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NoSWEEP™ Wire Bond Encapsulant EW7073

TECHNICAL DATA SHEET 626

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DESCRIPTION

Polysciences, Inc. NoSWEEP™ Wire Bond Encapsulant is a novel, 100% solids, one component, silica filled liquid encapsulant designed for encapsulation of very narrow diameter, long and ultra fine pitch wire bonds on semiconductor devices. NoSWEEP™ is dispensed onto the wires immediately after wire bonding, flowing easily between and around the wires without causing sweep or sag and without voids. NoSWEEP™ is quickly gelled with UV energy to lock the wires in place so the device can be handled and molded with no damage to the wires.

CUSTOMER BENEFITS

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

- Enables implementation of 35µm pitch roadmap wire bonding
- Allows for the use of longer wires with low cost, high density substrates and enables simple die shrinks
- Enables cost reduction through the use of thinner diameter gold wire
- Enhanced room temperature

UNCURED (WET) PROPERTIES

Color	Off-white
Filler Content	165%
Viscosity @ 25°C RVDV-II+, Spindle 14, Cup 6R)	250 kcps @ 0.5 rpm
Pot Life @ 45°C	>24 hours
Density	1.67 gram/cm ³

PROCESS PARAMETERS

Dispensing	Heat dispense needle to 60°C Heat substrate to 90-100°C
Recommended Cure Cycle	UVA 1.0 Joules/cm ² @ 90°C plus convection oven 130°C for 1 hour and 175°C for 3 hours

CURED PROPERTIES

Glass Transition Temp. (T_g) by DMA
174°C

Coefficient of Thermal Expansion (CTE)

Alpha 1 = 23 ppm/°C
Alpha 2 = 63 ppm/°C

Flexural Modulus (Three Point Bend)

9.0 GPA @ 25°C

Moisture Absorption after 192 hrs 30°C/60% RH

0.4%

Extractable Ionic Content (Na, K, Cl, F)

<10 ppm)

Dielectric Constant @ 1 MHz

N/A

Dielectric Strength v/mil @ 1/16"

N/A

STORAGE AND HANDLING

Shipping	Recommended temperature is -10°C
Storage	Store at 5°C for up to 6 months
Safety	Refer to MSDS for best handling practices.

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

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