



VHB™

4932 Acrylic Foam Tape

Product Data Sheet

Updated : March 1996
Supersedes : November 1993

Product Description

VHB Joining Systems utilise firm acrylic adhesives which have excellent long term holding power. The peel adhesion and tensile holding power

of products in the VHB family are significantly higher than typical pressure sensitive tape products.

Resistance to solvents, temperature extremes, and U. V. Light make VHB products suitable for many interior and exterior applications.

Physical Properties

Not for specification purposes

Thickness (ASTM D-3652) Tape Liner Total	0.64 mm 0.08 mm 0.72 mm	
Foam Density	800 kg/m ³	
Release Liner	Printed Paper	
Tape Colour	White	
Shelf Life	24 months from date of despatch by 3M when stored in the original carton at 21°C (70°F) & 50 % Relative Humidity	

Performance Characteristics

Not for specification purposes

Peel Adhesion to Stainless Steel 90° peel @ room temp, 72 hr dwell, jaw speed 300mm/min	35 N/10mm	
Static Shear Strength weight held for 10,000 mins to stainless steel with ½ sq in (3.23 sq cm) overlap	1500 g @ 22°C 500 g @ 66°C	
Normal Tensile (T-Block) to Aluminium at room temp, 6.45 sq cm, jaw speed 50 mm/min	690 kPa	
Solvent Resistance	No apparent degradation when exposed to splash testing of most solvents including gasoline, JP-4 jet fuel, mineral spirits, motor oil, ammonia cleaner, acetone, methyl ethyl ketone. 20 seconds air dry.	
UV Light Resistance	Excellent	

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Additional Product Information

Bond strength is dependent upon the amount of adhesive-to-surface contact developed. Firm application pressure develops better adhesive contact and thus improving bond strength.

To obtain optimum adhesion, the bonding surfaces must be clean, dry and well unified. Typical surface cleaning solvents are isopropyl alcohol/water mixture (rubbing alcohol) or heptane. Use proper safety precautions for handling solvents.

It may be necessary to seal or prime some substrates prior to bonding.

a. Most porous or fibred materials (e.g. wood) will require sealing to provide a unified surface.

b. Some materials (e.g. copper, brass, plasticised vinyl) will require priming or coating to prevent interaction between adhesive and substrates.

Ideal tape application temperature range is 20 to 38°C. Initial tape application to surfaces at temperatures below 15°C is not recommended because the adhesive becomes too firm to adhere readily. However, once properly applied, low temperature holding is generally satisfactory.

In some cases bond strength can be increased and ultimate bond strength can be achieved more quickly by exposure of the bond to elevated temperatures (e.g. 65°C) for one hour. This provides better adhesive wetout on to the substrates.

CAUTION

The following situations must be evaluated thoroughly to determine whether VHB products are suitable for the intended use.

Applications of 4912 which require performance at severe cold temperatures must be thoroughly evaluated, if the expected use will subject the VHB Joining System fastener to high impact stresses. For cold temperature applications from 0 to 15°C use 4951 (see VHB Special Feature products data sheet).

Applications

4932 and 4952 have a specially formulated adhesive for attachment to low surface energy substrates e.g. Polyethylene and polypropylene.

As with all VHB Tape systems thorough evaluation should take place prior to final adhesive selection.

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Values presented have been determined by standard test methods and are average values not to be used for specification purposes. Our recommendations on the use of our products are based on tests believed to be reliable but we would ask that you conduct your own tests to determine their suitability for your applications. This is because 3M cannot accept any responsibility or liability direct or consequential for loss or damage caused as a result of our recommendations.



Specialty Tapes & Adhesives

3M United Kingdom PLC
3M House,
28 Great Jackson Street,
Manchester,
M15 4PA

Customer Service :
Tel 0161 236 8500
Fax 0161 237 1105

3M Ireland
3M House, Adelphi Centre,
Upper Georges Street,
Dun Laoghaire, Co. Dublin,
Ireland

Customer Service :
Tel (01) 280 3555
Fax (01) 280 3509

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