

STAYSTIK® 581

Silver Filled Electrically Conductive Film

DESCRIPTION

STAYSTIK 581 is designed for use in a variety of electronic applications. These materials are characterized by their excellent bonding. These films can be used for die attach and/or substrate attach in hybrid or Multi-Chip Modulus (MCMs). The unique reworkability of this thermoplastic adhesive system offers many advantages in applications traditionally ill-suited to thermoset adhesives.

Fully Polymerized Resin – No “Cure”
Easily Reworkable – No Outgassing
Bonds in Seconds – Not Hours or Minutes
Low Modulus Reduces Stress to Bonded Materials

READ ENTIRE TECHNICAL DATA SHEET BEFORE USING THIS PRODUCT

TYPICAL PROPERTIES

Typical Properties	581	682	482	882
Filler Material:	Silver	AlN	None	Alumina
Attach Temperature Range:	160 to 275 °C	160 to 275 °C	160 to 275 °C	160 to 275 °C
Continuous Use Range:	-65 to +150 °C	-65 to +150 °C	-65 to +150 °C	-65 to +150 °C
Max Excursion Temperature:	+300 °C	+300 °C	+300 °C	+300 °C
Thermal Conductivity (W/mK):	≥ 3.0	≥ 1.0	≤ 0.25	≤ 0.6
Volume Resistivity (Ohm-cm):	≤ 5 x 10 ⁻⁴	≥ 1 x 10 ⁺⁹	≥ 1 x 10 ⁺⁹	≥ 1 x 10 ⁺⁹
Die Shear Adhesion @ 25 °C	≥ 2500 psi	≥ 2500 psi	≥ 2500 psi	≥ 2500 psi
Elastic Modulus (psi):	≥ 350,000	≥ 350,000	≥ 350,000	≥ 350,000
Glass Transition Temp. (T _g):	≥ 98 °C	≥ 98 °C	≥ 98 °C	≥ 98 °C
Shelf Life @ 25 °C:	1 Year	1 Year	1 Year	1 Year

* United States Patent #5,061,549

* United States Patent #5,401,536

FILM AVAILABILITY

1. Sheet material is available in thicknesses of 0.0015", 0.003", and 0.005". Sheet sizes range from 4" x 4" up to a maximum of 10" x 12".
2. Preforms: same thicknesses apply. We have a fully equipped stamping facility on site. Provide your dimensions or drawing.
3. Rolls / Tape: We have the capability to provide long strips of film adhesive slit to 0.250" or wider for continuous feed bonding machines.

BONDING

Bond film material at 160 to 275 °C. Pressure required is dependent on temperature and dwell time at temperature. Lower temperatures require higher pressures. Higher temperatures require little or no pressure. It is critical that both interfaces to be bonded reach the required temperature. Typical pressures for most applications range from 1 to 10 psi. Time required to form a bond will depend on the application. Bonds can be formed in seconds under optimum conditions. Typical bond times are 10 to 60 seconds. Equipment used for heating can range in sophistication from a hot plate to a box oven or continuous feed belt furnace.

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.**

WASTE TREATMENT

Prior to using any recommendations or suggestions for waste treatment, the user is required to know the appropriate local/state/federal regulations for on-site or off-site treatment which may require permits. If there is any conflict regarding our recommendations, local/state/federal regulations take precedent.

CONTACT INFORMATION

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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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