3M

Single-Coated Foam Tapes

4100 • 4300 • 4500 • 4700 Series

Technical Data				May, 2008				
Product Description	3M TM Single-Coated Foam Tapes will adhere to a variety of substrates, including latex-painted wood, lacquered wood, enameled steel, glass, aluminum, stainless stee acrylic, ABS, and PVC (non-plasticized) as tape adhesion is typically satisfactory within 20 minutes and continues to build with additional time.							
Products	Note: The user is responsible for determining whether the tape is fit for a particular purpose and suitable for user's method of application.							
		3M™ Urethane Foam Tape Series 4100						
	3M [™] Urethane Foam Tape 4104	1/4 in.	(6.4 mm) thick					
	3M [™] Urethane Foam Tape 4108 3M [™] Urethane Foam Tape 4116	1/8 in. 1/16 in.	(3.2 mm) thick (1.6 mm) thick					
	3M™ Urethane Foam Tape Series 4300							
	3M™ Urethane Foam Tape 4314	1/4 in.	(6.4 mm) thick	_				
	3M [™] Urethane Foam Tape 4317	3/8 in.	(9.5 mm) thick					
	3M [™] Urethane Foam Tape 4318	1/8 in.	(3.2 mm) thick	_				
	3M™ Vinyl Foam Tape Series 4500							
	3M™ Vinyl Foam Tape 4504	1/4 in.	(6.4 mm) thick	_				
	3M™ Vinyl Foam Tape 4508	1/8 in.	(3.2 mm) thick					
	3M™ Vinyl Foam Tape 4516	1/16 in.	(1.6 mm) thick	_				
	3M™ Vinyl Foam Tape Series 4700							
	3M™ Vinyl Foam Tape 4714	1/4 in.	(6.4 mm) thick					

1/8 in.

1/16 in.

(3.2 mm) thick

(1.6 mm) thick

3M™ Vinyl Foam Tape 4718

3M™ Vinyl Foam Tape 4726

3M[™] Single-Coated Foam Tapes

4100 • 4300 • 4500 • 4700 Series

Product Features

3MTM Urethane Foam Tapes Series 4100 are a natural-white, firm, high-density, open-cell foam with pressure-sensitive adhesive on one side. The acrylic adhesive offers high initial quick stick to many types of surfaces along with excellent shear strength and high temperature performance. The adhesive is protected by a 0.003 inch (0.08 mm) thick white, silicone treated paper liner and has a firm rigid open cell urethane that offers excellent cushioning characteristics while allowing air or gas vapors to pass through the open cells. This product is placed on a 1.5 in. wide common core when the tape is 3/4 in. or less in width. Skip slitting is also used for roll stability on these narrow sizes. **Note:** 3M urethane foam tape series 4100 may turn yellow when exposed to light. Such yellowing affects only the appearance and not the physical performance of the tapes.

3MTM Urethane Foam Tapes Series 4300 are a conformable, grey, low-density, opencell foam with pressure-sensitive acrylic adhesive on one side. The adhesive is protected by a 0.003 inch (0.08 mm) thick tan, silicone treated paper liner and has a very soft, conformable low density foam which can help seal out air, dust and light when compressed 50%. Application ideas include: recessed lighting, door, window and cabinet seals. It also can be used to help cushion, damp sound and absorb vibration in electronics such as printers, keyboards, computers, aircraft lights and automotive dash boards. This tape is available on individual cores and in blocks of 1.5 inches when the tape is 3/4 inch or less in width. **Note:** Extra care should be taken when handling these delicate rolls of tape to avoid damaging tape.

3MTM Vinyl Foam Tapes Series 4500 are a flexible, black, high-density, closed-cell foam with pressure-sensitive acrylic adhesive on one side. A 0.003 inch (0.08 mm) thick white, silicone treated paper liner is applied to the non-adhesive side of the foam so that the PVC can be cut to length and applied while leaving the liner in place.

3MTM Vinyl Foam Tapes Series 4700 are a flexible, black, medium-density, closed-cell foam with a pressure-sensitive acrylic adhesive on one side. The adhesive is protected by a 0.004 inch (0.1 mm) thick white, silicone treated paper liner which allows for die cutting without having to laminate another liner to the foam.

3M vinyl foam tape series 4500 and 4700 are durable, flexible closed cell vinyls which can help seal out dust, light and moisture when placed under 30% compression. These vinyl tapes offer excellent aging characteristics and will remain flexible when exposed to elevated temperatures and UV light. Application ideas include: dust and moisture seal for appliances, computers, copiers and other electronic and transportation equipment.

3M[™] Single-Coated Foam Tapes 4100 • 4300 • 4500 • 4700 Series

Typical Physical Properties

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

			3M™ Urethane Foam Tape			
	Test Methods	Units	4104	4108	4116	
Adhesive Type:*			350	350	350	
Approximate Thickness:		inch (mm)	0.250 (6.4)	0.125 (3.2)	0.062 (1.6)	
Thickness Tolerance:		%	15	15	20	
Color:			Natural-white	Natural-white	Natural-white	
Release Liner:		inch (mm)	0.003 (0.08)	0.003 (0.08)	0.003 (0.08)	
Liner Color:			White	White	White	
Standard Length:		yard (meter)	18 (16.5)	36 (32.9)	36 (32.9)	
Maximum Length:		yard (meter)	25 (22.9)	50 (45.7)	100 (91.4)	
Standard Roll Diameter:		inch (mm)	15 (380)	15 (380)	11 (280)	
Available Widths: (MinMax.)		inch (mm)	1/4-36 (6-914)	1/4-46 (6-1168)	1/4-46 (6-1168)	
Normal Slitting Tolerance:		inch (mm)	± 1/32 (± .8)	± 1/32 (± .8)	± 1/32 (± .8)	
Density: Foam with adhesive	ASTM D-3574	lb/cu ft (kg/cu m)	12 (192)	16 (256)	18 (288)	
Hardness: Foam with adhesive	ASTM D-2240	Shore 00	75	75	75	
Compression Deflection: Compress 25%	ASTM D-3574	psi (kPa)	4 (27.6)	6 (41.4)	12 (82.8)	
Compress Set:	ASTM D-1667	% loss	8	8	12	
Tensile Strength: Die "A"	ASTM D-3574	psi (kPa)	115 (795)	130 (895)	115 (795)	
Elongation: Die "A"	ASTM D-3574	%	100	80	80	
Thermal Conductivity:	ASTM C-518	BTU/hr/°F/sq ft/ inch (W/m-K)	0.5 (0.066)	0.5 (0.066)	0.5 (0.066)	
Dielectric Strength:	ASTM D-149	volts/mil	50	70	90	
Surface Resistivity: Non-adhesive side	ASTM D-257	ohms/sq	1 x 10 ¹⁵	6 x 10 ¹⁴	1 x 10 ¹⁴	
Surface Resistivity: Adhesive side	ASTM D-257	ohms/sq	1 x 10 ¹⁵	1 x 10 ¹⁵	3 x 10 ¹⁵	
Water Absorption: 30% Compression	ASTM D-1056	% by Volume	open cell - NA	open cell - NA	open cell - NA	
Flammability Recognition: Foam with adhesive	UL 94HBF File #E76581	meets requirements	yes	no	no	
Flammability Recognition: Foam with adhesive	F.M.V.S.S. 302	meets requirements	yes	yes	yes	
Flammability Recognition: Foam with adhesive	F.A.R. 25.853 B-2	meets requirements	yes	yes	no	
Flammability Recognition: Foam with adhesive	F.A.R. 25.853 B-3	meets requirements	yes	yes	yes	
Mold Resistance: Foam with adhesive	ASTM G21-70	Growth after 28 days	none	none	none	

^{*3}M™ Adhesive 350 is a medium-firm acrylic adhesive that provides a continuation of high wet grab and initial adhesion.

3M[™] Single-Coated Foam Tapes 4100 • 4300 • 4500 • 4700 Series

Typical Physical Properties (continued)

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

			3M™ Urethane Foam Tape			
	Test Methods	Units	4314	4317	4318	
Adhesive Type:*			430	430	430	
Approximate Thickness:		inch (mm)	0.250 (6.4)	0.375 (9.5)	0.125 (3.2)	
Thickness Tolerance:		%	15	10	30	
Color:			Charcoal grey	Charcoal grey	Charcoal grey	
Release Liner:		inch (mm)	0.003 (0.08)	0.003 (0.08)	0.003 (0.08)	
Liner Color:			Tan	Tan	Tan	
Standard Length:		yard (meter)	18 (16.5)	9 (8.2)	36 (32.9)	
Maximum Length:		yard (meter)	18 (16.5)	9 (8.2)	36 (32.9)	
Standard Roll Diameter:		inch (mm)	15 (380)	20 (508)	15 (380)	
Available Widths: (MinMax.)		inch (mm)	1/4-46 (6-1168)	3/8-46 (9-1168)	1/4-46 (6-1168	
Normal Slitting Tolerance:		inch (mm)	± 1/32 (± .8)	± 1/32 (± .8)	± 1/32 (± .8)	
Density: Foam with adhesive	ASTM D-3574	lb/cu ft (kg/cu m)	2 (32)	2 (32)	2 (32)	
Hardness: Foam with adhesive	ASTM D-2240	Shore 00	8	6	10	
Compression Deflection: Compress 25%	ASTM D-3574	psi (kPa)	0.3 (2.1)	0.3 (2.1)	0.3 (2.1)	
Compress Set:	ASTM D-1667	% loss	5	5	5	
Tensile Strength: Die "A"	ASTM D-3574	psi (kPa)	25 (170)	25 (170)	25 (170)	
Elongation: Die "A"	ASTM D-3574	%	125	125	125	
Thermal Conductivity:	ASTM C-518	BTU/hr/°F/sq ft/ inch (W/m-K)	0.3 (0.043)	0.3 (0.043)	0.3 (0.043)	
Dielectric Strength:	ASTM D-149	volts/mil	40	40	20	
Surface Resistivity: Non-adhesive side	ASTM D-257	ohms/sq	2 x 12 ¹²	3 x 10 ¹²	6 x 10 ¹²	
Surface Resistivity: Adhesive side	ASTM D-257	ohms/sq	6 x 10 ¹² 5 x 10 ¹²		1 x 10 ¹³	
Water Absorption: 30% Compression	ASTM D-1056	% by Volume	open cell - NA	open cell - NA	open cell - NA	
Flammability Recognition: Foam with adhesive	UL 94HBF File #E76581	meets requirements	yes	yes no		
Flammability Recognition: Foam with adhesive	F.M.V.S.S. 302	meets requirements	yes	yes	no	
Flammability Recognition: Foam with adhesive	F.A.R. 25.853 B-2	meets requirements	yes	yes	no	
Flammability Recognition: Foam with adhesive	F.A.R. 25.853 B-3	meets requirements	yes	yes	yes	
Mold Resistance: Foam with adhesive	ASTM G21-70	Growth after 28 days	none	none	none	

^{*3}M™ Adhesive 430 is a medium soft adhesive system that offers good quick stick to many types of surfaces along with excellent aging and UV resistance.

$3M^{\text{\tiny TM}}$ Single-Coated Foam Tapes

4100 • 4300 • 4500 • 4700 Series

Typical Physical Properties (continued)

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

	Took Marthaule	llw!s-		M™ Vinyl Foam Tap	
1 11 · 17 ·	Test Methods	Units	4504	4508	4516
Adhesive Type:*			430	430	430
Approximate Thickness:		inch (mm)	0.250 (6.4)	0.125 (3.2)	0.062 (1.6)
Thickness Tolerance:		%	15	15	20
Color:			Black	Black	Black
Release Liner:		inch (mm)	0.003 (0.08)	0.003 (0.08)	0.003 (0.08)
Liner Color:			White	White	White
Standard Length:		yard (meter)	18 (16.5)	36 (32.9)	36 (32.9)
Maximum Length:		yard (meter)	25 (22.9)	50 (45.7)	100 (91.4)
Standard Roll Diameter:		inch (mm)	15 (380)	15 (380)	11 (280)
Available Widths: (MinMax.)		inch (mm)	1/4-44 (6-1118)	1/4-44 (6-1118)	1/8-44 (3-1118)
Normal Slitting Tolerance:		inch (mm)	± 1/32 (± .8)	± 1/32 (± .8)	± 1/32 (± .8)
Density: Foam with adhesive	ASTM D-3574	lb/cu ft (kg/cu m)	20 (320)	20 (320)	25 (400)
Hardness: Foam with adhesive	ASTM D-2240	Shore 00	50	50	55
Compression Deflection: Compress 25%	ASTM D-3574	psi (kPa)	4 (27.6)	4 (27.6)	4 (27.6)
Compress Set:	ASTM D-1667	% loss	15	15	15
Tensile Strength: Die "A"	ASTM D-3574	psi (kPa)	90 (620)	100 (690)	130 (895)
Elongation: Die "A"	ASTM D-3574	%	200	200	200
Thermal Conductivity:	ASTM C-518	BTU/hr/°F/sq ft/ inch (W/m-K)	0.3 (0.043)	0.3 (0.043)	0.3 (0.043)
Dielectric Strength:	ASTM D-149	volts/mil	50	100	140
Surface Resistivity: Non-adhesive side	ASTM D-257	ohms/sq	1 x 10 ¹¹	4 x 10 ¹⁰	1 x 10 ¹⁰
Surface Resistivity: Adhesive side	ASTM D-257	ohms/sq	2 x 10 ¹¹	1 x 10 ¹¹	2 x 10 ¹¹
Water Absorption: 30% Compression	ASTM D-1056	% by Volume	5	5 5	
Flammability Recognition: Foam with adhesive	UL 94HBF File #E76581	meets requirements	yes yes		yes
Flammability Recognition: Foam with adhesive	F.M.V.S.S. 302	meets requirements	yes	yes yes	
Flammability Recognition: Foam with adhesive	F.A.R. 25.853 B-2	meets requirements	yes	yes	yes
Flammability Recognition: Foam with adhesive	F.A.R. 25.853 B-3	meets requirements	yes	yes	yes
Mold Resistance: Foam with adhesive	ASTM G21-70	Growth after 28 days	none	none	none

^{*3}M™ Adhesive 430 is a medium soft adhesive system that offers good quick stick to many types of surfaces along with excellent aging and UV resistance.

3M[™] Single-Coated Foam Tapes 4100 • 4300 • 4500 • 4700 Series

Typical Physical Properties (continued)

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

			3M™ Vinyl Foam Tape			
	Test Methods	Units	4714	4718	4726	
Adhesive Type:*			430	430	430	
Approximate Thickness:		inch (mm)	0.250 (6.4)	0.125 (3.2)	0.062 (1.6)	
Thickness Tolerance:		%	15	20	30	
Color:			Black	Black	Black	
Release Liner:		inch (mm)	0.004 (0.10)	0.004 (0.10)	0.004 (0.10)	
Liner Color:			White	White	White	
Standard Length:		yard (meter)	18 (16.5)	36 (32.9)	36 (32.9)	
Maximum Length:		yard (meter)	25 (22.9)	50 (45.7)	100 (91.4)	
Standard Roll Diameter:		inch (mm)	15 (380)	15 (380)	11 (280)	
Available Widths: (MinMax.)		inch (mm)	1/4-46 (6-1168)	1/4-46 (6-1168)	1/8-46 (3-1168)	
Normal Slitting Tolerance:		inch (mm)	± 1/32 (± .8)	± 1/32 (± .8)	± 1/32 (± .8)	
Density: Foam with adhesive	ASTM D-3574	lb/cu ft (kg/cu m)	14 (225)	18 (288)	20 (230)	
Hardness: Foam with adhesive	ASTM D-2240	Shore 00	40	50	50	
Compression Deflection: Compress 25%	ASTM D-3574	psi (kPa)	2 (13.8)	2 (13.8)	3 (20.7)	
Compress Set:	ASTM D-1667	% loss	5	5	15	
Tensile Strength: Die "A"	ASTM D-3574	psi (kPa)	75 (515)	95 (650)	130 (895)	
Elongation: Die "A"	ASTM D-3574	%	200	200	200	
Thermal Conductivity:	ASTM C-518	BTU/hr/°F/sq ft/ inch (W/m-K)	0.3 (0.043)	0.3 (0.043)	0.3 (0.043)	
Dielectric Strength:	ASTM D-149	volts/mil	50	60	80	
Surface Resistivity: Non-adhesive side	ASTM D-257	ohms/sq	3 x 10 ¹⁰	5 x 10 ¹⁰	2 x 10 ¹¹	
Surface Resistivity: Adhesive side	ASTM D-257	ohms/sq	2 x 10 ¹¹	2 x 10 ¹¹	4 x 10 ¹¹	
Water Absorption: 30% Compression	ASTM D-1056	% by Volume	10	10	10	
Flammability Recognition: Foam with adhesive	UL 94HBF File #E76581	meets requirements	yes	yes yes		
Flammability Recognition: Foam with adhesive	F.M.V.S.S. 302	meets requirements	yes	yes	yes	
Flammability Recognition: Foam with adhesive	F.A.R. 25.853 B-2	meets requirements	yes	yes	yes	
Flammability Recognition: Foam with adhesive	F.A.R. 25.853 B-3	meets requirements	yes	yes	yes	
Mold Resistance: Foam with adhesive	ASTM G21-70	Growth after 28 days	none	none	none	

^{*3}M™ Adhesive 430 is a medium soft adhesive system that offers good quick stick to many types of surfaces along with excellent aging and UV resistance.

3M[™] Single-Coated Foam Tapes

4100 • 4300 • 4500 • 4700 Series

Environmental Exposure

Resistance to high temperature service conditions

3M™ Urethane Foam – 200°F (93°C) continuous

Tape Series 4100 350°F (177°C) - 30 minutes maximum time

3M[™] Urethane Foam - 150°F (66°C) continuous

Tape Series 4300 250°F (121°C) - 30 minutes maximum time

3M[™] Vinyl Foam – 150°F (66°C) continuous

Tape Series 4500 250°F (121°C) - 30 minutes maximum time

3M™ VinvI Foam – 150°F(66°C) continuous

Tape Series 4700 250°F (121°C) - 30 minutes maximum time

Resistance to low temperature service conditions

3M urethane foam - Cold flex at 0°F (-18°C) no cracks*

tape series 4100

3M urethane foam – Cold flex at -20°F (-29°C) no cracks*

tape series 4300

3M viny foam – Cold flex at 0°F (-18°C) no cracks*

tape series 4500

3M vinyl foam - Cold flex at 0°F (-18°C) no cracks*

tape series 4700

^{*}Tape slowly bent around a 1/4 in. diameter mandrel

Solvent/Fuel Resistance*								
Solvent/Fuel	3M urethane foam tape series 4100 Adhesive Foam		3M urethane foam tape series 4300 Adhesive Foam		3M vinyl foam tape series 4500 Adhesive Foam		3M vinyl foam tape series 4700 Adhesive Foam	
Acetone	Softens	Softens	No effect	No effect	Softens	Swells	Softens	Swells
Ammonia Cleaner	No effect	No effect	No effect	No effect	No effect	No effect	No effect	No effect
Engine Oil	No effect	No effect	No effect	No effect	No effect	No effect	No effect	No effect
Gasoline	Softens	Swells	Softens	No effect	No effect	No effect	No effect	No effect
JP-4 (jet fuel)	Softens	Swells	Softens	No effect	No effect	No effect	No effect	No effect
MEK	Softens	Softens	Softens	Swells	Softens	Swells	Softens	Swells
Mineral Spirits	No effect	Swells	Softens	No effect	No effect	No effect	No effect	No effect
Soapy Water	No effect	No effect	No effect	No effect	No effect	No effect	No effect	No effect

^{*}Visual observations of tape bonded to steel panels and immersed totally in solvent/fuel for 24 hours.

Application Techniques

- Bond strength is dependent upon the amount of adhesive-to-surface contact. Firm application pressure develops better adhesive contact and helps improve bond strength.
- To obtain optimum adhesion, the bonding surface must be clean, dry, and well unified. Some typical surface cleaning solvents are isopropyl alcohol and heptane.*
 *Be sure to follow the solvent manufacturer's precautions and directions for use when handling 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.

Storage

Store in the original cartons at 60-80°F (15-27°C) and 50% relative humidity.

Shelf Life

18 months from date of manufacture.

3M[™] Single-Coated Foam Tapes

4100 • 4300 • 4500 • 4700 Series

Product Use

All statements, technical information and recommendations contained in this document are based upon tests or experience that 3M believes are reliable. However, many factors beyond 3M's control can affect the use and performance of a 3M product in a particular application, including the conditions under which the product is used and the time and environmental conditions in which the product is expected to perform. Since these factors 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.

Warranty and Limited Remedy

Unless stated otherwise in 3M's product literature, packaging inserts or product packaging for individual products, 3M warrants that each 3M product meets the applicable specifications at the time 3M ships the product. Individual products may have additional or different warranties as stated on product literature, package inserts or product packages. 3M MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY IMPLIED WARRANTY ARISING OUT OF A COURSE OF DEALING, CUSTOM OR USAGE OF TRADE. User is responsible for determining whether the 3M product is fit for a particular purpose and suitable for user's application. If the 3M product is defective within the warranty period, your exclusive remedy and 3M's and seller's sole obligation will be, at 3M's option, to replace the product or refund the purchase price.

Limitation of Liability

Except where prohibited by law, 3M and seller will not be liable for any loss or damage arising from the 3M product, whether direct, indirect, special, incidental or consequential, regardless of the legal theory asserted, including warranty, contract, negligence or strict liability.

ISO 9001: 2000

This Industrial Adhesives and Tapes Division product was manufactured under a 3M quality system registered to ISO 9001:2000 standards.



Industrial Adhesives and Tapes Division

3M Center, Building 21-1W-10, 900 Bush Avenue St. Paul, MN 55144-1000 800-362-3550 • 877-369-2923 (fax) www.3M.com/industrial



Recycled Paper 40% pre-consumer 10% post-consumer

3M is a trademark of the 3M Company. Printed in U.S.A.

©3M 2008 70-0709-4401-5 (5/08)

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for Adhesive Tapes category:

Click to view products by 3M manufacturer:

Other Similar products are found below:

PF24.0W 4718 4516-1/4x36 56-YELLOW-34"X72YD 00-021200-13972-7 021200-64630 60 TAPE (1") 62-GRAY-12"X36YD 62-GRAY-12"X36YD 69-1"X36YD 764-1"x36yd-Red 764-1"x36yd-White PG ASSY 926-1/4X18YD 967454-1 1194-14"X36YD 1181 19MM X 16,5 METERS 1182-7.7X10 1245-34"X18YD 1267 130C-1X15FT 130-1x10FT 1345-3/8x18yrd 1380-2"X8" E39-RS1-CA 1900-48mm 22-1/2X36YD 2229-P-2-1/2x3-3/4 88-SUPER-34X44FT 890103N001 2670 SJ3527N-Black-1.5"x50yd EVK-TA-TM047NBH01 AD-UCUSB-DCAUD-SPL 20-1"X60YDS 2020-18mmx55m H150 3900-Blue 3939-24mmx55m 396-1"x36yd 4016-34"x36yd 4462W-12"x72yd 44-TAN-14"X90YD 4504-34x18 471-Trans-1"x36yd-Bulk 5414 34X36 C-22 35-Gray-1/2 371-Tan-48mmx50m 4008-12"X36YD