



Solder plus Support

# Underfill FF35

## Underfill

### Features:

- Excellent Capillary Function for Fast Flow
- Reworkable at 120°C
- Compatible with No-Clean Flux Residues
- 25-35% Faster Flow than Previous Version
- No Voiding
- Good Storage Properties

### Description:

Underfill FF35 is a low surface tension, one component epoxy resin designed for use as a capillary flow underfill for flip chip, CSP, BGA and uBGA assemblies. Underfill FF35 offers excellent capillary action for flat, fast and complete spread. Underfill FF35 offers superior reliability through high T<sub>g</sub>, low CTE, good fill, no voiding, compatibility with no-clean flux residues and excellent adhesion. Faster throughput and higher yields are achieved through excellent capillary action, faster flow characteristics and rapid cure speeds. Underfill FF35 may be reworked at 120°C (250°F). The viscosity of Underfill FF35 remains stable throughout its shelf life. This product is suitable for bare chip protection in a broad variety of small die applications.

### Application:

- Curing: Maximum Temperature - 150°C (300°F)
- Rework: Flows at 120°C-140°C (250°F-280°F)
- Underfill FF35 has a work life of 10 days at 22°C (70° F) and 30% RH.
- For best results, the application substrate should be pre-heated to 40-50° C (100°F-120°F). Although not required, the dispense nozzle may be preheated in order to decrease viscosity/increase flow speed.
- System pressure should be moderate 1 to 2.75 bars (15 to 40 psi). Dispense speed should also be moderate 0.25 to 1.25 cm/sec. (0.10 to 0.50 inch/sec.). In addition, the dispense platform should be able to maintain the needle tip approximately 0.025 – 0.075mm (1-3 mils) off the substrate surface and 0.025-0.075mm (1-3 mils) offset from the chip edge. This will ensure maximum underfill flow consistency.
- The dispense pattern for small die applications 0.65mm (1/4”) is typically single side or single corner only, with no secondary dispense or final perimeter bead required. The low viscosity and excellent wetting characteristics of this product allow the material to “self-fillet” along the opposite edge of the die.

CURE TIME @ 100°C (210° F)	CURE TIME @ 125°C (260° F)	CURE TIME @ 150°C (300° F)
8- 10 MINUTES	4-5 MINUTES	1-2 MINUTES

### Physical Properties:

APPEARANCE	SPECIFIC GRAVITY	MOISTURE	TOTAL VOLATILES	VISCOSITY AT 25° C (77° F) AT 5 RPM	CAPILLARY FLOW RATE TEST	TG	EXTRACTABLE IONIC CONTENT
Yellow	1.25 g/cc	0.02%	<1%	800 CPS	5MM/1MINUTE*	55°C	<10PPM

PRODUCT	T <sub>G</sub> , °C	CTE,UM/(M° C) BEFORE T <sub>G</sub>	CTE,UM/(M° C) AFTER T <sub>G</sub>
FF35	55	47	165

## Handling and Storage:

Shelf Life – Stability:

Temp°C	Time
25	1 week
5	1 month
-20	6 months

## Safety:

- Use with adequate ventilation and proper personal protective equipment.
- Refer to the accompanying material safety data sheet for ant specific emergency information.
- Do not dispose of any hazardous materials in non-approved containers.
- Non-REACH compliant.

### Manufacturing and Distribution Worldwide

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*AIM IS ISO9001:2008 & ISO14001:2004 CERTIFIED*

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