

## LOCTITE® ECCOBOND E 1216M

### CSP/BGA UNDERFILL

LOCTITE® ECCOBOND E 1216M, high-reliability underfill, delivers fast flow and fast cure capabilities for devices such as BGAs, CSPs and PoPs. In applications where reliability and throughput are critical, LOCTITE ECCOBOND E 1216M offers the ideal underfill solution.



### Key Benefits

#### Sustainability:

- Largely compatible with various no-clean and halogen-free solder pastes
- Does not contain any ingredients restricted by RoHS
- Under 900 ppm total halogens

#### Energy Savings:

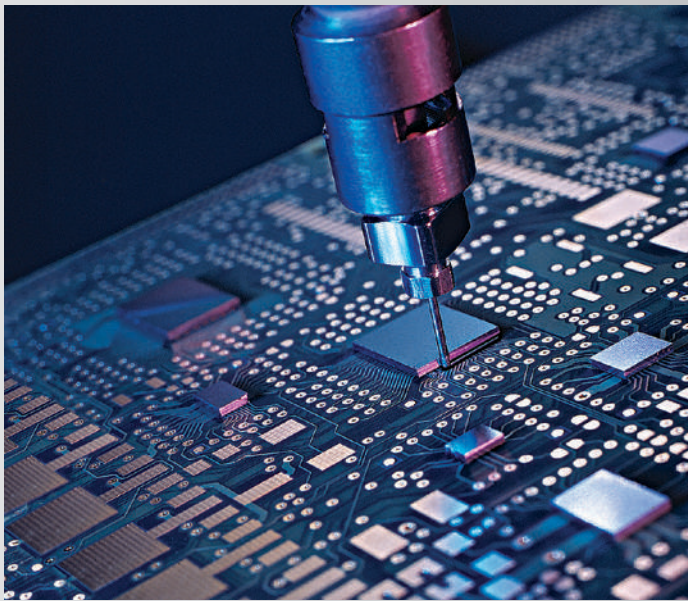
- Fast flow
- Fast cure

#### Reliability Improvement:

- Excellent thermal cycle performance
- Excellent drop impact performance



LOCTITE ECCOBOND E 1216M underfill is designed for thermal cycling and drop test reliability enhancement for BGA, CSP, WLCSP and PoP devices where reworkability is not required.



#### TYPICAL PROPERTIES OF UNCURED MATERIAL

Viscosity at 25°C (cP)	4,000
Specific Gravity	1.4
Pot Life at 25°C (days)	3
Shelf Life at -20°C (months)	6

#### TYPICAL PROPERTIES OF CURED MATERIAL

Glass Transition Temperature, $T_g$ (ppm/°C)	125	
Coefficient of Thermal Expansion (ppm/°C)	Below $T_g$ :	35
	Above $T_g$ :	131
Flexural Modulus, 25°C (GPa)	2.97	

#### TYPICAL CURING PERFORMANCE

Cure Schedule at 130°C (min.)	≥ 8
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Note: This is a bondline/material temperature. The above cure profile is a guideline recommendation. Cure conditions (time and temperature) may vary based on customers' experience and their application requirements, as well as customer curing equipment, oven loading and actual oven temperatures.

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