

U8443-14

CAPILLARY UNDERFILL MATERIAL

1 DESCRIPTION

U8443-14 is an epoxy based insulating material for Flip-Chip manufacturing. It's excellent flowability allows narrow gap penetration between substrate, integrated circuit chip, and interconnect bumps providing excellent reliability during thermal cycles.

3 KEY FEATURES

- Ultra fine pitch and narrow gap compatibility
- Excellent reliability performance for both Lead (Pb) and Copper (Cu) Pillar Bumps
- Excellent reduced stress and Low K layer
- Excellent coplanarity / low warpage
- Excellent jet-ability

2 APPLICATION

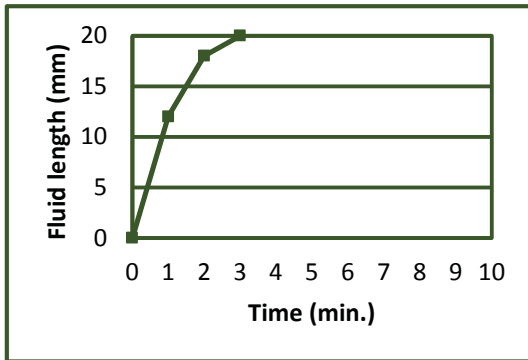
- Flip-Chip BGA/LGA/PGA
- Flip-Chip CSP

4 TYPICAL PROPERTIES*

Parameter		Unit	Note / Condition
Filler Content		50 wt%	
Filler Size	Mean Max.	0.3 1.0 μm	Measured by laser diffraction
Color		Black	
Viscosity		10 Pa-s	@ 25°C
Thermal Conductivity		0.37 W/mK	
Tg	DMA TMA	151 135 $^{\circ}\text{C}$	Dual Cantilever Beam Compression
CTE	<Tg >Tg	42 125 ppm/ $^{\circ}\text{C}$	TMA
Bending Modulus		6.5 GPa	
Bending Strength		110 MPa	
Storage Modulus (DMA)	<Tg >Tg	6.0 0.07 GPa	Dual Cantilever Beam
Volume Resistivity	Initial After PCT	$>1.0 \times 10^{15}$ $>1.0 \times 10^{13}$ $\Omega\text{-cm}$	DC 500V PCT: 121°C, 2atm, 20 hours
Impurities Concentration	Cl ⁻ Na K	< 20 < 1 < 1 ppm	PCT: 121°C, 2atm, 20 hours

* These data are only for reference and are not guaranteed

5 FLUIDITY



TEST CONDITIONS

Substrate : Glass
 Chip : Glass
 Gap : 20 μ m
 Temperature: 90°C

6 STORAGE AND HANDLING

- Store -40°C or below for up to 12 months.
- Thaw before use. Warm at room temperature until no longer cool to touch (normally 60-90 minutes).
- Do not thaw in an oven.

7 PROCESSING GUIDELINES

- Standard dispensing conditions:
 Needle: 22-25G
 Temperature : substrate below 70-110°C
- Curing condition: 150°C/30 min.

8 POT LIFE INFORMATION

- Pot life at 25°C is up to 24 hours.

9 ORDERING INFORMATION

Ordering Number

U8443-14

- Available in syringes only.
- Standard syringe sizes and fill amounts are 10cc filled 10 grams and 30cc filled with 30-50 grams.
- Contact your local NAMICS office.

10 MORE INFORMATION

For more information on U8443-14 and other NAMICS products contact your local NAMICS sales office below:

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