3M VHB Tape
4930

Product Description

3M VHB Tapes provide the convenience and simplicity of a tape fastener and are ideal for use in many interior and exterior bonding applications. In many situations, they can replace rivets, spot welds, liquid adhesives and other permanent fasteners. These 3M VHB Tapes are made with acrylic foam which is viscoelastic in nature. This gives the foam energy absorbing and stress relaxing properties which provides these tapes with their unique characteristics. The acrylic chemistry provides outstanding durability performance.
These tapes utilize a variety of specific foam, adhesive, color and release liner types to provide each product/family with specific features. These features can include adhesion to specific or a broad range of materials, conformability, high tensile strength, high shear and peel adhesion, resistance to plasticizer migration, and UL746C recognition. All 3M VHB Tapes have excellent durability and excellent solvent and moisture resistance. The tapes included in this data page have unique performance features that are not typically required in most common applications. Please refer to “3M VHB Tapes” technical data sheet for applications that do not require the special features incorporated in these

specialty tapes. **Typical properties**

Adhesive Type	Acrylic
Application	Bonding Glass to a Metal Clothes Washer Door, Bonding Glass to a Metal Oven Door, Bonding Header Panel, Vehicle Signage Frame Attachment, Vibration resistant, Wall & Door Panel Attachment, Washing Machine Touch Panel Bonding, Bonding Luggage Compartment Doors, Bonding Muntin Bars to Glass, Bonding Panels to Metal Frames, Bonding a logo to a Refrigerator, Bonding a logo to an Oven, Commercial Vehicle Roof Vent Attachment, Decorative Appliance Trim Attachment, Impact Resistance, Interior Rail Car Construction, Kickplates, Logo Bonding on TV, Metal Bonding, Mounting & Trim Attachment, Nameplate Attachment on Commercial Vehicles, Panel to Frame/Stiffner to Panel Assembly, Panel & Trim Bonding, Panels to Frame, Rail Car Bonding Metal Stiffeners, Rail Car Light Cover Attachment, Steel Fan Bracket Bonding, Stiffener Attachment, TV Stand Decorative Trim Attachment, Alternatives to Rivetting or Welding, Aluminum Floor Bonding, Bonding Door Kick & Seal Plate

Brands	VHB
Core Size (Imperial)	3 in
Foam Type	Firm
Indoor/Outdoor	Indoor/Outdoor
Industries	Appliance, Signage, General Industrial, Metalworking
Liner Material	Densified Kraft Paper
Maximum Operating Temperature (Celsius)	149 ℃
Maximum Operating Temperature (Fahrenheit)	200 ℉
Product Color	White
Smallest Saleable Unit	Roll

Dimensions and Classifications

Overall Length (Imperial)	3.28 yd, 5.14 yd, 6.01 yd, 7.21yd, 36.09 yd maximum.
Overall Length (Metric)	3m, 4.7m, 5.5 m, 6.6 m, 33m maximum.
Overall Width (Imperial)	0.19in, 0.23in, 0.39in, 0.78in, 1.18in, 2.36in, 3.93in, 7.87in, 11.8in, 23.6in maximum.
Overall Width (Metric)	5mm, 6mm, 10mm, 20mm, 30mm, 60mm, 100mm, 200mm,300mm, 600mm maximum.

Handling/Application Information

Surface Preparation

Clean: Most substrates should be cleaned with a 70/30 mixture of (IPA*)/Water prior to applying 3M™ VHB™ Tape.

Exceptions that may require additional surface preparation include:

• Heavy Oils: A degreaser or solvent-based cleaner may be required to remove heavy oil or grease from a surface and should be followed by cleaning with IPA/water.

• Abrasion: Abrading a surface, followed by cleaning with IPA/water, can remove heavy dirt or oxidation and can increase surface area to improve adhesion.

• Adhesion Promoters: Priming a surface can significantly improve initial and ultimate adhesion to many materials such as plastics and paints.

• Porous surfaces: Most porous and fibered materials such as wood, particleboard, concrete, etc. need to be sealed to provide a unified surface.

• Unique Materials: Special surface preparation may be needed for glass and glass-like materials, copper and copper containing metals, and plastics or rubber that contain components that migrate (e.g. plasticizers).

Application Techniques

Initial and Final Pressure Application:

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. Typically, good surface contact can be attained by applying enough pressure to ensure that the tape experiences approximately 100 kPa (15 psi) of pressure. Either roller or platen pressure can be used. When bonding two rigid parts, additional final pressure is often required to ensure that the bond line experiences 100 kPa (15 psi).

Tape Application Temperature:

The ideal tape application temperature range for 3M™ VHB™ Tapes is generally 21°C to 38°C (70°F to 100°F). Pressure sensitive adhesives use viscous flow to achieve substrate contact area. The minimum suggested application temperature for most 3M™ VHB™ Tapes is 10°C to 15°C (50°F to 60°F)

*Note: Initial tape application to surfaces at temperatures below these suggested minimums is not suggested because the adhesive becomes too firm to adhere readily. Ideally, all substrates and tape should be conditioned above the minimum application temperature in covered, weatherproof conditions until it is verified the substrates are at or above the minimum temperature. Once properly applied, low temperature holding is generally satisfactory.

Bond Build Rate:

After application, the bond strength will gradually increase as the adhesive flows onto to the surface (also referred to as “wet out”). The bond build rate will depend on both tape and substrate, but generally, at room temperature, approximately 50% of ultimate bond strength will be achieved after 20 minutes, 90% after 24 hours, and 100% after 72 hours. Adhesive flow is faster at higher temperatures and slower at lower temperatures. Ultimate bond strength can be accelerated (and in some cases bond strength can be increased) by exposure to elevated temperature (e.g. 66°C [150°F] for 1 hour). This can provide better adhesive wet out onto the substrates. Abrasion (~180 grit), or the use of primers/adhesion promoters can also increase both bond strength as well as the bond build rate.