

# Technical data sheet



Product: 4516

Manufacturer: 3M DEUTSCHLAND GMBH

Product group: KLEBEBAND

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## 3M™ SINGLE-COATED VINYL FOAM TAPE 4516

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# 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 <sup>3</sup> (25 lb/ft <sup>3</sup> ) <sup>1</sup>
Shore 00 Hardness	ASTM D2240	55 <sup>1</sup>
Mold and Mildew Resistance	ASTM G21	No growth after 28 days <sup>2</sup>
Compression Deflection: 25% Compression	ASTM D3574	27.6 kPa (4 lb/in <sup>2</sup> )

<sup>1</sup> Foam with adhesive

<sup>2</sup> 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) <sup>1</sup>
Long Term Temperature Resistance	66 °C (150 °F) <sup>2</sup>
Temperature Resistance	Cold flex at -18 °C (Cold flex at 0 °F) <sup>3</sup>

<sup>1</sup> Short Term (minutes, hour)

<sup>2</sup> Long Term (day, weeks)

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

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

<sup>1</sup> 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 <sup>2</sup> -°F))
Surface Resistivity (Non-Adhesive)	ASTM D257	1 x 10 <sup>10</sup> Ω <sup>1</sup>
Surface Resistivity (Adhesive)	ASTM D257	2 x 10 <sup>11</sup> Ω <sup>2</sup>
Water Absorption: 30% Compression	ASTM D1056	5 % by Volume

<sup>1</sup> Non-Adhesive Side

<sup>2</sup> 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.

### **Storage and Shelf Life**

Store under normal conditions of 16° to 27°C (60° to 80°F) and 40 to 60% relative humidity in the original packaging, out of direct sunlight. For best performance, use this product within 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 product was manufactured under a 3M quality system registered to ISO 9001 standards.

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