3M

Double Coated Polyethylene Foam Tapes

4462W • 4462B • 4466W • 4466B • 4492G
4492W • 4492B • 4496G • 4496W • 4496B

Technical Data **September, 2002**

Product Description

3M™ Double Coated Polyethylene Foam Tapes 4462W, 4462B, 4466W and 4466B combine a conformable closed cell foam with a rubber adhesive that provides high initial adhesion to a variety of surfaces including polyethylene and polypropylene.

3M™ Double Coated Polyethylene Foam Tapes 4492G, 4492W, 4492B, 4496G, 4496W and 4496B combine a conformable closed cell foam with a high strength acrylic adhesive that provides good initial tack and offers high ultimate adhesion to a wide variety of surfaces.

Construction

		Tapes 4462W 4462B	Tapes 4466W 4466B	Tapes 4492W 4492B 4492G	Tapes 4496W 4496B 4496G
Adhesive Type:		745 (Rubber Adhesive)		430 (Acrylic Adhesive)	
Adhesive Carrier:		Closed Cell Crosslinked Polyethylene Foam		Closed Cell Crosslinked Polyethylene Foam	
Thickness:	Nominal	1/32 in. 0.031 in. (0.8 mm)	1/16 in. 0.062 in. (1.6 mm)	1/32in. 0.031 in. (0.8 mm)	1/16 in. 0.062 in. (1.6 mm)
	Tolerance	0.025-0.045 in. (0.6-1.0 mm)	0.053-0.080 in. (1.4-2.0 mm)	0.025-0.045 in. (0.6-1.0 mm)	0.053-0.080 in. (1.4-2.0 mm)
Foam Color:		White (W) Black (B)	White (W) Black (B)	White (W) Black (B) Grey (G)	White (W) Black (B) Grey (G)
Release Liner:		0.003 in. White Paper (0.08 mm)		0.003 in. Tan Paper (0.08 mm)	
Approximate Density: (foam only)		6 lb./ft.^{3} (95 kg/m^3)	4 lb./ft.^{3} (65 kg/m^3)	6 lb./ft.^{3} (95 kg/m^3)	4 lb./ft.^{3} (65 kg/m^3)

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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.

		Tapes 4462W 4462B	Tapes 4466W 4466B	Tapes 4492W 4492B 4492G	Tapes 4496W 4496B 4496G
Peel Adhesion: To Stainless Steel Room Temperature 90° Angle Peel 12 in./min. Jaw Speed (308 mm/min.) 72 hour Dwell ASTM D-3330		8 lb./in. width (140 N/100 mm)	8 lb./in. width (140 N/100 mm)	8 lb./in. width (140 N/100 mm)	8 lb./in. width (140 N/100 mm)
Static Shear: 1/2 in.^{2} (3.23 cm^2) overlap will hold listed weight for 10,000 min. ASTM D-3654	72°F (22°C)	1000 g	1000 g	1000 g	1000 g
	120°F (49°C)	250 g	250 g	500 g	500 g
	158°F (70°C)	—	—	250 g	250 g
Normal Tensile: (T-Block) 1 in.^{2} (6.45 cm^2) Jaw Speed 2 in./min. (50 mm/min.) 72 hour Dwell ASTM D-897		60 lb./in.^{2} (415 kPa)	40 lb./in.^{2} (275 kPa)	60 lb./in.^{2} (415 kPa)	40 lb./in.^{2} (275 kPa)
Dynamic Shear: 1 in.^{2} (6.45 cm^2) overlap Jaw Speed 0.5 in./min. (12.7 mm/min.) ASTM D-1002		55 lb./in.^{2} (380 kPa)	35 lb./in.^{2} (240 kPa)	55 lb./in.^{2} (380 kPa)	35 lb./in.^{2} (240 kPa)
Temperature Resistance: Short Term (Minutes, Hours)		158°F (70°C)		180°F (82°C)	
Long Term (Days, Weeks)		120°F (49°C)		158°F (70°C)	
U.V. Resistance:		Not recommended for direct exposure to U.V. light.		No apparent degradation when exposed for seven days in U.V. chamber.	
Solvent Resistance: Splash testing cycle - 20 seconds submersion, 20 sec. air dry, 3 cycles		No apparent degradation when exposed to splash testing of typical hydrocarbon solvents.			
Cold Flex at -20°F (-30°C):		No cracking when flexed around a 1/4 in. (6.4 mm) mandrel.			
Shelf Life:		18 months from date of manufacture when stored in original cartons at 70°F (21°C) and 50% relative humidity		24 months from date of manufacture when stored in original cartons at 70°F (21°C) and 50% relative humidity.	
Available Sizes:		Non-standard sizes may be subject to minimum order requirements.			
Standard Roll Length:		72 yds. (65.8 m)	36 yds. (32.9 m)	72 yds. (65.8 m)	36 yds. (32.9 m)
Maximum Roll Length:		175 yds. (160.0 m)	100 yds. (91.4 m)	175 yds. (160.0 m)	100 yds. (91.4 m)
Roll Width:		1/8 in. - 48 in. (3.2 mm -1219 mm)		1/8 in. - 48 in. (3.2 mm - 1219 mm)	
		Slit rolls 1/8 in. (3.2 mm) up to 1/2 in. (12.7 mm) are only available in standard lengths.			
Slitting Tolerance:		± 1/32 in. ± 0.031 in. (± 0.8 mm)		± 1/32 in. ± 0.031 in. (± 0.8 mm)	

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Application Techniques

- Bond strength is dependent upon the amount of adhesive-to-surface contact developed. Firm application pressure helps develop better adhesive contact and improve bond strength.
- To obtain optimum adhesion, the bonding surfaces must be clean, dry and well unified. Typical surface cleaning solvents are isopropyl alcohol and water (rubbing alcohol) or water. **Note:** Be sure to follow the manufacturer's precautions and directions for use when using cleaning 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 applications involving irregular surfaces.
- 3M™ Double Coated Polyethylene Foam Tapes 4462 and 4466 are specially formulated for many indoor general purpose mounting and joining applications, including bonding to polyethylene, polypropylene and many other plastics, where moderate temperature and shear performance are required.
- 3M™ Double Coated Polyethylene Foam Tapes 4492 and 4496 are formulated for more demanding indoor and moderate outdoor general purpose mounting and joining applications.
- Application ideas for these tapes include:
  - Signs, Nameplates and Plaques
  - Point of Purchase and other Displays
  - Plastic Hooks, Racks and Dispensers
  - Wire and Cable Clips
  - Appliance, Display Case and Electronic Equipment Trim

General Information

3M™ Double Coated Polyethylene Foam Tapes 4492 and 4496 series (White, Grey, Black) complies with the performance requirements of American Architectural Manufacturer's Association, AAMA 810.1-92 for Expanded Cellular Glazing Tape, Type 1.

Application Equipment

To apply adhesives in a wide web format, lamination equipment is required to ensure acceptable quality. To learn more about working with pressure-sensitive adhesives please refer to technical bulletin, Lamination Techniques for Converters of Laminating Adhesives (70-0704-1430-8).

For additional dispenser information, contact your local 3M sales representative, or the toll free 3M sales assistance number at 1-800-362-3550.