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Dicing Die Attach Film
ESP7666-HK-DAF

High Moisture Resistance Electrically Insulating Epoxy Film Adhesive

IDEAL FOR:

- Power Device Die-Attach**
- Available in Dicing Die Attach Film Packaging**
- High Temperature with Stress Absorbing**
- High Volume, Automated Assemblies**

DESCRIPTION:

ESP7666-HK-DAF is a high-bond strength epoxy film adhesive before laminated onto a UV release or controlled release dicing tape in designed wafer format. This new generation film incorporates wafer dicing tape and adhesive film into one DDAF (Dicing Die Attach Film). This DAF is mounted onto the back of the wafer, which is then diced into predetermined sizes.

After a brief exposure to UV light (for UV releasing dicing tape), the diced chip is picked and placed directly onto a leadframe or substrate. It is designed for bonding component and substrate to substrate and carrier with matched thermal coefficients of expansion. ESP7666-HK-DAF has good thermal stability. The dry, tack-free handling of the film makes it suitable for an automated assembly.

AVAILABILITY:

ESP7666-HK-DAF is available in sheet sizes or rolls. Standard thicknesses of the adhesive film portion, ESP7666-HK-DAF are 20, and 40 micron. Special thicknesses are available.

APPLICATION PROCEDURE

- (1) Keep product in aluminum poly laminate protective bag when not in use.
- (2) Before using, remove protective bleached paper liner from film. Place wafer onto adhesive side DDAF
- (3) Laminate (low heat) wafer onto adhesive until good wetting is achieved. Dice wafer as usual.
- (4) Once dicing is complete, pass wafer under UV light so that die can be released for pick and place operation. Cure according to one of the recommended schedules.

TYPICAL PROPERTIES*

Electrical Resistivity (150 °C/ 60 minutes)	>5x10 ¹⁴ ohm-cm
Dielectric Strength (Volts/mil)	> 750
Glass Transition Temp.(°C)	175
Current Carrying Capabilities	Not Applicable
Lap-Shear Strength	Not Applicable
Device Push-off Strength	>2500 psi >17.1 N/mm ²
Hardness (Type)	85
Cured Density (gm/cc)	2.5
Thermal Conductivity	26.7 Btu-in/hr-ft ² -°F 4.0 W/m-°C
Linear Thermal Expansion Coeff. (ppm/°C)	40
Maximum Continuous Operation Temp. (°C)	150

* Properties given are typical values and not intended for use in preparing specifications. The user is advised to evaluate the product in the manner the product is intended to be used in manufacturing and in the final product.

CURE SCHEDULES:

Temperature	Time	Pressure
85°C	4 hr	5-15 psi
125°C	90 min	5-15 psi
150°C	30 min	5-15 psi
175°C	5 min	5-15 psi

Besides major transition of Tg at around 175°C, additional molecular relaxation occurs at 50-120°C.

SHELF LIFE:

Storage temperature	Shelf Life
25°C	1 yr in sealed package

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