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Technical Data Sheet

3M™ Extreme Sealing Tape 4411B+

V-4 | English-US
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Product Details

Regulatory Info/SDS

Product Description

3M™ Extreme Sealing Tapes are single-coated, pressure sensitive adhesive tapes that are designed for sealing applications. They feature a flexible TPO backing that easily conforms over screw heads, rivets, joints, splices, and other protrusions, providing reliable protection from water intrusion. 3M™ Extreme Sealing Tapes' acrylic adhesive chemistry allows for bonding to a variety of substrates while maintaining reliable durability.

Product Features

- Black, 1.0 mm (0.040 in) thick tape designed for sealing applications.
- Sticks immediately after the application of pressure to metals, plastics, and other surfaces.
- Provides an immediate seal without the cure time or mess typically associated with liquid sealants.
- Features a linerless acrylic adhesive, enabling easier application with less waste.

Technical Information Note

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

Typical Physical Properties

Attribute Name	Value
Color	Black
Adhesive Type	Very Conformable Multi-Purpose Acrylic
Backing	TPO
Density	820 kg/m³ (51 lb/ft³)

Attribute Name	Value
Total Tape Thickness	1.0 mm (40 mil)
Adhesive Thickness	0.9 mm (36 mil)
Backing Thickness	0.1 mm (4 mil)
Thickness Tolerance	±10 %

Typical Performance Characteristics

Substrate: Aluminum
Temperature: 23 °C (73 °F)
Dwell Time: 72 h

Attribute Name	Test Method	Backing	Value
90° Peel Adhesion	ASTM D3330	5 mil Aluminum Foil	16.6 N/cm (9.5 lb/in) [1]
Normal Tensile	ASTM D897		549.4 kPa (79.7 lb/in²) [2]

[1] 300 mm/min (12 in/min)

[2] 6.45 cm² (1 in²), Jaw Speed 51 mm/min (2 in/min)

Attribute Name	Test Method	Test Condition	Substrate	Value
Minimum Application Temperature				10 °C (50 °F)

Attribute Name	Test Method	Test Condition	Substrate	Value
Short Term Temperature Resistance				149 °C (300 °F) [1]
Long Term Temperature Resistance	ASTM D3654	500 g	Stainless Steel	93 °C (200 °F) [2]

[1] No change in room temperature dynamic shear properties following 4 hour conditioning at indicated temperature with 100 g/static load. (Represents minutes, hour in a process type temperature exposure).

[2] Maximum temperature where tape supports indicated load per 6.5cm² (1 in²) in static shear for 10,000 minutes.

Handling/Application Information

Application Techniques

Surface Preparation:
The first step to making a successful seal is to prepare the surface for bonding. Make sure that the bonding surface is clean of all contaminants. For most surfaces, cleaning with a mixture of isopropyl alcohol and water (50/50 or 70/30) is effective. If the substrate is contaminated with heavy oils or grease, a degreaser or strong solvent should be used to remove the oil. A final wipe of isopropyl alcohol and water should follow the degreasing step.
The following adhesion promoters and primers may be used to increase the bond strength of 3M™ Extreme Sealing Tape:
3M™ VHB™ Water-Based Promoter UV
3M™ Adhesion Promoter 111
3M™ Tape Primer 94
3M™ Universal Primer UV
Please refer to technical data sheets for application instructions and guidance surrounding the types of materials that these adhesion promoters and primers are effective on.

***Note:** When using solvents, be sure to follow the manufacturer's precautions and directions for use.

Application of Pressure:
Bond strength is dependent upon the amount of adhesive-to-surface contact developed. Firm application of pressure develops better adhesive contact and helps to improve bond strength. Good surface contact can be attained by applying approximately 100 kPa (15 psi) of pressure. This can generally be attained by hand or with the use of a handheld roller.

Application Temperature:
The ideal application temperature range (the temperature at which the tape is applied) for 3M™ Extreme Sealing Tape is 21°C to 38°C (70°F to 100°F). Pressure sensitive adhesives use viscous flow to achieve substrate contact. The tape generally reaches ultimate bond strength 72 hours after the application of pressure but provides an immediate seal. The minimum suggested application temperature for 3M™ Extreme Sealing Tape is 10°C (50°F).

Tape Width:
The tape should be wide enough to cover all potential intrusion paths. It is recommended to extend the tape at least 2.54 cm (1 in) beyond the intrusion path.

Creating an Overlap Seam:
It is often required to overlap 3M™ Extreme Sealing Tape onto itself. In this case, the TPO backing of the first piece of tape becomes the substrate that the second piece of tape will adhere to.

Surface Preparation: The TPO backing material should be cleaned with a 50/50 or 70/30 mixture of isopropyl alcohol and water. For optimal results, it is highly recommended that the TPO backing material be promoted/primed with 3M™ Adhesion Promoter 111, 3M™ Tape Primer 94, or 3M™ Universal Primer UVprior to overlapping. If promoting the TPO backing material with 3M™ Adhesion Promoter 111, cleaning prior to applying promoter may not be necessary. If priming the TPO backing material with either 3M™ Tape Primer 94 or 3M™ Universal Primer UV,you must clean with a mixture of isopropyl alcohol and water prior to applying primer.

Application of Pressure: Firm pressure must be applied to all points of overlap between the two tapes. This can generally be achieved by hand or with the use of a handheld roller.

Storage and Shelf Life

This product has a shelf life of 24 months from the date of manufacture when stored in its original packaging at 4°C to 38°C (40°F to 100°F) and 0-95 % relative humidity. Optimum storage conditions are 22°C (72°F) and 50 % relative humidity.

Available Sizes

Attribute Name	Value
Core Size (ID)	76.2 mm (3 in)
Maximum Available Width	1219.2 mm (48 in)
Minimum Available Width	6.4 mm (0.25 in)
Normal Slitting Tolerance	±0.79 mm (±1/32 in)
Standard Roll Length	16.5 m (18 yd)

Product Family

3M™ Extreme Sealing Tapes: 4410W+, 4410G+, and 4410B+
3M™ Extreme Sealing Tapes: 4411W+, 4411G+, and 4411B+
3M™ Extreme Sealing Tapes: 4412W+ and 4412G+

Information

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ISO Statement

This product was manufactured under a 3M quality system registered to ISO 9001 standards.

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