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Advanced Materials

EPIBOND® 7275-1

EPOXY SURFACE MOUNT ADHESIVES

Description

EPIBOND® 7275-1 epoxy surface mount adhesive is formulated to meet the performance and quality requirements of printed circuit board manufacturers.

Advantages

Consistent, high dot profile
Good green strength
Fast curing
Nine-month shelf life when stored at 2°C-8°C (36°F-46°F)
Resists slumping and stringing with high (>6.0) thixotropic index

Work Life

EPIBOND® 7275-1 epoxy surface mount adhesives are formulated with extended shelf live of nine months at 2°C-8°C (36°F-46°F). In screen printing applications, this long life accommodates continuous processing over an eight-hour shift. For dot dispensing, the adhesives retain their properties at room temperature to facilitate storage and handling of syringes.

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Typical Properties

Property	Test Method	Test Values 7275-1
Composition		Epoxy
Specific Gravity	ASTM D-792	1.26 – 1.32
Viscosity, (Brookfield HBT, Spdl 6),	QC-WL-120	
cps @ 1 rpm		2,000,000-3,000,000
cps @ 10 rpm		230,000-450,000
Color	Visual	Red
Thixotropic Index	ASTM D-1824	>6.0
Dot Profile, width/height		<2.0
Particle Size (µ)		<25

Typical Cured Properties

Property	Test Method	Test Values 7275-1
Glass Transition Temp., by TMA, °C (°F)	ASTM D-696	65 (149)
Thermal Coefficient of Expansion, by TMA,	ASTM D-696	
alpha 1		57×10^{-6}
alpha 2		176×10^{-6}
Thermal Conductivity (Cal/Sec•cm•°C)		6.4×10^{-4}

Industry Standards

	7275-1
Bellcore - TR-NWT-000078	Compliant

Typical Electrical Properties

Property	Test Method	Test Values 7275-1
Dielectric Strength, volts/mil	ASTM D-149	420
Dielectric Constant, at 1 MHz	ASTM D-150	3.87
Dissipation Factors, at 1 MHz	ASTM D-150	0.025
Volume Resistivity, Ωcm	ASTM D-257	2.1×10^{15}
Surface Resistivity, Ωcm^2	ASTM D-257	1.1×10^{15}

Curing Options

	7275-1
Time at 80°C (176°F), min.	12
Time at 120°C (248°F), min.	2.5
Time at 150°C (302°F), min.	1.5

NOTE: Actual oven cure is dependent upon board design.

Handling Guidelines for EPIBOND® 7275-1 Surface Mount Adhesive

Reworking

Once cured, EPIBOND® 7275-1 adhesive can be removed from a printed circuit board by heating the board to approximately 80°C (176°F to 185°F). When the temperature of the surface mount component reaches 80°C (176°F), the adhesive will be soft enough to permit component removal using a "lift and twist" method.

After removing the component, re-apply heat to any remaining adhesive until it is soft. Residual material can then be scraped off the board surface.

Cleaning

Uncured adhesives can be easily removed from printed circuit boards, screens or stencils using isopropyl alcohol, NMP and a wide variety of other solvents and cleaning fluids. We are constantly working with manufacturers of solvents and cleaning fluids to test and identify new materials that meet the needs of our customers.

Storage/Handling

EPIBOND® 7275-1 adhesive should be stored in a dry place in their original containers at temperatures between 2°C (36°F) and 8°C (46°F). Under these storage conditions the shelf life is 9 months. The product should not be exposed to direct sunlight. Prior to use, the containers should be allowed to stabilize at room temperature for several hours before the packages are opened. Remove any moisture condensation on containers with a dry cloth or paper towel before opening. After containers are opened, materials should be dispensed for immediate use. Then, the containers should be re-sealed as soon as possible to minimize moisture absorption and returned to refrigerated storage. Note: These EPIBOND® adhesives are hygroscopic. Dispose of material left on the screen printer for more than eight hours. To prevent contamination of unused material, do not return any product to its original container or package. Keep syringes tightly capped.

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Equipment Compatibility/Packaging Selection Guide

Equipment	Syringe Style	Package Size
Amistar	EFD	10cc or 30cc
Asymtek	EFD	10cc or 30cc
Camelot	EFD	10cc or 30cc
Creative Automation (ADM 221-1851, ADM 2200, Champion 910, 2000, 3000, 7100, 7150)	EFD	10cc or 30cc
DEK	PYLES	150cc
Dynapert (MPS 318, MPS 525)	EFD	30cc
Dynapert (MPS 118, MPS 525)	EFD	10cc
EFD (1000XL, 1500XL, 1500DV, 2000XL-VR, etc.)	EFD	10cc or 30cc
Fuji (GL-II & GL-V)* Fuji (GI-I with O-ring adapter)*	FUJI	30cc
Intelligent Dispensers (AD-7000Z)	IWA	30cc
ISMEC (Moduline & Miniplacer)	EFD	10cc
Iwashita (Autoshooter7, ASC 7000)	IWA	30cc
KME	IWA	30cc
MPM MPM	SEM PYLES	300cc 150cc
Panasert (MV-150, HD, HDP2, HPP2C, HDPG1)	IWA	30cc
Phillips (CSM-46, CSM-60, CSM-260)	EFD	10cc
Sanyo (TD-30, 40, 60, 63, 65)	IWA	30cc
Thomson Linear Motion TDK (RX4260 with retrofit) TDK (with retrofit)	EFD EFD IWA	10cc 10cc or 30cc 30cc
TDK (non-disposable syringes models)	SEM	300cc
Universal Instruments (4713, 4716, 4768) (kits available for use with Iwashita & Panasert style syringes)	EFD	10cc or 30cc
US Robotics (LD-10, LD-80)	EFD	10cc
Zeta (1400)	EFD	10cc or 30cc
Bulk cartridges for all screen printers and units with non-disposable syringes	PYLES	150cc

*Disposable plungers for Fuji syringe dispensers available.

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Huntsman Advanced Materials Americas Inc. maintains up–to-date Material Safety Data Sheets (MSDS) on all of its products. These sheets contain pertinent information that you may need to protect your employees and customers against any known health or safety hazards associated with our products. Users should review the latest MSDS to determine possible health hazards and appropriate precautions to implement prior to using this material.

First Aid!
Refer to MSDS as mentioned above.

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