

# ATROX<sup>®</sup> CF100-7B

## Conductive Die-attach Film

### DESCRIPTION

**ATROX CF100-7B** is a unique conductive film adhesive with both electrical and thermal conductive properties. The unique chemistry allows excellent process flexibility and superior reliability performance to a variety of die sizes used for semiconductor applications. The film has excellent adhesion to Silicon wafers and commonly used lead-frame surface finishes such as BGA Substrates, Bare Cu, Ag and NiPdAu.

READ ENTIRE TECHNICAL DATA SHEET BEFORE USING THIS PRODUCT

### KEY FEATURES & BENEFITS

- Excellent adhesion and low modulus allow for superior delamination resistance to most lead-frame surfaces
- No Resin bleed out
- Controlled Bond Line Thickness control
- Low ionic content.

### TYPICAL PROPERTIES

Film Properties	Test Method	Value
Lamination temperature		65 °C
VR	4-Point Probe	0.0006 ohm-cm
Thermal Conductivity	Laser-Flash	6 W/m-K
Shear Strength @ 260 °C on Cu surface	3mm x 3mm Si die on BGA	0.8 Kg/mm <sup>2</sup>
Modulus 25 °C	DMA	4.7 GPa
Modulus 250 °C	DMA	0.7 GPa
Tg	TMA	43 °C
CTE-1	TMA	78 ppm
CTE-2	TMA	96 ppm

Film Properties	Test Method	Value
Weight loss during cure	TGA	<0.5%
Conductive Film Thickness		15µm
Shelf Life (@ 0 °C)		6 months

### PROCESS RECOMMENDATIONS

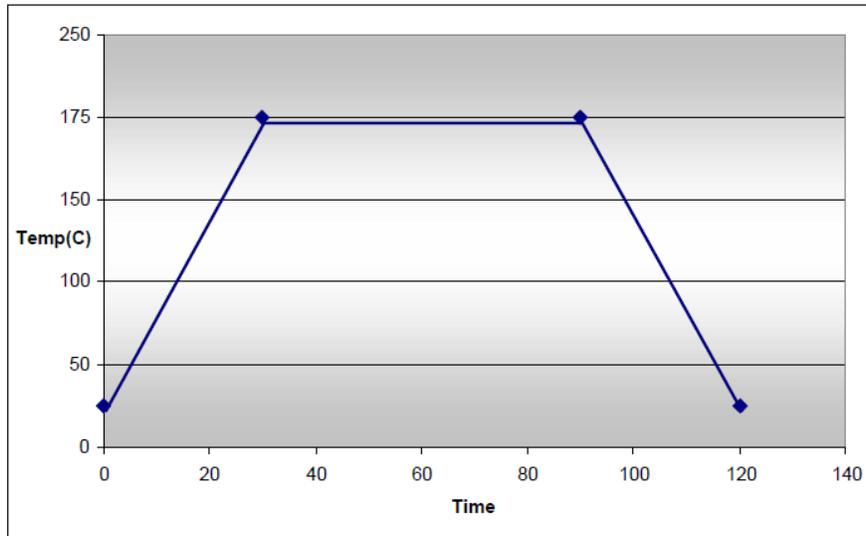
Process	Parameters
Wafer lamination temperature	65 °C
Die attach condition	110 to 130 °C/5-10N/0.5-1sec (Die size dependent)
Cure condition (BGA Substrate)	15 min ramp to 100 °C + hold at 100 °C for 30 min + 15 min ramp to 175 °C + hold at 175 °C for 60 min
Cure condition (Metal Lead-frame)	30 min+ 175 °C/60 min

### MATERIAL APPLICATION

The Conductive film typically requires pressure during die bonding to ensure wetting of Lead-frame surfaces. The pressure will be dependent upon die size and thickness. It is critical that lead-frames reach the required temperature.

Substrate surfaces should be clean and free from oils, dust, etc. as these can interfere with adhesion and cause electrical interface.

**CURE**



**PACKAGING SIZES**

This product is available in pre-cut format rolls of varying lengths for different wafer sizes. Standard thicknesses are 25 and 15  $\mu\text{m}$ . Other thicknesses are available upon request.

**SAFETY & WARNING**

It is recommended that the company/operator read and review the Safety Data Sheets for the appropriate health and safety warnings before use. **Safety Data Sheets are available.**

**SHIPPING & STORAGE**

Material should be stored at 0 °C for a maximum shelf life of 6 months or alternatively for 1 month at room temperature. It is recommended that the material be allowed to reach room temperature before opening and handling. Remove the film form storage, allowing it to come to room temperature before usage.

**CONTACT INFORMATION**

To confirm this document is the most recent version, please contact  
**techinfo@MacDermidAlpha.com**

[www.macdermidalpha.com](http://www.macdermidalpha.com)

<p><b>North America</b> 3950 Johns Creek Ct, Suite 300 Suwanee, GA 30024 USA 908.791.2300</p>	<p><b>Europe</b> Unit 2, Genesis Business Park Albert Drive Woking, Surrey, GU21 5RW, UK 44.01483.758400</p>	<p><b>Asia</b> 14 Joo Koon Crescent, Singapore 629014 65.6430.0700</p>
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Also read carefully warning and safety information on the Safety Data Sheet. This data sheet contains technical information required for safe and economical operation of this product. READ IT THOROUGHLY PRIOR TO PRODUCT USE. Emergency safety directory assistance: US 1 202 464 2554, Europe + 44 1235 239 670, Asia + 65 3158 1074, Brazil 0800 707 7022 and 0800 172 020, Mexico 01800 002 1400 and (55) 5559 1588

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