



VHB™ Commercial Vehicle Tape

CV45F • CV62F

Technical Data

August, 2006

Product Description

3M™ VHB™ Commercial Vehicle Tapes are conformable, double-coated, pressure sensitive acrylic foam tapes. The acrylic foam chemistry has outstanding durability, UV resistance and temperature performance. Since 1980, 3M™ VHB™ Tapes have been used for sidewall panel attachment on commercial vehicles such as trailers, truck bodies, ambulances, fire trucks, busses, and rail cars. Unlike other foam types, such as polyethylene foam, the high strength acrylic foam is viscoelastic in nature. This provides unique, energy absorbing and stress relaxing properties to the 3M™ VHB™ Commercial Vehicle Tapes.

These tapes are often used on either finely abraded surfaces or surfaces treated with an adhesion promoter, these tapes provide excellent adhesion to a broad range of materials and surfaces common in the commercial vehicle industry. Common substrates include bare aluminum, bare steel, galvanized steel, painted steel, painted aluminum panels, and fiberglass reinforced plastic panels. The thicker 3M™ VHB™ Commercial Vehicle Tape CV62F is typically used for panel to post attachment. The thinner 3M™ VHB™ Commercial Vehicle Tape CV45F is typically used for panel to panel attachment at an overlap seam.

Note: 3M™ VHB™ Commercial Vehicle Tapes should be thoroughly evaluated by the user under actual use conditions with intended substrates to determine suitability of these tapes for your particular application.

Construction

Product	Adhesive	Adhesive Carrier	Thickness	Thickness Tolerance	Density	Tape Color	Liner
3M™ VHB™ Commercial Vehicle Tape CV45F	Multi-Purpose Acrylic	Conformable Acrylic Closed Cell Foam	0.045 in. (1.14 mm)	± 10%	45 lb./ft. ³ (720 kg/m ³)	Gray	Red polyethylene 0.045 in. (0.0114 mm)
3M™ VHB™ Commercial Vehicle Tape CV62F	Multi-Purpose Acrylic	Conformable Acrylic Closed Cell Foam	0.062 in. (1.57 mm)	± 10%	45 lb./ft. ³ (720 kg/m ³)	Gray	Red polyethylene 0.045 in. (0.0114 mm) with white printing

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Typical Physical Properties and Performance Characteristics	Note: The following technical information and data should be considered representative or typical only and should not be used for specification purposes.		
		3M™ VHB™ Commercial Vehicle Tape CV45F	3M™ VHB™ Commercial Vehicle Tape CV62F
Peel Adhesion:		25 lb./in. width 435 N/100 mm)	25 lb./in. width 435 N/100 mm)
<ul style="list-style-type: none"> • Based on ASTM D-3330 • To aluminum • Room temperature • 90° peel • Jaw Speed 12 in./min. (305 mm/min.) 			
Normal Tensile:		85 lb./in. ² (585 kPa)	80 lb./in. ² (550 kPa)
<ul style="list-style-type: none"> • ASTM D-897 • To aluminum T-Block • Room temperature • 1 in.² (6.45 cm²) • Jaw Speed 2 in./min. (50 mm/min.) 			
Dynamic Shear:		70 lb./in. ² (480 kPa)	70 lb./in. ² (480 kPa)
<ul style="list-style-type: none"> • ASTM D-1002 • To stainless steel • Room temperature • 1 in.² (6.45 cm²) • Jaw Speed 1/2 in./min. (12.7 mm/min.) 			
Static Shear:			
<ul style="list-style-type: none"> • ASTM D-3654 • To stainless steel 	72°F (22°C)	1000 g/0.5 in. ² (holds 10,000 min.)	1000 g/0.5 in. ² (holds 10,000 min.)
	150°F (66°C)	500 g/0.5 in. ² (holds 10,000 min)	500 g/0.5 in. ² (holds 10,000 min.)
	200°F (93°C)	500 g/0.5 in. ² (holds 10,000 min.)	500 g/0.5 in. ² (holds 10,000 min.)
Temperature Resistance:			
Short Term: (minutes, hours)		300°F (149°C)	300°F (149°C)
Long Term: (days, weeks)		200°F (93°C)	200°F (93°C)
Moisture Resistance:		Excellent	Excellent
Solvent Resistance		Excellent	Excellent
U.V. Resistance		Excellent	Excellent

Available Sizes	Standard Widths:	1/2 in. (12.7 mm), 3/4 in. (19.1 mm), 1 in. (25.4 mm)
	Standard Length:	36 yds. (32.9 m)
	Core Diameter (ID):	3.0 in. (76.2 mm)
	Slitting Tolerance:	± 1/32 in. (0.8 mm)

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Application Guidelines

Depending on the substrates to be bonded, one of four possible surface preparation techniques will be required:

- 1) Good cleaning with a 50:50 mixture of isopropyl alcohol* and water to remove contaminants; or
- 2) Fine abrading of surface followed by good cleaning with a 50:50 mixture of isopropyl alcohol and water; or
- 3) Good cleaning with a 50:50 mixture of isopropyl alcohol and water followed by application of an adhesion promoter; or
- 4) Fine abrading of surface followed by good cleaning with a 50:50 mixture of isopropyl alcohol and water followed by application of an adhesion promoter.

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. Tape application to surfaces at temperatures below 60°F (15°C) is generally not recommended. However, on some surfaces with some surface preparations, applications at temperatures lower than 60°F (15°C) may be acceptable. Once properly applied, low temperature holding is generally satisfactory.

Bond strength is dependent upon the amount of adhesive-to-surface contact developed. Firm application pressure develops better adhesive contact and helps improve bond strength. The tape should experience at least 15 psi (100 kPa) pressure or 15 pounds (3.4 N) downward force with a heavy duty roller.

Further surface preparation and application bonding information, including guidelines for bonding at temperatures below 60°F (15°C), is available in the following 3M Technical Bulletins or visit: www.3M.com/vhb:

Panel Bonding Procedure using 3M™ VHB™ Tape

Surface Preparation for 3M™ VHB™ Tape Applications

*Consult manufacturer's directions for use and precautions when using cleaning solvents. This cleaning recommendation may not be compliant with the rules of certain Air Quality Management Districts in California; consult applicable rules before use.

Shelf Life

3M™ VHB™ Commercial Vehicle Tapes have a shelf life of 24 months from date of manufacture when stored at 40°F to 100°F (4°C to 38°C) and 0-95% relative humidity. The optimum storage conditions are 72°F (22°C) and 50% relative humidity.

Performance of tapes is not projected to change even after shelf life expires; however, 3M does suggest that 3M™ VHB™ Tapes are used prior to the shelf life date whenever possible.

The manufacturing date is available on all 3M™ VHB™ Tape cores as part of the lot number. An example of printing on the tape core is "CV45F 96212 16 7N". The four digits after the number "9" indicate a Julian date (YDDD). In this example, the tape was manufactured in 2006 on the 212th day of the year (July 31, 2006).

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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.

3M

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