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NoSWEEP™ Wire Bond Encapsulant EW8003

TECHNICAL DATA SHEET 680

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DESCRIPTION

Polysciences, Inc. thermal only NoSWEEP™ Wire Bond Encapsulant is a self-leveling, novel, 100% solids, one component, silica filled liquid encapsulant designed for quick self leveling, in large Dam and Fill or glob top applications, and encapsulation of very narrow diameter, long and ultra fine pitch wire bonds on semiconductor devices. NoSWEEP™ can be dispensed onto the wires immediately after wire bonding, flowing easily between and around the wires without causing sweep or sag and without voids.

CUSTOMER BENEFITS

NoSWEEP™ Liquid Encapsulant offers the following distinct advantages over conventional molding systems:

- Enables implementation of 35µm pitch roadmap wire bonding
- Enhanced stress management through the ability to achieve low modulus for a given CTE
- Allows for the use of longer wires with low cost, high-density substrates and enable simple die shrinks
- Enables cost reduction through the use of thinner diameter gold wire
- Fast flow and self leveling properties for large Dam and fill applications
- Excellent adhesion to both inorganic and organic substrates

UNCURED (WET) PROPERTIES

Color Black

Filler Content Filler avg size/max 6/30 microns
70%-75%

Viscosity @ 25°C RVDV-II+ , Spindle 14, Cup 6R
250 kcps @ 0.5 rpm

Pot Life @ 25° C
>24 hours

Density
1.7 gram/cm³

PROCESS PARAMETERS

Dispensing

Heat dispense needle to 40-60°C
Heat substrate to 60-80°C

Cure Cycle

90 min. @ 100°C + 60 min. @ 165°C

Alternate Cure Cycle

90 min. @ 100°C + 120 min. @ 150°C

CURED PROPERTIES

Glass Transition Temp. (Tg) by DMA
160°C

Coefficient of Thermal Expansion (CTE)
Alpha 1 = 18 ppm/°C
Alpha 2 = 50 ppm/°C

Flexural Modulus (Three Point Bend)
2.5 GPa @ 25°C

Extractable Ionic Content

Cl<10
K<5
Na<10
F<5

STORAGE AND HANDLING

Shipping Recommended temperature is -40°C, RT
TBD

Storage Store at -40°C for up to 1 year

Safety Refer to MSDS for safe handling practices.

All values are considered typical based on tests believed to be accurate. Polysciences, Inc. may change the data as appropriate.

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