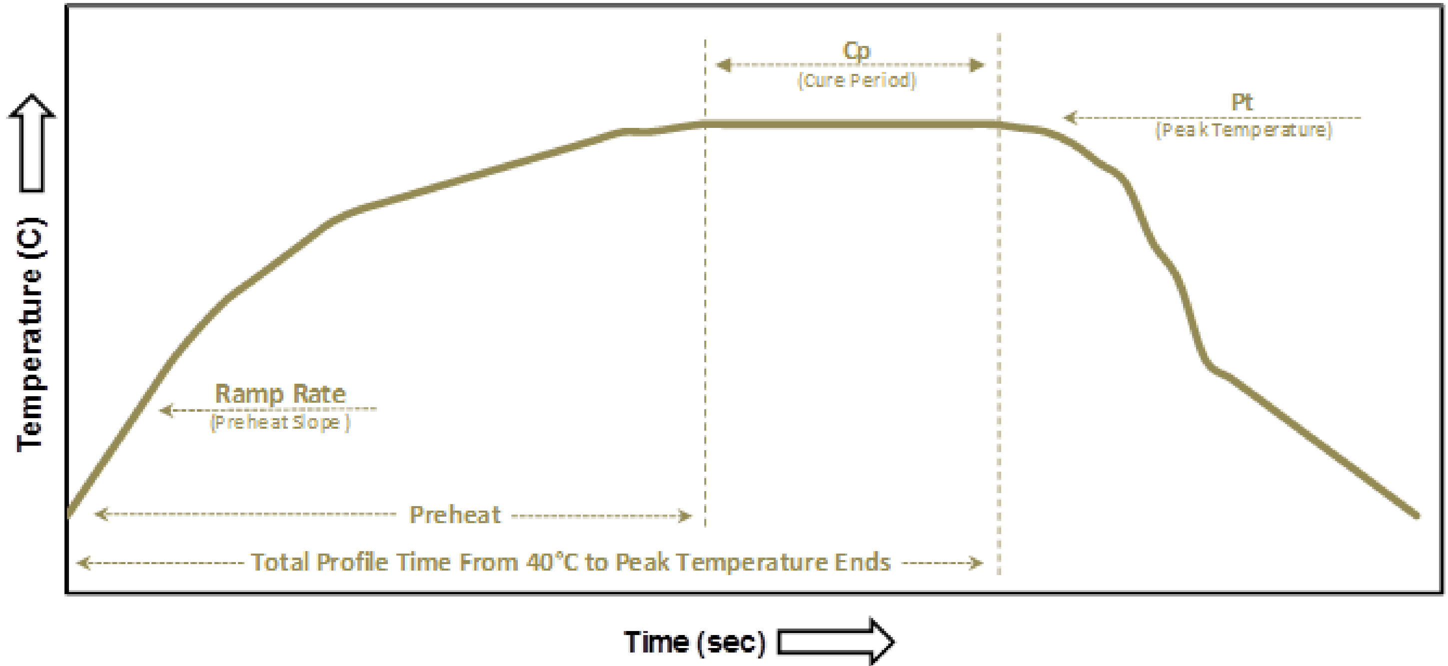
RECOMMENDED CURING PROFILE



Profile Feature	Parameter
Ramp up Rate	1°C-2.5°C/Second
Preheat from 40°C to 100°C	40-80 Seconds
Preheat from 100°C to 120°C	50-70 Seconds
Peak Temperature (Tp)	120°C-125°C
Time Above Peak	60 Seconds
Total Profile Time	2.5-3.5 Minutes

*Profiling information is provided as a guideline only. Your profile may differ due to process and material variables.

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