



VHB™ Conformable Acrylic Foam Tape 4941

Product Data Sheet

Updated : Sept. 2002
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Product Description

4941 is a conformable, very high bond acrylic foam tape which has added performance for bonding to plasticised vinyl due to a specially formulated adhesive which resists plasticiser migration. In addition this core adhesive composition makes the product well suited to many paints and primers.

Its improved conformability also allows more complete bond contact area when bonding rigid or irregular materials. The product has somewhat lower peel, tensile and shear performance than other VHB tape products due to its inherent softness. 4941's principal advantages are that it provides a more

uniform seal on irregular surfaces, and in visible bonds under a transparent surface it offers a more aesthetically pleasing bond. 4941 is suitable for many interior and exterior industrial applications.

Physical Properties

Not for specification purposes

Adhesive Type	Acrylic
Foam Density	720 kg/m ³
Thickness (ASTM D-3652) Tape Liner Total	1.10mm ± 15 % 0.10 mm 1.20 mm
Adhesive Carrier	Acrylic Foam (Closed Cell)
Release Liner	Printed Paper White printed Red 3M VHB™
Tape Colour	Dark Grey
Shelf Life	24 months from date of despatch by 3M when stored in the original carton at 20°C & 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	350 N/100mm	
Static Shear Strength weight held for 10,000 mins to stainless steel with ½ sq in (3.23 sq cm) overlap	1000g @ 22°C 500g @ 70°C	
Temperature Performance Max (minutes/hours) Max Continuous (days/weeks)	150 °C 90 °C	

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Performance Characteristics (Cont...)
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Normal Tensile (T-Block)

to Aluminium at room temp,
 6.45 sq cm, jaw speed 50 mm/min

585 kPa

Application Techniques

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

2. To obtain optimum adhesion, the bonding

surfaces must be clean dry and well unified. A typical surface cleaning solvent is isopropyl alcohol & water. Use proper safety precautions for handling solvents.

3. Ideal tape application temperature range is 20°C to 40°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.

NOTE* Some paint systems and plastics contain additives which can influence adhesion. Adhesion to these surfaces should be evaluated carefully; the effects of these additives can often be overcome by proper cleaning and surface preparation. High humidity/high temperature environments can also affect adhesion to glass due to the hydrophilicity of glass. Under these environments a silane coupling agent (adhesion promoter) has been found to enhance the durability and strength of the bond.

Applications

This product has been found to be particularly suitable for bonding wooden (primed), aluminium (anodised) and PVC Georgian glazing bars (muntin bars) to glazing units. The plasticiser resistant adhesive also allows for successful bonding of flexible PVC Glazing bars.

The conformable nature of the acrylic foam core allows for good 'wetting out' of the adhesive to the glass surface thus providing good adhesive to surface contact. Also, good contact eliminates unsightly air bubbles. Primers might be appropriate when bonding such systems.

VHB 4941 tape has also been found excellent when bonding to relatively irregular surfaces such as grained wood. (Care must be taken to provide a good unified surface through priming.)

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Tapes & Adhesives

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