

3M

VHB™ Tape

4914

Technical Data

July, 2005

Product Description

3M™ VHB™ Tape 4914 is a double coated 0.010 inch (0.25 mm) pressure sensitive adhesive tape for bonding a wide range of materials, including many types of metals and plastics. This product has excellent adhesion and shear strength, and also resists to UV lights and elevated temperatures.

Construction

Adhesive:	General Purpose Acrylic Adhesive
Adhesive Carrier:	Acrylic Foam (closed cell)
Thickness:	0.010 in. (0.25 mm)
Density:	50 lb./ft. ³ (800 kg/m ³)
Liner:	Paper
Tape Color:	White

Typical Physical Properties and Performance Characteristics

Note: The following technical information and data is based upon limited 3M testing conditions and should not be used for specification purposes.

90° Peel Adhesion (ASTM D3330, Jaw speed 12 in./min.)

Stainless Steel	13 lb./in. width (230 N/100 mm)
Aluminum	10 lb./in. width (170 N/100 mm)
Galvanized Steel	13 lb./in. width (230 N/100 mm)
ABS Plastic	10 lb./in. width (170 N/100 mm)
FRP Plastic	13 lb./in. width (230 N/100 mm)
Acrylic Plastic	8 lb./in. width (140 N/100 mm)

Static Shear (ASTM D3654, measured at various temperatures and loadings on stainless steel with 0.5 in.² overlap. Will hold the listed weight for 10,000 minutes.)

72°F (22°C)	1500 grams
158°F (70°C)	1000 grams
200°F (93°C)	500 grams
250°F (121°C)	250 grams
300°F (149°C)	200 grams
350°F (177°C)	150 grams

Dynamic Shear (ASTM D1002, Jaw speed 0.5 in./min., on Stainless Steel)

Room Temperature	130 lb./in. ² (830 kPa)
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Normal Tensile (ASTM D897, 1 in.² T-block on aluminum. Jaw speed 2 in./min.)

Room Temperature	130 lb./in. ² (830 kPa)
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Solvent Resistance

High

Temperature Resistance

Short Term (minutes, hours):	300°F (149°C)
Long Term (days, weeks):	200°F (93°C)

Electronic Properties

Surface Resistance (ASTM D257):	>10 ¹⁶ ohms/in. ²
Volume Resistivity (ASTM D257):	1.7 x 10 ¹¹ ohms-cm
Dielectric Strength (ASTM D149):	7900 volts/mm

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Available Sizes	Standard Length:	36 yds. (32.9 m)
	Standard Width:	11.8 in. (300 mm)
	Slitting Tolerance:	± 1/32 in. (0.8 mm)
	Core Size (ID):	3.0 in. (76.2 mm)

Application Guidelines For maximum bond strength the surfaces should be thoroughly cleaned with a 50:50 mixture of isopropyl alcohol and water. Consult manufacturer's directions for use and precautions when using cleaning solvents. Ideal tape application is accomplished when temperature is between 70° and 100°F (21° and 38°C) and the bond is allowed to dwell 72 hours. Initial tape application to surfaces at temperatures below 50°F (10°C) is not recommended.

Storage Store in original cartons at 70°F (21°C) and 50% relative humidity.

Shelf Life When stored under proper conditions, product retains its performance and properties for 24 months from date of manufacture.

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.

Limited Warranty 3M warrants for 24 months from the date of manufacture that 3M™ VHB™ Tape will be free of defects in material and manufacture. 3M MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. This limited warranty does not cover damage resulting from the use or inability to use 3M™ VHB™ Tape due to misuse, workmanship in application, or application or storage not in accordance with 3M recommended procedures.

Limitation of Remedies and Liability If the 3M™ VHB™ Tape is proved to be defective within the warranty period stated above. THE EXCLUSIVE REMEDY, AT 3M'S OPTION, SHALL BE TO REFUND THE PURCHASE PRICE OF OR TO REPAIR OR REPLACE THE DEFECTIVE 3M™ VHB™ TAPE. 3M shall not otherwise be liable for loss or damages, whether direct, indirect, special, incidental, or consequential, regardless of the legal theory asserted, including negligence, warranty, 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 Business
Industrial Adhesives and Tapes Division**

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