

ABLEFILM[®] ECF563

ELECTRICALLY CONDUCTIVE ADHESIVE FILM

DESCRIPTION

ABLEFILM[®] ECF563 silver-filled, unsupported epoxy adhesive film is designed to provide very thin, uniform bondlines. It is available in thickness ranging from 2 mils to 6 mils. This adhesive film also exhibits low squeeze-out during bonding.

ABLEFILM ECF563 adhesive film provides excellent electrical and thermal conductivity. It is electrically conductive in the x, y, and z axes.

This combination of performance features makes this material suitable for microwave and heat sink applications. In bonding microwave substrates into packages, it provides RF/EMI shielding. Its high thermal conductivity is desirable for bonding “hot” devices onto heat sinks in applications where electrical insulation is not required.

<i>Typical Uncured Properties</i>	<i>ECF563</i>	<i>Test Description</i>	<i>Test Method</i>
Color	Gray		
Carrier	None		
WorkLife @ 25°C	3 months	Worklife by consistency	ATM-0085
Storage Life @ 5°C	6 months		ATM-0068
<i>Cure Process Data</i>	<i>ECF563</i>		
Recommended Cure Condition	30 minutes @ 150°C		
Alternate Cure Condition	2 hours @ 125°C		
<i>PHYSIOCHEMICAL PROPERTIES - Post Cure</i>	<i>ECF563</i>	<i>Test Description</i>	<i>Test Method</i>
Weight Loss @ 300°C	0.03%	Thermogravimetric Analysis	ATM-0073
Glass Transition Temperature	88°C	TMA penetration mode	ATM-0058
Coefficient of Thermal Expansion Below Tg	60 ppm/°C	TMA expansion mode	ATM-0055
Above Tg	25 ppm/°C		
<i>THERMAL/ELECTRICAL PROPERTIES - Post Cure</i>	<i>ECF563</i>	<i>Test Description</i>	<i>Test Method</i>
Thermal Conductivity @ 121°C	1.0 BTU/ft hr °F		ATM-0018
Volume Resistivity	0.004 ohm-cm	Four-point probe	ATM-0020
Electrical Resistance	0.001 ohm/.5 sq. in.	Measured through gold joints	ATM-0108
<i>MECHANICAL PROPERTIES - Post Cure</i>	<i>ECF563</i>	<i>Test Description</i>	<i>Test Method</i>
Lap Shear Strength @ 25°C	Al to Al	2500 psi	ATM-0052
	Au to Au	3000 psi	

The figures shown above are typical values only. If you need to write a specification, please request our current Standard Release Specification.

ECF563

INSTRUCTIONS

ABLEFILM ECF563 adhesive film is unsupported. It should be handled carefully to avoid stretching and flexing while frozen. It may be handled during handling to keep at least one sheet of release paper attached.

Preheat surface to be bonded to 45°C. Remove release paper from one side of adhesive film. Apply film to one of the bonding surfaces. Remove any trapped air by gently pressing on the surface.

Allow device to cool to room temperature. Remove release paper from the other side of the adhesive film. Attach remaining adherend. Apply spring loaded clamp to provide continuous pressure of 1 psi during cure cycle.

Place assembly in preheated oven and cure according to recommended cure schedule.

Note: This adhesive is not recommended for use on bare aluminum surfaces. Poor ohmic contact will result.

AVAILABILITY

This adhesive film is available in sheet stock or die cut preforms. ABLEFILM adhesive films can be cut to customer specifications.

STORAGE LIFE

This adhesive film may be stored at standard refrigeration temperature (5°C) for 6 months. Avoid flexing film if stored at colder temperature.

CAUTION: This product may cause skin irritation in sensitive persons. Avoid skin contact. If contact does occur, wash area immediately with soap and water. Please refer to the Material Safety Data Sheet for more details.



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The information given and the recommendations made herein are believed to be accurate but no guarantee of their accuracy is made. In every case we recommend that purchasers before using any product conduct their own tests to determine whether the product is suitable for their particular purposes under their own operating conditions. No representative of ours has any authority to waive or change the foregoing provisions but, subject to such provisions, our engineers are available to assist purchasers in adapting our products to their needs. Nothing contained herein shall be construed to imply the nonexistence of any relevant patents or to constitute a permission, inducement or recommendation to practice any invention covered by any patent, without the authority from the owner of this patent. These materials are not designed or manufactured for implantation in the human body. Approval from FDA for such use as part of any product to be implanted in the human body has NOT been sought nor received. We also expect purchasers to use our products in accordance with the guiding principles of the American Chemistry Council's Responsible Care® program.