



Extreme Sealing Tape 4412N

Product Data Sheet

March 2011
Supersedes: New

Product Description

3M™ Extreme Sealing Tape 4412N is a single coated, pressure sensitive adhesive tape designed for difficult sealing applications. The backing on this tape is an ionomer film that is very tough yet flexible and abrasion resistant. The very soft and thick acrylic adhesive has excellent sealing properties and good long term, outdoor durability. This single coated tape is designed to seal over an existing joint, seam, or penetration. The adhesive is designed to adhere well to the ionomer film so that overlap layers of this tape can be used and still provide a tight seam to itself and the joint or seam to be sealed.

Construction

	Extreme Sealing Tape 4412N
Release Liner	0,08 mm, matte finish, translucent, polyester film
Ionomer Backing	0,1 mm, acrylic and ethylene copolymer
Adhesive Type	1,9 mm, very conformable multi-purpose acrylic
Thickness (mm) acc. to ASTM D3652	2,0 mm without disposable release liner
Tape Colour	translucent white
Tape Density	0,82 g/cm ³

Performance Characteristics

		Extreme Sealing Tape 4412N			
90 Degree Peel Adhesion Strength (N/mm) ASTM D-3330; to aluminum with aluminum peel strip at 90 ° peel angle	Surface Preparation				
	IPA-Water clean	Fine Abrade	3M™ Adhesion Promoter AP 111	3M™ Tape Primer 94	
Bare aluminium	1,7	2,4	3,5	-	
Anodized aluminium	2,3	2,3	3,7	-	
Bare steel	1,4	2,4	3,3	-	
Galvanized steel	1,7	2,3	3,6	-	
Stainless steel	2,1	2,5	3,6	-	
White acrylic paint	0,9	2,1	2,4	-	
Clear epoxy paint	1,3	2,2	3,6	-	
Clear acrylic paint	1,8	2,6	3,7	-	
Kynar paint	1,1	1,8	2,0	-	
CARC paint	2,3	-	3,3	3,4	
Fibreglass reinf. plastic	1,1	1,8	3,7	-	
Bumpy FRP roofing	1,3	-	3,6	-	
Gloss gel coat FRP	1,3	2,4	2,8	3,4	
ABS	0,4	1,9	2,1	3,6	
Clear acrylic	0,7	1,4	0,6	3,6	
Nylon 6/6	2,2	2,1	3,7	3,7	
Clear polycarbonate	0,5	1,8	1,5	3,6	
Polyester	1,1	-	3,9	3,9	
Polypropylene	0,6	0,9	0,6	0,3	
PP based compos. roofing	0,9	1,1	1,9	3,7	
Black PVC	1,6	1,9	2,5	3,7	
Vinyl house siding	1,4	1,8	3,2	3,7	
Flexible vinyl roofing	1,2	-	-	3,3	
Rigid TPO roofing	0,9	-	-	3,0	
Glass*	1,4	-	1,2	-	
4412N Ionomer film	2,5	-	3,7	-	
Tensile Strength (N/mm) ASTM D-3759 with D-412 dog bone die C	235				
Tape Elongation at Break (%) ASTM D-3759 with D-412 dog bone die C	380				
Splice Break Strength (N/mm) 1 in. x 2 in. tape over butt joined aluminium; 12 inches per minute	1,8				
Temperature Use Range	-40 °C to 93 °C				
Max Temperature Tolerance:	Short term (minutes, hours)		149 °C		
	Long term (days, weeks)		93 °C		
High Pressure Water Resistance 3200 psi; 10 degree angle; 12" distance	Excellent				
Moisture Resistance ASTM E96, Procedure E	Excellent				
Thermal Shock Resistance	Excellent				
UV Resistance:	See 3M™ Extreme Sealing Tape 4412N Exterior Durability Report; September, 2010				

*For long term durability on glass, use 3M™ Silane Glass Treatment AP115 instead of 3M™ Adhesion Promoter 111.

Application Guidelines	<p>Depending on the surfaces to be sealed, one of three basic surface preparations will be required:</p> <ol style="list-style-type: none">1) Good cleaning with a 50:50 mixture of isopropyl alcohol and water to remove contaminants;2) Fine abrading with e.g. a 180x grit or finer abrasive followed by good cleaning with a 50:50 mixture of isopropyl alcohol and water; or3) Good cleaning with a 50:50 mixture of isopropyl alcohol and water followed by application of an adhesion promoter or primer. <p>Ideal tape application is accomplished when temperature is between 21 °C and 38 °C (70 °F and 100 °F) and the bond is allowed to dwell 24 hours. Tape application to surfaces at temperatures below 10 °C (50 °F) is generally not recommended. Once properly applied, low temperature holding is generally satisfactory. With the protective release liner still attached to the tape, apply tape by hand using light hand pressure. If applying the tape over a “step” or ridge, use a thin plastic tool to press the tape tightly into the corners of adjoining surfaces and around other irregularities. Using a soft roller, such as a medium nap paint roller, apply medium pressure to conform tape on contours, seam edges, rivets, or screw heads. Peel off the protective release liner. To optimize adherence and conformance to uneven surfaces, a final tape roll down should be done after the non-stretchy, release liner has been removed. As an extra measure of sealing insurance, a very small dab of 3M™ 4000UV Hybrid Adhesive Sealant Fast Cure should be used at the end of any cut length of 3M™ Extreme Sealing Tape 4412N where the tape is sealing over an irregular surface.</p>
Storage	<p>Store in original cartons between 4 °C and 38 °C and 0 % to 90 % relative humidity. Optimum storage conditions are 21 °C and 50 % relative humidity.</p>
Shelf Life	<p>When stored under proper conditions, product retains its performance and properties for 24 months from date of manufacture.</p>
For Additional Information	<p>To request additional product information or to arrange for sales assistance, call: 08-92 22 50 Address correspondence to: 3M Svenska AB, Industri, 191 89 Sollentuna www.3M.se</p>

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