

# Procedures for Handling Epoxy Flux

## General Handling Guidelines

- Epoxy flux is stored in a freezer and is cold when it leaves Indium Corporation's facilities.
- Freezer storage will prolong the shelf life of epoxy flux;  $\leq -15^{\circ}\text{C}$  is required.
- Temporary storage temperature for epoxy flux in an unopened sealed syringe, cartridge, or jar should not exceed  $35^{\circ}\text{C}$ . The ideal room temperature is less than  $23^{\circ}\text{C}$ . Epoxy flux should not be exposed to room temperature for more than 8 hours.
- The process environment's relative humidity should be kept between 30% and 60%.
- Epoxy flux has a shelf life and should be managed as a FIFO (first in, first out) product.

## Ideal Handling Procedures

- Upon receipt in the shipping area, epoxy flux cartons must be immediately placed in an area which is temperature controlled to  $\leq -15^{\circ}\text{C}$ .
- For long term storage, epoxy flux should be stored in a freezer with the temperature  $\leq -15^{\circ}\text{C}$ . (For specific details, refer to the corresponding product data sheet for a particular epoxy flux.)
- Older epoxy flux batches should be used prior to newer batches. Batch age can be identified by the manufacturing date on the box and jar labels. Use before expiration date on label.
- If epoxy flux must be transported between facilities, ensure that the epoxy flux is kept at a moderate temperature, approximately  $25^{\circ}\text{C}$  or lower.

## Handling Immediately Before Use

- Prior to use, epoxy flux should be allowed to reach room temperature. Remove epoxy flux from freezer at least one hour before use. Allow longer time for epoxy flux in a large container to reach room temperature.
- Ensure that the epoxy flux material has reached ambient temperature before use.
- Rapid or accelerated warming of epoxy flux on top of ovens or by any alternative method is not recommended.
- Stirring or pre-conditioning of epoxy flux is acceptable, but usually unnecessary.
- Heat-damaged epoxy flux may be high in viscosity which could result in poor wetting performance. Chemical decomposition could reduce tack, wetting, and reflow performance. Contact Indium Corporation to discuss disposition of heat-damaged epoxy flux.

## In-Process Handling

- Epoxy flux removed from the stencil or dipping reservoir should be discarded after use to eliminate material variation and process variability.
- Jars or syringes should be labeled with date and time of opening.
- Excessive mixing prior to placement on stencil or dipping pan should not be necessary.

## Dispensing Applications

- **Machine Life:** Greater than 8 hours at 30–60% relative humidity and  $22^{\circ}\text{C}$ – $28^{\circ}\text{C}$ . It is recommended to change out the material and purge the system when a new shift begins. This ensures that the operator knows everything about the material being used, and variability in the process can be minimized.
- A purge cycle should be performed after a pause if material is left idle for more than 1 hour.
- Dry wiping the tip of the needle before an extended pause will prevent the epoxy flux from thickening and clogging the needle.
- Heating the dispensing head to  $40^{\circ}\text{C}$  will provide consistent temperature and will minimize any variation in the process environment.

## Printing and Dipping Applications

- Epoxy flux removed from the stencil or dipping reservoir should be discarded after use to eliminate material variation and process variability.
- **Stencil Life:** Greater than 8 hours at 30–60% relative humidity and  $22^{\circ}\text{C}$ – $28^{\circ}\text{C}$ . It is recommended to change out the material when a new shift begins. This ensures that the operator knows everything about the material being used, and variability in the process can be minimized.
- **Reservoir Life:** Greater than 8 hours at 30–60% relative humidity and  $22^{\circ}\text{C}$ – $28^{\circ}\text{C}$ . It is recommended to change out the material and purge the system when a new shift begins. This ensures that the operator knows everything about the material being used, and variability in the process can be minimized.

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