3M™ XYZ-Axis Electrically Conductive Adhesive Transfer Tape (ECATT) 9725

Product Description

3M™ XYZ-Axis Electrically Conductive Adhesive Transfer Tape (ECATT) 9725 is an isotropically electrical conductive tape. It consists of conductive acrylic pressure sensitive adhesive loaded with conductive nonwoven. The result is a double-sided tape providing both high adhesion and very good electrical conductivity. The conductive nonwoven in 3M ECATT 9725 also provides improved handling characteristics.

3M ECATT 9725 conducts electricity through the thickness (Z-axis) and in the plane of the adhesive (X, Y planes), it is ideal for EMI shields and EMI gasket attachment to electronic and electrical devices. It may be used with many types of foil laminate shields to provide a customized shielding solution. This tape may also be used to attach conductive fabric/foam core EMI gaskets to electronic cabinetry.

Construction

Product	3M™ XYZ-Axis Electrically Conductive Adhesive Transfer Tape 9725
Adhesive Type	Conductive acrylic based pressure sensitive adhesive
Carrier Type	Conductive nonwoven
Tape Thickness	2.2 mil (55 µm)
Liner Color, Type, Print	White PCK with white 3M logo
Liner Caliper	5.5 mil (140 µm)

Typical Physical Properties and Performance Characteristics

Note: The following technical information and data should be considered representative or typical only and should not be used for specification purposes.

Product	3M™ XYZ-Axis Electrically Conductive Adhesive Transfer Tape 9725
Adhesion - 180 degree peel strength to stainless steel (Modified ASTM D3330 180 degree, 2 mil PET as backing)	**Oz/in (N/100 mm)**
- 20 minutes @ RT	46 (50)
- 24 hours @ RT	51 (55)
- 72 hours @ RT	59 (64)
Operating Temperature Ranges*:	
Long Term (days, weeks)	158°F (70°C)
Short Term (minutes, hours)	250°F (121°C)
*3M™ XYZ-Axis Electrically Conductive Adhesive Transfer Tape 9725 is not recommended for uncertain high or low temperature excursions where the electrical performance might be compromised, even if holding power is not affected. The user is responsible for the temperature performance qualification of 3M ECATT 9725 in their design.	
Electrical Conductivity	
Surface electrical resistance	$< 0.06\Omega/\square$
Electrical resistance through adhesive*	$< 0.02\Omega/\text{inch}^2$
*MIL-STD-202 Method 307 maintained at 5 psi (3.4Ncm^2) measured over 1 inch^2 surface area and one side of the tape was laminated with one layer of copper foil.	
Shelf Life of Tape in Roll Form	24 months from date of manufacture when stored in original cartons at 70°C (21°C) and 50% relative humidity.

Application Techniques

Bond strength is dependent upon the amount of adhesive-to-surface contact developed. Firm application pressure helps develop better adhesive contact and improves bond strength as well as electrical conductivity. Pressure must be applied to the bond line after assembly to wet the substrates with 3M™ XYZ-Axis Electrically Conductive Adhesive Transfer Tape 9725 and to engage the conductive nonwoven with the substrates to make electrical connection. Mechanical pressure (roller, metal bar) or finger pressure at 15 psi (0.10 Mpa) or greater is suggested. Heat may be applied simultaneously to improve wetting and final bond strength as well as electrical conductivity.

To obtain optimum adhesion, the bonding surfaces must be clean, dry and well unified. Some typical surface cleaning solvents are isopropyl alcohol or heptane.*****

***Note**: Carefully read and follow the manufacturer's precautions and directions for use when working with solvents.

Ideal tape application temperature range is 61°F to 100°F (16°C to 38°C). Tape application below 50°F (10°C) is not recommended because the adhesive will be too firm to wet the substrates, resulting in low adhesion and poor electrical conductivity. Once properly applied, low temperature holding power is generally satisfactory.

General Information

3M™ XYZ-Axis Electrically Conductive Adhesive Transfer Tape 9725 provides good adhesion to metal surfaces and provides low electrical resistance that is stable over time. The pressure sensitive nature and fiber reinforcement of 3M ECATT 9725 makes this product convenient to use and shows good handling properties.

Application Ideas

3M™ XYZ-Axis Electrically Conductive Adhesive Transfer Tape 9725 is ideal for attaching foil laminate EMI shields and EMI gaskets to electronic and electrical devices. These shields typically consist of either copper or aluminum foils and the gaskets typically consist of conductive fabric over a foam core. 3M ECATT 9725 may be applied in strips or die cut to specific shapes and sizes to meet the design.

Certification/Recognition

MSDS: 3M has not prepared a MSDS for this product which is not subject to the MSDS requirements of the Occupational Safety and Health Administration's Hazard Communication Standard, 29 C.F.R. 1910.1200(b)(6)(v). When used under reasonable conditions or in accordance with the 3M directions for use, the product should not present a health and safety hazard. However, use or processing of the product in a manner not in accordance with the directions for use may affect its performance and present potential health and safety hazards.

TSCA: This product is defined as an article under the Toxic Substances Control Act and therefore, it is exempt from inventory listing requirements.

RoHs Complaint/REACH Compliant: 3M™ XYZ-Axis Electrically Conductive Adhesive Transfer Tape 9725 complies with the European Union's "Restriction of Hazardous Substances" (RoHs) initiative and with European REACH regulations 2002/95/EC and 2005/618/EC.

For Additional Information

To request additional product information or to arrange for sales assistance, call toll free 1-800-251-8634. Address correspondence to: 3M, Electronics Markets Materials Division, 3M Center, Building 225-3S-06, St. Paul, MN 55144-1000. Our fax number is 651-778-4244 or 1-877-369-2923. In Canada, phone: 1-800-364-3577. In Puerto Rico, phone: 1-787-750-3000. In Mexico, phone: 52-70-04-00.

Important Notice

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