

EPIBOND[®] 7275-SERIES SURFACE MOUNT ADHESIVES

Epibond[®] epoxy surface mount adhesives are formulated to meet the exacting performance and quality requirements of printed circuit board manufacturers. These versatile adhesives feature a unique combination of physical characteristics including:

- Consistent, high dot profile
- Good green strength
- Fast curing
- Six-month shelf life at 68°F (20°C) room temperature
- Nine-month shelf life at 32°F (0°C)
- Resists slumping and stringing with high (>6.0) thixotropic index
- Meets IPC-SM-817 Requirements

EXTENDED WORK LIFE

Epibond[®] 7275 epoxy surface mount adhesives are formulated with extended work lives of six months at room temperature. In screen printing, 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.

NATIONWIDE DISTRIBUTION

Epibond[®] surface mount adhesives are available through a nationwide distribution network to ensure fast response to customer needs and timely, on-schedule product delivery.

TYPICAL PROPERTIES

Typical Uncured Properties	7275	7275-1
Composition	Epoxy	Epoxy
Specific Gravity (g/cc), ASTM-D-792	1.28	1.29
Viscosity, ASTM-D-1824 (RVT spindle #7)		
cps @ 1 rpm	3,200,000	2,500,000
cps @ 10 rpm	420,000	320,000
Color	Red	Red
Thixotropic index, ASTM D-1824	>6.0	>6.0
Dot profile, width/height	<2.0	<2.0
Particle Size (μ)	<25	<25

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Typical Cured Properties	7275	7275-1
Lap Shear Strength ASTM D-1002 psi (Al/Al @ 25°C (77°F))	>2000	>2000
Glass Transition Temperature, ASTM D-696, Tg (by TMA) °C (°F)	66 (151)	65 (149)
Thermal Coefficient of Expansion, ASTM D-696 (by TMA)		
alpha 1	48 x 10 ⁻⁶	57 x 10 ⁻⁶
alpha 2	170 x 10 ⁻⁶	176 x 10 ⁻⁶
Thermal Conductivity (Cal/Sec•cm•°C)	6.5 x 10 ⁻⁴	6.4 x 10 ⁻⁴

Industry Standards	7275	7275-1
Bellcore - TR-NWT-000078	Compliant	Compliant

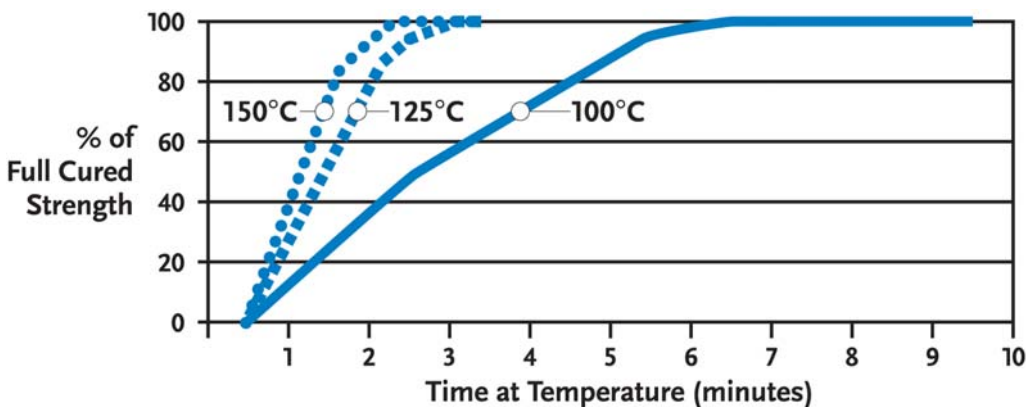
Typical Electrical Properties	7275	7275-1
Dielectric Strength, ASTM D-149 volts/mil	420	420
Dielectric Constant, ASTM D-150 @ 1MHz	3.87	3.87
Dissipation Factors, ASTM D-150 @ 1MHz	0.025	0.025
Volume Resistivity, ASTM D-257 Ωcm	2.1 x 10 ¹⁵	2.1 x 10 ¹⁵
Surface Resistivity, ASTM D-257 Ωcm ²	1.1 x 10 ¹⁵	1.1 x 10 ¹⁵

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

Note: 1) Actual oven cure is dependent upon board design.
 2) Maximum ramp rate <2°C/sec.

CURE SPEED VS. TEMPERATURE

The following graph shows the rate of torque strength developed with time at different temperatures. These times are defined from the moment the adhesive reaches cure temperature. In practice, total oven time may be longer to allow for heat up period.





GUIDELINES FOR HANDLING EPIBOND® SURFACE MOUNT ADHESIVES

REWORKING

Once cured, Epibond® adhesives can be removed from a printed circuit board by heating the board to approximately 80°C (176°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, reapply 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 Alpha SM-110, isopropyl alcohol, acetone, NMP and a wide variety of other solvents and cleaning fluids. Huntsman Advanced Materials is constantly working with manufacturers of solvents and cleaning fluids to test and identify new materials that meet the needs of our customers. For an updated list of suggested cleaning materials, please contact the Huntsman Product Information Hotline at 800-331-6810.

STORAGE/HANDLING

Epibond® 7275 adhesives should be stored in their original containers at temperatures between 0°C (32°F) and 23°C (73°F). 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: Epibond® adhesive is 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.

SAFETY PRECAUTIONS

- Read material safety data sheet (MSDS) prior to using product.
- May cause eye irritation.
- Prolonged or repeated exposure may cause skin irritation or allergic skin reactions.
- Harmful if inhaled or swallowed.
- For industrial use only.
- Avoid contact with eyes, skin or clothing.
- Wear eye protection and impervious gloves when handling.
- Avoid breathing vapor or dust.
- Keep container closed when not in use.

FIRST AID

Eyes: Flush with cold running water for a minimum of 15 minutes. Contact a physician immediately.

Skin: Wash thoroughly with soap and warm water. Dab/air dry. Remove and wash contaminated clothing before reuse.

Inhalation: Remove subject to fresh air.

Swallowing: Dilute by drinking water. Never give anything to drink to an unconscious person.



EQUIPMENT COMPATIBILITY/PACKAGING SELECTION GUIDE

Equipment	Syringe Style	Package Size
Amistar	7275/EFD	10cc or 30cc
Asymtek	7275/EFD	10cc or 30cc
Camelot	7275/EFD	10cc or 30cc
Creative Automation (ADM 221-1851, ADM 2200, Champion 910, 2000, 3000, 7100, 7150)	7275/EFD	10cc or 30cc
DEK	7275/PYLES	150cc
Dynapert (MPS 318, MPS 525)	7275/EFD	30cc
Dynapert (MPS 118, MPS 525)	7275/EFD	10cc
EFD (1000XL, 1500XL, 1500DV, 2000XL-VR, etc.)	7275/EFD	10cc or 30cc
Fuji (GL-II & GL-V)* Fuji (GI-I with O-ring adapter)*	7275/FUJI	30cc
Intelligent Dispensers (AD-7000Z)	7275/IWA	30cc
ISMEC (Moduline & Miniplacer)	7275/EFD	10cc
Iwashita (Autoshooter7, ASC 7000)	7275/IWA	30cc
KME	7275/IWA	30cc
MPM	7275/SEM 7275/PYLES	300cc 150cc
Panasert (MV-150, HD, HDP2, HPP2C, HDPG1)	7275/IWA	30cc
Phillips (CSM-46, CSM-60, CSM-260)	7275/EFD	10cc
Sanyo (TD-30, 40, 60, 63, 65)	7275/IWA	30cc
Thomson Linear Motion	7275/EFD	10cc
TDK (RX4260 with retrofit)	7275/EFD	10cc or 30cc
TDK (with retrofit)	7275/IWA	30cc
TDK (non-disposable syringes models)	7275/SEM	300cc
Universal Instruments (4713, 4716, 4768) (kits available for use with Iwashita & Panasert style syringes)	7275/EFD	10cc or 30cc
US Robotics (LD-10, LD-80)	7275/EFD	10cc
Zeta (1400)	7275/EFD	10cc or 30cc
Bulk cartridges for all screen printers	7275/PYLES 7275/SEMCO 7275/SEMCO	150cc 300cc 310cc

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