9703 Conductive Adhesive Transfer Tape

Product Data Sheet

Updated : February 1996
Supersedes : January 1995

Product Description

9703 is specifically designed for bonding materials when continuity of electrical conductivity is also required across the joint. The anisotropic nature of the conductivity - conducts only through the thickness of the tape - allows for flexible circuitry to be joined physically and electrically, track to track without short circuiting & negligible contact resistance.

Physical Properties
Not for specification purposes

Adhesive Type	Acrylic with silver coated nickel conductive particles.	**3M ref :** A-40
Thickness (ASTM D-3652) Tape Liner Total	 50 µm 2 Thou 130 µm 180 µm	
Release Liner	Silicone Treated Kraft paper	
Tape Colour	Clear	
Shelf Life	12 months from date of despatch by 3M when stored in the original carton at 21°C(70°F) & 50 % Relative Humidity	

Performance Characteristics
Not for specification purposes

Adhesion to Stainless Steel ASTM D-3330	**Room Temp** 1 hour 5.5 N/10mm 24 hours 6.0 N/10mm	**70°C(158°F)** 6.6 N/10mm 7.1 N/10mm
Shear Resistance	Medium	
Temperature Performance Min : Minutes / Hours Max : Days / Weeks	 170°C (338°F) 121°C (250°F)	
Solvent Resistance	Good	
UV Light Resistance	Good	

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Electrical Properties

AC Impedance
500 Hz - 100 KHz

Flat response of 0.44 Ohms

Insulation Resistance
Based on ASTM D-257

3.4 x 10^{14} Ohms

Volume Resistivity
Based on ASTM D257

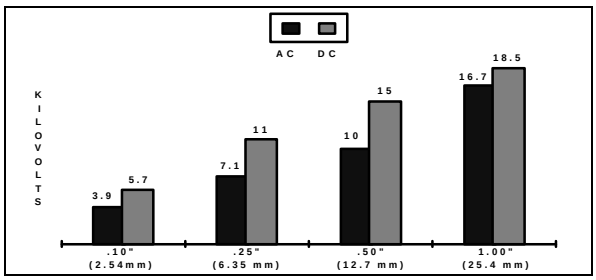
17.51 Ohm-cms

Surface Resistivity
Based on ASTM D257

3.3 x 10^{13} Ohms/Sq

AC/DC Breakdown Based on ASTM D149

Surface gap between electrodes in transverse direction.



Resistance (Ohms) Kelvin Probe measurement between 1oz copper foil of the dimensions below.

	Initial	24 hrs 70°C/100% RH
1" x 1"	.049	.008
½" x ½"	.178	.048
¼" x ¼"	.175	.048
1/8" x 1/8"	.187	.149
1/15" x 1/15"	.245	.215

Application Techniques

1. Bond strength is dependent upon the amount of adhesive-to-surface contact developed. Firm application pressure develops better adhesive contact & thus improves bond strength.

2. To obtain optimum adhesion, the bonding surfaces must be clean dry and well unified. A typical surface cleaning solvent is isopropyl alcohol. Use proper safety precautions for handling solvents.

3. Ideal tape application temperature range is 21°C to 38°C (70°F to 100°F). Initial tape application to surfaces at temperatures below 10°C (50°F) is not recommended because the adhesive becomes too firm to adhere readily. However once properly applied low temperature holding is generally satisfactory.

3M

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