ONE-STEP UNDERFILL 688

FEATURES

- Combines underfill cure and solder reflow process
- Compatible with no clean flux residues
- Flux and underfill in one step
- Required Pb-free alloy reflow profile
- Significantly improves mechanical performance
- Halogen free

DESCRIPTION

One-Step Underfill 688 is a low surface tension, one component, epoxy resin designed as a one-step underfill for flip chip, CSP, BGA, and micro-BGA assemblies. One-Step Underfill 688 contains a fluxing agent, eliminating the need for solder paste with bumped/balled components. It also eliminates the need for a separate epoxy dispense and cure step following solder reflow. Improve drop-shock and mechanical performance with a high T_g and low CTE, with this low voiding underfill. 688 is compatible with AIM solder paste or liquid flux residues, as well as common surface finishes.

PHYSICAL PROPERTIES

Parameter	Result
Appearance	Purple when not cured, clear when cured
Specific Gravity @ 25ºC	1.27 g/cc typical
Total Volatiles	< 1% typical
Viscosity (Brookfield)	300 cps typical
T_g	64.1ºC typical
CTE (before T_g)	62.7 ppm typical
CTE (after T_g)	174.6 ppm typical

HANDLING & STORAGE

Parameter	Time	Temperature
Frozen shelf life	3 months	< -20°C (-4ºF)
Refrigerated shelf life	2 months	5°C (41°F)
Unrefrigerated shelf life	1 week	25ºC (77 ºF)

Do not store near fire or flame. Keep away from sunlight as it may degrade product.

APPLICATION

Print Pb-Free solder paste. Dispense One-Step Underfill 688 on PCB where solder bumps will be placed. Solder paste should NOT be applied to these areas. Place all components. MUST be cured in a Pb-free solder profile, maximum temperature 255°C (491°F). Ensure that all pads are covered with One-Step Underfill 688. One-Step Underfill 688 can be reworked. Heat the component to solder reflow temperature and remove it with a flat spatula. Soldering wick and a soldering iron may be used to remove residual epoxy. Clean the pads with a small amount of solvent, such as methyl ethyl ketone or isopropyl alcohol. One-Step Underfill 688 softens at 120°C – 140°C (248°F – 284°F).

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. Not REACH compliant.

*All information for reference only. Not to be used as incoming product specifications or for process design. **Consult Certificate of Analysis for product specific information.**

DISCLAIMER The information contained herein is based on data considered accurate and is offered at no charge. Product information is based upon the assumption of proper handling and operating conditions. Liability is expressly disclaimed for any loss or injury arising out of the use of this information or the use of any materials designated. Please refer to **http://www.aimsolder.com/terms-conditions** to review AIM's terms and conditions.