3M™ Electrically Conductive Cushioning Gasket Tape ECG-8035 / ECG-8055 / ECG-8075

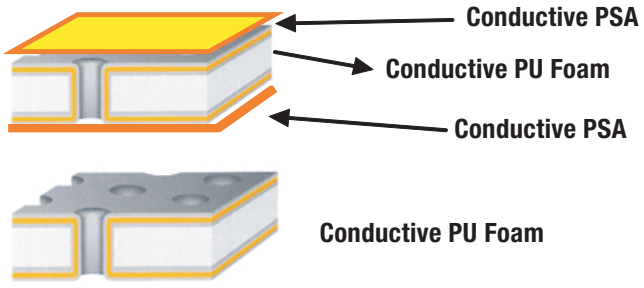
Product Description

3M™ Electrically Conductive Cushioning Gasket Tapes ECG-8035 / ECG-8055 / ECG-8075 are electrically conductive compressible gasket tapes in a double coated tapes format with good electrical conductivity and excellent cushion/ recovery properties. The 3M ECG-8035 / ECG-8055/ ECG-8075 offer excellent gap filling performance while maintaining good electrical grounding potential. These products offer conductivity through the thickness (Z-axis) and in the plane of the adhesive (X-Y planes) and are ideal for EMI/EMC gasket tape applications between common substrates, such as metal surfaces (including metal plated substrates). These products consist of a soft and conductive polymeric foam gasket and thin electrically conductive adhesive tapes laminated on both sides of the cushion gasket. The conductive adhesive is a high performance 3M™ Electrically Conductive Adhesive Transfer Tape (ECATT).

The 3M ECG-8035 / ECG-8055/ ECG-8075 Tapes are useful for EMI/ RFI shielding & grounding in electronics and electrical devices. The 3M ECG-8035/ ECG-8055/ ECG-8075 may be applied in strips or die cut to specific shapes and sizes. Compared to screws or other mechanical connectors and grounding means, the 3M ECG-8035 / ECG-8055/ ECG-8075 products can provide for reduced assembly time and excellent conformability to the space between substrates, excellent bond line gap filling which will allow for enhanced EMI shielding and reduced EMI emissions. The 3M ECG products are EMI and grounding gaskets and provide for excellent grounding and EMI shielding. The 3M ECG products are of an “open cell” design and thus their “environmental” gasket performance will be limited and must be tested by an end user to see if it meets their environmental sealing requirements (dust, moisture, water, etc.). The 3M ECG products could be used in conjunction with products that are non-conductive and provide for the “Environmental Sealing” if desired (ex: 3M™ VHB™ Tapes).

3M ECG-8035 / ECG-8055/ ECG-8075 are supplied in a dual sided removable liners configuration for easy handling and die-cutting properties. 3M ECG-8035 / ECG-8055/ ECG-8075 are available in standard size and custom sizes (widths and lengths).

Product Construction



Product Construction (continued)

Product	3M™ Electrically Conductive Cushioning Gasket Tape ECG-8035 / ECG-8055 / ECG-8075
Carrier Type	Plated Polyurethane Foam
Adhesive Type	Soft Acrylic PSA
Filler Type	Nickel Particles
Tape Thickness	ECG-8035: 0.35 ± 0.05mm ECG-8055: 0.55 ± 0.05mm ECG-8075: 0.75 ± 0.05mm
Release Liner	PE coated Paper Liner (PET film liner and Dual liner version are available)
Roll Length	Standard: 50MT Custom size can be supplied by request

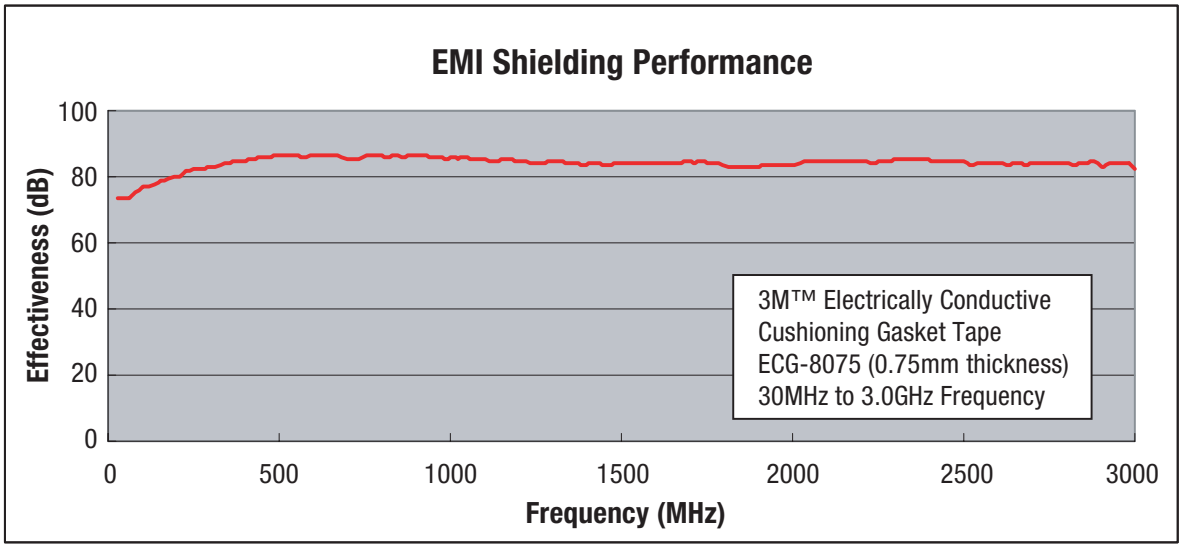
Typical Physical Properties and Performance Characteristics

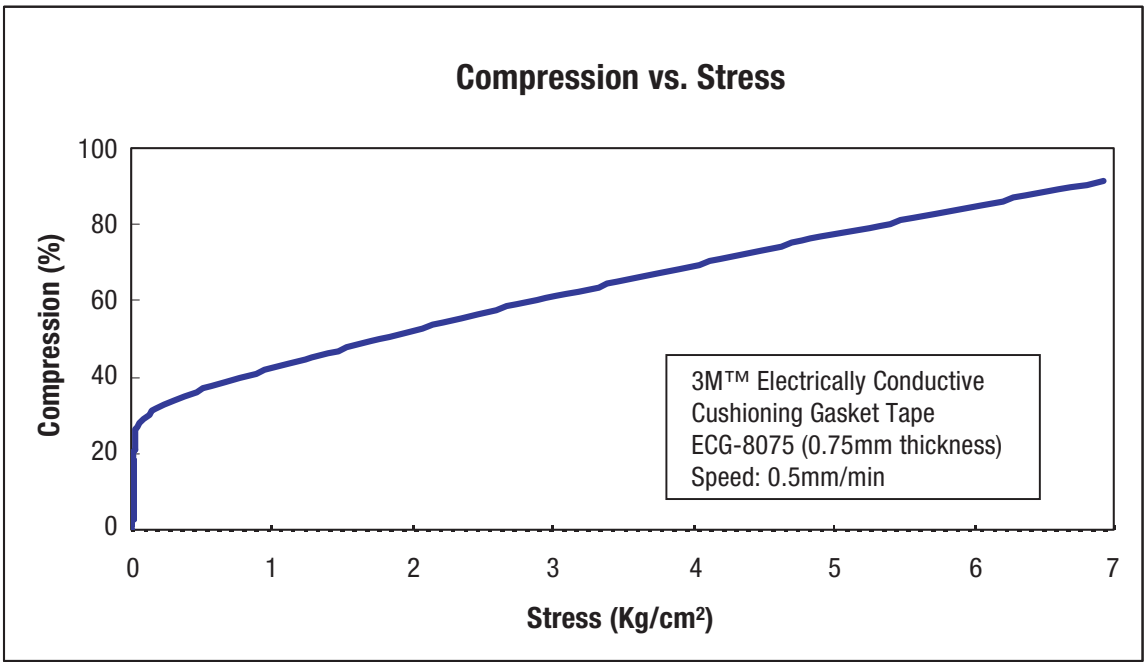
Note: The following technical information and data should be considered representative or typical only and should not be used for specification purposes.

Product	3M™ Electrically Conductive Cushioning Gasket Tape ECG-8035 / ECG-8055 / ECG-8075	Test Method
Electrical Properties		
Z-axis Resistance[1] (1 inch x 1 inch)	< 0.05 Ω	3M TS-EMC-0001
Z-axis Resistance[2] (10 mm x 10 mm)	< 0.1 Ω	3M TS-EMC-0001
Surface Resistance[3]	< 0.1 Ω / □	3M TS-KOR-939
Outgassing	Total Mass Loss (TML): 1.0% Collected Volatile Condensed Material (CVCM): 0.02% Water Vapor Recovered (WVR): 0.25%	ASTM E-595
Minimum Overlap Length	3.0 mm	
Minimum Overlap Width	3.0 mm	
Thermal Property		
Thermal Conductivity	0.9 W/m-K	QTM-500
Adhesion Properties		
180° Peel Adhesion (FS)[4]	1.5 Kgf / 25mm	3M TS-EMC-0002
180° Peel Adhesion (BS)[5]	1.2 Kgf / 25mm	3M TS-EMC-0002

Typical Physical Properties and Performance Characteristics (continued))

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





Operating Temperature Range & Shelf Life	
Short Term Exposure (minutes, hours) 125°C	Long Term Exposure (days, weeks) 80°C
Shelf Life of Tape in Roll Form:	12 months from date of manufacture when stored in original packaging and stored at 23°C and 50% relative humidity.

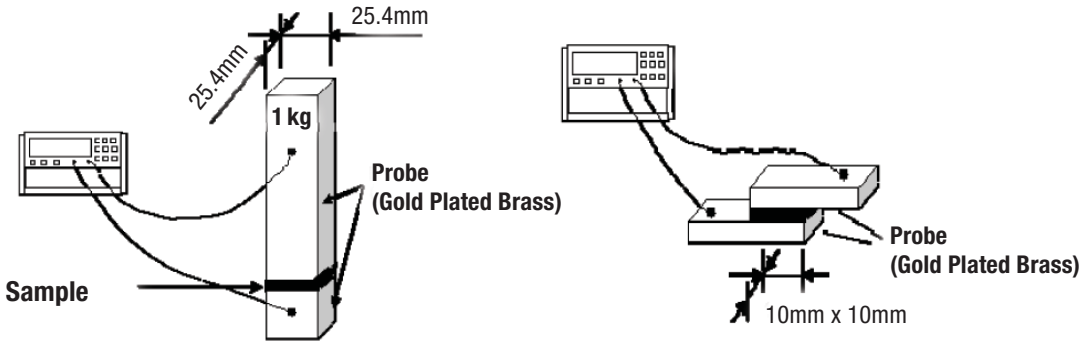
Typical Physical Properties and Performance Characteristics (continued))

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

[1]Z-axis Resistance: Measured between gold plated brass probes with 1 kg load. Contact area: 25.4 mm x 25.4 mm, Dwell time: 60 seconds.

[2]Z-axis Resistance: Measured between gold plated brass probes without load. Contact area: 10 mm x 10 mm, Dwell time: 60 seconds.

[3]Surface Resistance: Cu Plate size 25 mm x 25 mm. Dwell time: 10 seconds.



[4]180° Peel Adhesion (FS): 25 mm W x 200 mm L size sample, SUS substrate, Cross-head speed - 305 mm/min. FS means faceside, Bright grey side without fabric. Test after 1 day dwelling at RT.

[5]180° Peel Adhesion (BS): BS means back side, fabric mesh laminated side.

Application Techniques

- To obtain maximum adhesion, the bonding surfaces must be clean and dry. Isopropyl alcohol is recommended as a cleaning solvent.*
- Bond strength is dependent upon the amount of adhesive-to-surface contact developed during application. The wetted contact area can be increased by applying 3M™ Electrically Conductive Cushioning Gasket Tapes ECG-8035 / ECG-8055 / ECG-8075 firmly with a roller or finger pressure to exclude air entrapment. Adhesion is optimized when the substrates are flat or conformable substrates.
- Electrical performance is dependent upon the nature of the substrate surface finish and surface type (Stainless steel, Aluminum, etc.). Most metal surfaces give enhanced electrical performance with 3M ECG-8035 / ECG-8055/ ECG-8075 when the surface has been lightly abraded and cleaned. Scotch-Brite™ Pads are suggested for preparing the metal surface.
- 3M ECG-8035 / ECG-8055/ ECG-8075 should be applied between 17°C - 35°C. Tape application below 10°C is not suggested because the adhesive will be too firm to wet the substrates, resulting in low adhesion. Warming the substrates to 38°C facilitates adhesion. Once properly applied, low temperature holding power is generally satisfactory.
- 3M ECG-8035 / ECG-8055/ ECG-8075 can be removed by separating the parts using torque for rigid parts or peel for flexible ones. Remove the adhesive by pulling off as much as possible by hand is suggested. Residual adhesive may be removed by rubbing with your finger or by application of 3M™ Packaging Tape over the residual adhesive followed by removal of the packaging tape. The surfaces should be cleaned again before applying a new piece of 3M ECG-8035 / ECG-8055/ ECG-8075. The force required to separate the parts and/or remove the adhesive can be reduced by softening the adhesive by heating to 70°C - 100°C or using solvents such as acetone.*

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

General Information

3M™ Electrically Conductive Cushioning Gasket Tapes ECG-8035 / ECG-8055 / ECG-8075 provide good adhesion to most metal surfaces and provides good electrical resistance to many substrates. The pressure sensitive nature and fiber reinforcement of 3M ECG-8035 / 8055 / 8075 make this product convenient to use and 3M ECG-8035 / ECG-8055/ ECG-8075 also have very good handling properties including good liner release.

Application Ideas

- 3M™ Electrically Conductive Cushioning Gasket Tapes ECG-8035 / ECG-8055 / ECG-8075 are typically used for applications requiring excellent EMI shielding, flexibility/gap filling in the bond line, contact grounding and a mechanical cushion to protect from mechanical shock/vibration in the electronic devices.
- Grounding Mobile Hand Held and Flat Panel Display
- Key pads and display modules in Mobile Hand Held devices and Flat panel display as LCD and PDP need to be electrically attached to the grounding mechanism.
- Assembly of EMI Cage, Metal Case and Frame in Modern Electronic Devices and High Speed Telecommunication Equipment.
- Assembly of cover case and main frame parts
- EMI cage to PCB (printed circuit board). The EMI cages are typically constructed from aluminum frames and lids to protect components on the PCB from EMI/RFI. 3M ECG-8035 / ECG-8055/ ECG-8075 are applied as a die cut in the shape of the perimeter, then the frame is bonded to the perimeter trace.

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™ Electrically Conductive Cushioning Gasket Tapes ECG-8035 / ECG-8055 / ECG-8075 comply 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.

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