ATROX® CF. 200-1D

High Thermal Conductive Die-attach Film

DESCRIPTION

ATROX® CF200-1D is a conductive film adhesive with high 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 as well metallized dies and commonly used lead-frame surface finishes such as Bare Cu, Ag and NiPdAu.

READ ENTIRE TECHNICAL DATA SHEET BEFORE USING THIS PRODUCT

KEY FEATURES & BENEFITS

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

TYPICAL PROPERTIES

Film Properties	Test Method	Value
VR	4-Point Probe	0.00007 ohm-cm
Thermal Conductivity	Laser-Flash	20 W/m-K
Modulus 25°C	DMA	6.6 GPa
Modulus 250°C	DMA	0.84 GPa
Tg	TMA	97 °C
CTE-1	TMA	53 ppm
CTE-2	TMA	162 ppm
Weight loss during cure	TGA	0.4%
Conductive Film Thickness		15µm

Film Properties	Test Method	Value
Shelf Life (@ 0°C)		6 months
Work life after Thawing/Lamination*	25°C Storage	1 month

*Wafer Lamination should be carried out as soon as films have been thawed
**Dicing Tape details are available in TDS of Dicing Tape NU30-2

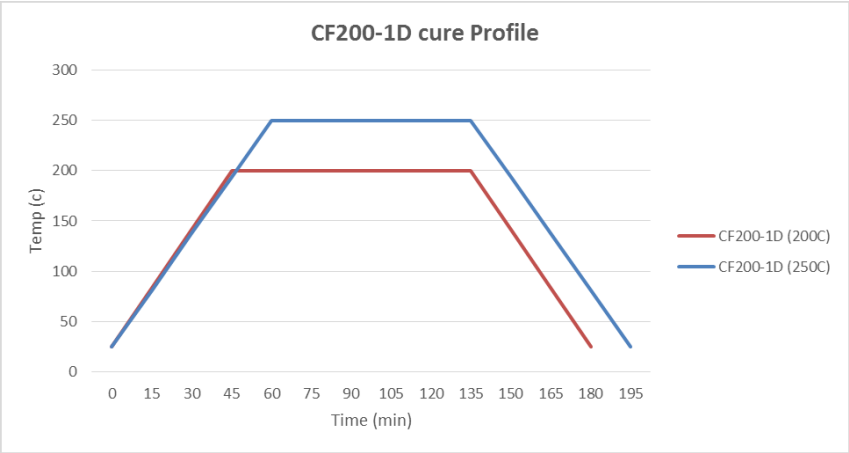
PROCESS RECOMMENDATIONS

Process	Parameters
Wafer lamination temperature	75 to 85 °C
Die attach condition	130 to 150 °C/1-30N/0.5-2sec (Depending on die size)
Cure condition	45min ramp to 200C + hold at 200C for 90min Alternate cure profile for enhanced adhesion: 60 min to 250C + Hold at 250C for 90 minutes

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. Pressure should be around 10-30N during die attach. Bonding surfaces should be clean and free from oils, dust, etc as these can interfere with adhesion and thermal/electrical properties.

CURE



PACKAGING SIZES

ATROX® CF200-1D is available in pre-cut format roll of varying lengths for different wafer sizes. Standard thickness is 15 µm

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

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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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