



Technical Data Sheet

3M™ Single-Coated Vinyl Foam Tape 4516



[Product Details](#)



[Regulatory Info/SDS](#)

Product Description

3M™ Single-Coated Foam Tapes will adhere to a variety of substrates, including latex-painted wood, lacquered wood, enameled steel, glass, aluminum, stainless steel, acrylic, ABS, and PVC (non-plasticized) as tape adhesion is typically satisfactory within 20 minutes and continues to build with additional time.

Product Features

3M™ 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.

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.

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 | Test Method | Value |
|--|-------------|---|
| Color | | Black |
| Adhesive Type | | 430* |
| Density | ASTM D3574 | 400 kg/m ³ (25 lb/ft ³) ¹ |
| Shore 00 Hardness | ASTM D2240 | 55 ¹ |
| Mold and Mildew Resistance | ASTM G21 | No growth after 28 days ² |
| Compression Deflection: 25% Compression | ASTM D3574 | 27.6 kPa (4 lb/in ²) |

¹ Foam with adhesive

² Foam with Adhesive

| Attribute Name | Value |
|---------------------|-----------------|
| Thickness | 1.6 mm (62 mil) |
| Liner Thickness | 0.08 mm (3 mil) |
| Primary Liner Color | White |
| Thickness Tolerance | 20 % |

| Attribute Name | Value |
|----------------|---|
| *Note | *3M™ 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. |

Typical Performance Characteristics

| Attribute Name | Value |
|-----------------------------------|--|
| Short Term Temperature Resistance | 121 °C (250 °F) ¹ |
| Long Term Temperature Resistance | 66 °C (150 °F) ² |
| Temperature Resistance | Cold flex at -18 °C (Cold flex at 0 °F) ³ |

¹ Short Term (minutes, hour)

² Long Term (day, weeks)

³ No cracks. Tape slowly bent around a 1/4 in. diameter mandrel.

| Attribute Name | Test Method | Value |
|------------------|-------------|--|
| Elongation | ASTM D3574 | 200 % ¹ |
| Tensile Strength | ASTM D3574 | 895 kPa (130 lb/in ²) ¹ |
| Compression Set | ASTM D1667 | 15 % |

¹ Die "A"

Typical Environmental Characteristics

Solvent Resistance

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

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

Electrical and Thermal Properties

| Attribute Name | Test Method | Value |
|------------------------------------|-------------|--|
| Thermal Conductivity | ASTM C518 | 0.043 W/m/K (3 (btu-in)/(h-ft ² -°F)) |
| Surface Resistivity (Non-Adhesive) | ASTM D257 | 1 x 10 ¹⁰ Ω ¹ |
| Surface Resistivity (Adhesive) | ASTM D257 | 2 x 10 ¹¹ Ω ² |
| Water Absorption: 30% Compression | ASTM D1056 | 5 % by Volume |

¹ Non-Adhesive Side

² Adhesive Side

Handling/Application Information

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.

Industry Specifications

UL 94HBF (File #E76581)

Storage and Shelf Life

Store in the original cartons at 60-80°F (15-27°C) and 50% relative humidity. Shelf life is 18 months from date of manufacture.

Available Sizes

| Attribute Name | Value |
|---------------------------|----------------------|
| Maximum Available Width | 1118 mm (44 in) |
| Maximum Length | 91.4 m (100 yd) |
| Minimum Available Width | 3 mm (0.125 in) |
| Normal Slitting Tolerance | ± 0.8 mm (± 1/32 in) |
| Roll Diameter | 280 mm (11 in) |
| Standard Roll Length | 32.9 m (36 yd) |

Automotive Disclaimer

Select Automotive Applications: This product is an industrial product and has not been designed or tested for use in certain automotive applications, such as automotive electric powertrain battery or high voltage applications, which may require the product to be manufactured in a IATF certified facility, meet a Ppk of 1.33 for all properties, undergo an automotive production part approval process (PPAP), or fully adhere to automotive design or quality system requirements (e.g., IATF 16949 or VDA 6.3). Customer assumes all responsibility and risk if customer chooses to use this product in these applications.

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ISO Statement

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

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