

3M Industrial Adhesives & Tapes

# 3M™ VHB™ permanent assembly tapes



Proven alternatives to screws, rivets and welds



A vertical mechanical testing apparatus is shown. At the top, a metal hook is suspended from a wooden block. Below the hook, a transparent, tape-like fastener is attached. The fastener consists of a vertical strip with a rectangular notch in the middle. At the bottom of the fastener, a metal hook is attached, which is suspended from a metal rod. The metal rod is inserted into a cylindrical metal component. The background is dark and out of focus, showing a grid-like pattern.

Can tape *really* replace mechanical fasteners?

Yes. Acrylic foam tape is a specialty bonding tape that is a proven high-strength alternative to screws, rivets, welds and other forms of mechanical fasteners. While a screw or a rivet can join two substrates at a single point, specialty bonding tape permanently adheres one substrate to another and spreads the stress load across the entire length of the joint. Once substrates are joined with high-strength bonding tape, a virtually indestructible “weld” is created.



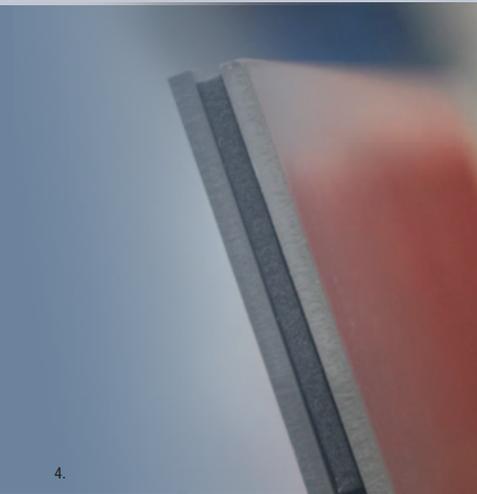
# 3M™ VHB™ Tapes offer Unlimited design and application possibilities

Skyscrapers, cell phones, electronic highway signs, refrigerators, marine electronics, architectural windows, recreational vehicles and trailers... all of these rely on specialty bonding tape for one or more steps in the assembly, mounting, fastening and sealing process. The inherent properties of bonding tapes make this wide array of applications possible.

## Benefits and performance mechanical fasteners can't match.

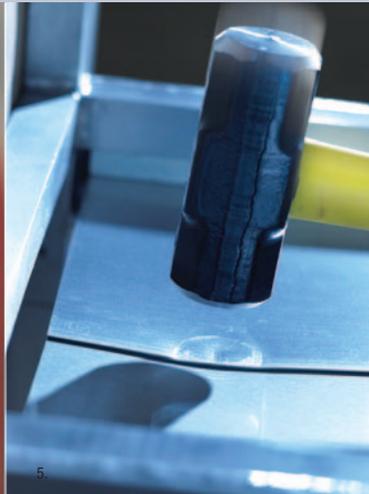
Acrylic foam tape is comprised of closed cell foam with pressure sensitive adhesive on two sides. This unique combination offers benefits that screws, rivets, welds and other types of mechanical fasteners just can't match:

### Instant bonding



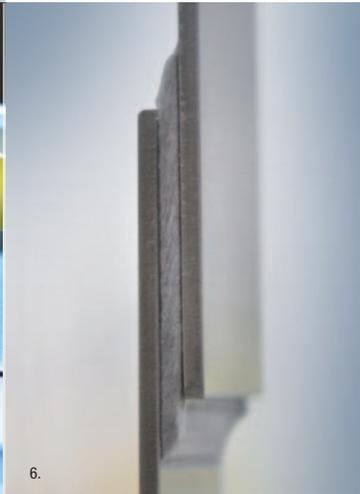
Pressure sensitive acrylic foam bonds two substrates together on contact with no drying time.

### Shock absorption



The acrylic closed cell foam has properties that absorb shock and impact. A variety of thicknesses are available.

### Stress distribution



The continuous bond distributes stress over the entire length of the joined surfaces.

### Expansion and contraction



Acrylic closed cell foam remains flexible to accommodate material expansion and contraction caused by temperature extremes. What's more, specialty bonding tape also allows for differing expansion and contraction rates of dissimilar substrates, such as plastic bonded to metal.

Contact us on **0870 60 800 50** for further details and where to buy.

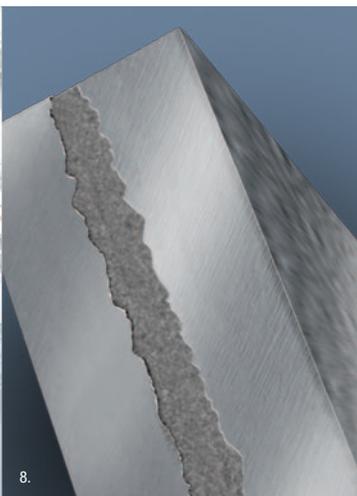
# ibilities.

## Waterproofing



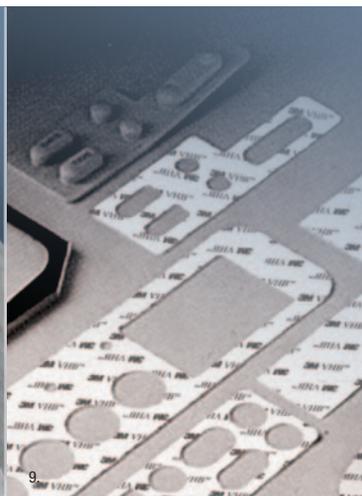
Bonding tape creates a permanent seal against environmental elements.

## Conformability



Specialty bonding tape is flexible and conforms to irregularities of rigid substrates, even when there might be a slight mismatch, while maintaining high internal strength.

## Design flexibility



Precision die-cutting to fit any shape, size or profile maximizes design flexibility while helping to minimize assembly time.

## Smooth, invisible appearance



Virtually invisible fastening helps keep surfaces smooth and clean. No unsightly rivet heads, weld marks and screw heads will be seen.

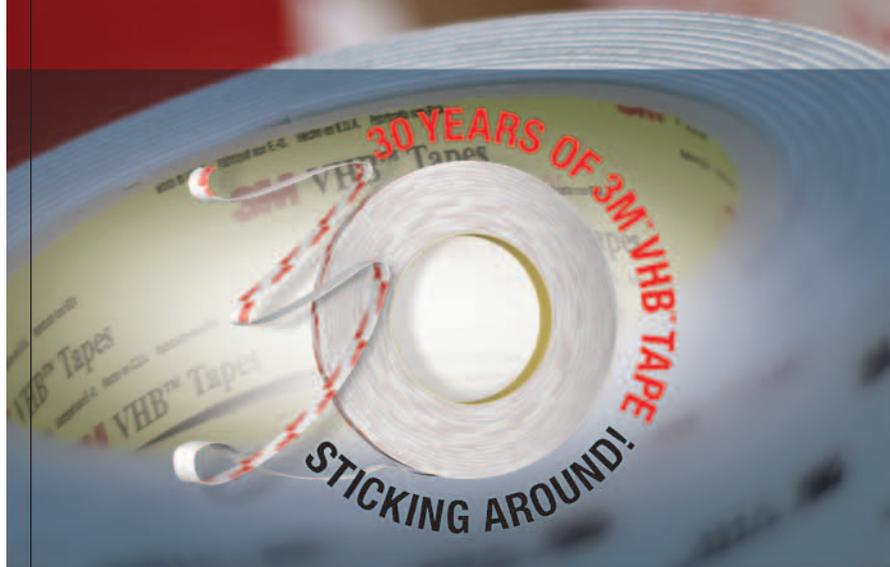
## **Improved productivity**



Using bonding tape can help eliminate drilling, grinding, refinishing, screwing, welding and clean-up.

## 3M brings long-term, proven performance to the table.

Specialty bonding tapes were invented by 3M more than 30 years ago. Since then their remarkably high holding power in static and dynamic loads has made 3M bonding tapes a worldwide fastener of choice for an amazing variety of industries. With every new application, bonding tape offers proven strength, reliability, durability and quality that outperforms many other fastening and assembly methods. 3M bonding tapes have improved products and processes in many applications and 3M is constantly developing new solutions to meet customers' growing and changing needs.



# Choose

the type of specialty  
bonding tape that's  
**right** for you.



## **3M™ VHB™ Tape RP Family**

(RP25, RP45, RP62)

All acrylic construction gives 3M™ VHB™ RP extraordinary strength, conformability and versatility. The composition of 3M™ VHB™ RP resists UV and weather damage, making it a great solution for outdoor applications. 3M™ VHB™ RP bonds to a wide variety of surfaces, including:

- Glass
  - Metal
  - Some plastics
  - Composites
  - Sealed wood
- 

## 3M™ VHB™ Tape 5952 Family

(5925, 5952, 5962, 5958FR)



11.

For all occasions.

3M™ VHB™ 5952 permanent assembly tape combines the most conformable acrylic foam with modified acrylic adhesive. The result is a tape that adheres to the broadest range of substrates. 3M™ VHB™ 5952 performs great on:

- Glass
- Metal
- Several medium surface-energy plastics such as rigid PVC, acrylic, polycarbonate, ABS and polystyrene
- Most powder-coated paints
- Painted/sealed wood and concrete
- Fire-retardant applications (Passes FAR 25.853 (a) 12 second Vertical Burn Appendix F, Part 1 (a) (ii)). 5958FR only.

## 3M™ VHB™ Tape 4941 Family

(4926, 4936, 4936F, 4919F, 4941, 4941F, 4947F, 4956, 4956F, 4991)



12.

Go to product.

All acrylic adhesive and conformable acrylic foam have made 3M™ VHB™ 4941 a proven performer in harsh environments, as well as a top performer for:

- Glass
- Many medium surface-energy plastics such as rigid PVC, many plasticized vinyls, acrylic and polycarbonate
- Outdoor and harsh environmental applications
- Painted/sealed porous surfaces such as wood and concrete

## 3M™ VHB™ Tape 4611 Family

(4646, 4611, 4655, 4613)



A firm acrylic adhesive allows this 3M™ VHB™ 4611 to deliver a high strength bond between metal parts. The composition of the 3M™ VHB™ 4611 family allows the tape to resist extremely high temperatures making it ideal for use on jobs that go through a powdercoating process.

Selecting the right 3M™ VHB™ Tape for your application is easy.

**Factors to consider when choosing a 3M™ VHB™ tape:**

1. What are you bonding together?
2. What performance demands are there?
3. What kind of environmental conditions will the finished product be subject to?

You can discuss these and other important questions with one of our industrial representatives by calling 0870 60 800 50.

Upon request our technical support services can customize a substrate/product usage test to ensure the best 3M™ VHB™ tape is selected for your product.

For more information about 3M™ VHB™ Tapes visit [3M.co.uk/VHB](http://3M.co.uk/VHB) or visit our YouTube channel at [www.YouTube.com/3MIndAdhesives](http://www.YouTube.com/3MIndAdhesives) and choose the 3M™ VHB™ Tapes Playlist.

3M™ VHB™ Industrial Adhesives and Tapes	Products									
	Product code	Thickness (mm)	Colour	Certifications*	Temperature Resistance °C		Solvent Resistance	Peel Strength (N/cm)	Relative Adhesion	
					Long term (days, weeks)	Short term (minutes, hours)			High Surface Energy	Low Surface Energy
<b>VHB LEADER VERY CONFORMABLE</b>										
The conformability of the VHB Leaders allows a more complete bond contact area when bonding rigid or irregular materials. These products offer excellent adhesion to the broadest range of substrates. The modified acrylic adhesive is especially developed for powder coated paints. In many applications, the use of a primer is not necessary with this family of tapes.	5925	0,6	●	UL746C	+120	+120	high	30	high	high
	5930	0,8	●	UL746C	+120	+150	high	31	high	high
	5962	1,5	●	UL746C	+150	+150	high	35	high	high
<b>VHB LEADER CONFORMABLE</b>										
The conformability of the VHB Leaders allows a more complete bond contact area when bonding rigid or irregular materials. These products offer excellent adhesion to a broad range of substrates, including plasticized vinyl.	4926	0,4	●	UL746C	+93	+150	high	21	high	medium
	4936	0,6	●	UL746C	+93	+150	high	30	high	medium
	4941	1,1	●	UL746C	+93	+150	high	35	high	medium
	4956	1,5	●	UL746C	+93	+150	high	35	high	medium
	4991	2,3	●	UL746C	+93	+120	high	35	high	medium
	4919	0,6	●	UL746C	+93	+150	high	30	high	medium
	4947	1,1	●	UL746C	+93	+150	high	35	high	medium
<b>VHB TAPES FOR SPECIAL APPLICATIONS</b>										
<b>VHB Flame retardant:</b> Black. Closed-cell acrylic foam carrier. Highly conformable. Excellent adhesion to painted and powder-coated surfaces. Flame retardant.	5958FR	1,0	●	FAR 25.853	+93	+149	high	44	high	high
<b>VHB for high temperatures:</b> Dark grey. Closed-cell acrylic foam carrier. Resistant to high temperatures and powder-coating cycles.	4646	0,6	●	UL746C	+150	+232	high	20	high	low
	4611	1,1	●	UL746C	+150	+232	high	20	high	low
	4655	1,5	●	UL746C	+150	+232	high	20	high	low
White. Closed-cell acrylic foam carrier. Resistant to high temperatures and powder-coating cycles.	4613	1,1	○		+90	+150	high	32	high	low
<b>VHB for low temperatures:</b> Grey. Closed-cell acrylic foam carrier. Conformable. Can be applied at low temperatures (0°C)	4943	1,1	●		+90	+150	high	44	high	medium
	4957	1,5	●		+90	+150	high	44	high	medium
<b>VHB Clear:</b> Transparent. Solid acrylic adhesive. Ideal for bonding transparent materials such as glass, polycarbonate and plastics.	4905	0,5	●	UL746C	+93	+150	high	21	high	low
	4910	1	●	UL746C	+93	+150	high	26	high	low
	4915	1,5	●		+93	+150	high	26	high	low
	4918	2	●		+93	+150	high	26	high	low
<b>VHB for low energy surfaces:</b> White. Closed-cell acrylic foam carrier. Good adhesion to polyethylene and polypropylene.	4932	0,6	○		+71	+93	high	35	high	high
	4952	1,1	○		+71	+93	high	44	high	high
<b>VHB for high energy surfaces:</b> White. Closed-cell acrylic foam carrier. Rigid. Excellent shear performance.	4920	0,4	○	UL746C	+90	+150	high	26	high	low
	4930	0,6	○	UL746C	+93	+150	high	35	high	low
	4950	1,1	○	UL746C	+95	+150	high	44	high	low
	4912	2	○		+150	+200	high	30	high	medium
	4945	1,1	○	UL746C	+95	+150	high	44	high	medium
	4942	0,8	○		+90	+200	high	27	high	medium
<b>VHB RP. Right Performance, Right Product, Right Price</b> Close-cell acrylic foam carrier. Conformable	RP25	0,6	●		+93	+120	high	26	high	low
	RP45	1,1	●		+93	+120	high	28	high	low
	RP62	1,6	●		+93	+120	high	31	high	low

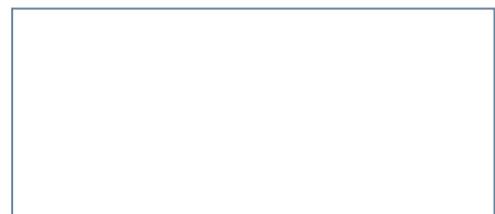
\* A current list of UL certified VHB Tapes can be found at [www.ul.com](http://www.ul.com) (select certifications, search file MH17478)

**IMPORTANT NOTICE:** The information contained in this brochure is based on tests and data which 3M believes to be reliable, but the accuracy or completeness of such statements and information is not guaranteed. The user is responsible for determining whether a specific 3M VHB tape is suitable for the purpose intended and for the user's method of application. All questions of liability relating to 3M VHB tapes are governed by our terms of sale subject, where applicable to prevailing law.



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