Product Description

3M VHB Tape 4950 is a 0.045 inch (1.1 mm) thick white double-sided acrylic foam tape with paper liner. The general purpose acrylic adhesive on both sides bonds to a broad range of high surface energy substrates including metals, glass and easier to bond paints and plastics. 3M™ VHB™ Tape 4950 is part of the 4950 tape family. Each product in this family has general purpose acrylic adhesive and firm foam but varies in thickness, color and liner type.

Typical properties

Adhesive Type	Acrylic
Application	Trim & Molding Attachment, Exterior Side Panel Sealing, Wall & Door Panel Attachment, Sealing, Bonding Glass to a Metal Oven Door, Roof Panel Bonding on Truck Cabs
Brands	VHB
Core Size (Imperial)	3 in
Foam Type	Firm
Indoor/Outdoor	Indoor/Outdoor
Industries	General Industrial, Appliance, Construction, Signage, Metalworking, Transportation
Liner Material	Densified Kraft Paper
Maximum Operating Temperature (Celsius)	149 ℃
Maximum Operating Temperature (Fahrenheit)	200 ℉
Product Color	White
Smallest Saleable Unit	Roll, Sheet

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.