



Double Coated Polyethylene Foam Tapes

1690T, 1690TG

Technical Data

Jun., 2009

Product Description:

1690T and 1690TG is double-coated polyethylene foam tape combines a conformable closed cell foam with a high strength acrylic adhesive that provide good initial tack and offer high ultimate adhesion to a wide variety of surfaces, including many plastics. In addition, it also possesses good shear property that provides long term holding power, even under elevated temperature and environmental conditions.

Construction:

Product Number	Adhesive type¹ / Tape Thickness/ Tolerance	Adhesive carrier/ Color	Release liner Thickness, Color, Type, Print	Approximate density (foam only)
1690T	Acrylic, 0.9 mm±15%	Closed cell PE ² foam, White	0.0027" (0.07 mm) White, Glassine paper, Print in Green color	7 lb/ft ³ (112 Kg/m ³)
1690TG	Acrylic, 0.9 mm±15%	Closed cell PE ² foam, Grey	0.0027" (0.07 mm) White, Glassine paper, Print in Green color	7 lb/ft ³ (112 Kg/m ³)

Note 1: Pressure Sensitive Acrylic Adhesive provides excellent initial tack and adhesion to a wide variety surface including many low surface energy plastics.

Note 2: PE (Polyethylene)

Feature

1. 3M 1690T and 1690TG, feature a medium-soft acrylic pressure sensitive adhesive system. The key characteristics of this adhesive include a combination of high initial adhesion and good shear and holding power to a wide variety of materials, including many plastics.
2. 3M 1690T and 1690TG, feature good structural polyethylene foam strength to withstand heavy loading and harsh peeling.
3. Glassine paper liner features good converting characteristics.

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 Number	1690T & 1690TG
Adhesion to stainless steel ASTM D3330 — 90 °angle peel, jaw speed 12 in/min, 72 hour dwell time, 5 mil Al foil backed, at 22°C, 50%RH	5 Kg/in (11.1 lb/in)
Normal tensile (T block) ASTM D897 —1 inch ² overlap, jaw speed 2 in/min, 72 hour dwell time	33 Kg/in ² (72 psi)
Adhesion to stainless steel after High Temp. High Humidity Aging Test (70°C 95%RH 3days) ASTM D3330 — 90 °angle peel, jaw speed 12 in/min, 5 mil Al foil backed, at 22°C, 50%RH	5 Kg/in (11.1lb/in)
Adhesion to stainless steel after Thermal cycling Aging test (-40°C 2hrs ~ +80°C 2hrs 12cycles) ASTM D3330 — 90 °angle peel, jaw speed 12 in/min, 5 mil Al foil backed, at 22°C, 50%RH	6Kg/in (13 lb/in)

Relative High temperature Operating Ranges	
Long Term (days, weeks)	80°C (175°F)
Short Term (minutes, hours)	100°C (212°F)
Shelf Life	
12 months from date of receipt by customer when stored in original carton at 22 °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.

To obtain optimum adhesion, the bonding surfaces must be clean, dry and well unified. Some typical surface cleaning solvents are isopropyl alcohol or N-heptane. Note: Carefully read and follow the manufacturer's precautions and directions for use when working with solvents.

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

Application Ideas

- The foam construction makes these products ideal for many joining, mounting, gasketing, and sealing application involving irregular surface.
- 1690T & 1690TG tapes are specially formulated for many indoor/outdoor high performance purpose mounting and joining applications, including bonding to many Plastics, where moderate temperature and shear performance are required.
- For secure joining/mounting, 2 kilograms is the maximum static loading for 1 square inch tape application. Due to the consideration of less than 100% contact with the surface, variations in surface preparation, extreme/environmental conditions, customer evaluation and testing are required for every specific application.
- Application ideas for these tapes include
 - **Plastic Hooks, Racks and Dispensers**
 - **Sign, Nameplates and Plaques**
 - **Wire and Cable Clips**
 - **Appliance, Display Case and Electronic Equipment Trim**
 - **Automotive trim**

- **Point of Purchase and other Displays**
- **General purpose Joining/Mounting**

Important Notice

3M MAKES NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. User is responsible for determining whether the 3M product is fit for a particular purpose and suitable for user's method of application. Please remember that many factors can affect the use and performance of a 3M product in a particular application. The materials to be bonded with the product, the surface preparation of those materials, the product selected for use, the conditions in which the product is used, and the time and environmental conditions in which the product is expected to perform are among the many factors that can affect the use and performance of a 3M product. Given the variety of factors that can affect the use and performance of a 3M product, some of which are uniquely within the user's knowledge and control, it is essential that the user evaluate the 3M product to determine whether it is fit for a particular purpose and suitable for the user's method of application.

Limitation of Remedies and Liability

If the 3M product is proved to be defective, THE EXCLUSIVE REMEDY, AT 3M'S OPTION, SHALL BE TO REFUND THE PURCHASE PRICE OF OR TO REPAIR OR REPLACE THE DEFECTIVE 3M PRODUCT. 3M shall not otherwise be liable for loss or damages, whether direct, indirect, special, incidental, or consequential, regardless of the legal theory asserted, including negligence, warranty, or strict liability.

3M 1690T & 1690TG was manufactured under a 3M's quality system registered to ISO 9002 standards; and environmental protection system registered to ISO 14000 standards.