



4643 · 4644 · 4647 · 4647F · 4648 · 4648F

Technical Data

October 1, 2000

Supersedes December,1998

Product Description

Scotch Brand Acrylic Foam Joining Systems utilize high performance adhesives which have excellent long-term holding power. The peel adhesion and tensile holding power of these acrylic foam tapes are significantly higher than corresponding urethane or other similar type of foam tapes.

Product Uses

Acrylic foam tapes are ideal for use in many interior and exterior industrial applications. The increased holding power provides better long term bonding than most other urethane or similar foam tapes and is not affected by ultraviolet radiation. Acrylic foam tapes may be used to bond a variety of substrates, including most metals, sealed wood, as well as some plastics and painted surfaces.
Note: All tapes should be thoroughly evaluated by the user under actual conditions with intended substrates to determine whether a specific tape is fit for a particular purpose and suitable for user's method of application, especially if expected use involves extreme environmental conditions.

Construction	Product	4643	4644	4647(F)	4648(F)
Tape Thickness		0.40mm	0.64mm	0.80mm	1.10mm
- Tolerance		+/- 15%	+/- 15%	+/- 15%	+/- 15%
Adhesive Type		Acrylic	Acrylic	Acrylic	Acrylic
Tape Color		White	White	White	White
Release Liner		0.13mm	0.13mm	0.13(0.07)mm	0.13(0.13)mm
		Polycoated	Polycoated	Polycoated	Polycoated
		Paper Liner	Paper Liner	Paper Liner	Paper Liner
				(Film Liner)	(Film Liner)
Roll Width – Min		6.4mm	6.4mm	6.4mm	6.4mm
- Tolerance		+/- 0.8mm	+/- 0.8mm	+/- 0.8mm	+/- 0.8mm

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	4643	4644	4647(F)	4648(F)
Peel Strength to SUS	<u>grams/12.7mm</u>	<u>grams/12.7mm</u>	<u>grams/12.7mm</u>	<u>grams/12.7mm</u>
ASTM D3330	2,600	3,200	3,200	4,200
90°Peel Adhesion				
Room Temp. 72hr aging				
Jaw Speed : 305mm/min				
With AL Strip				
Dynamic Shear to SUS	Kg/6.45cm ²	Kg/6.45cm ²	Kg/6.45cm ²	Kg/6.45cm ²
ASTM D1002	67	60	54	33
Jaw Speed : 12.7mm/min				
Room Temp. 72hr aging				
Static Shear	min	Min	Min	min
ASTM D3654	10,000	10,000	10000	10,000
500grams loading on stainless steel				
6.45cm ² overlap at room temperature				
Shelf Life	12months from date of manufacture when stored in original cartons at room temperature & 50% RH			

Application Technique

- 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 heptane. **Note :** Be sure to follow manufacturer' s safety precautions and directions for use when using 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

- These products have been designed for general purpose mounting and joining applications where high internal strength is required and are ideal for many applications which involve high continuous shear loads.

For Additional Information

To request additional product information or to arrange for sales assistance, call toll free 1-800-227-5085. Address correspondence to : 3M Bonding Systems Division, 3M Korea LTD, Daehan Invest Trust BLDG 22nd Floor, Yoido Dong, Yongdeungpogu, Seoul, Korea. Our fax number is 82-2-786-7429

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This Bonding System Division product was manufactured under a 3M quality system registered to ISO 9002 standards.

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