



3M Sign Makers Assembly Acrylic Foam Tape

Product Data Sheet

Date: September 2005

Supersedes: New

Product Description

3M Sign Makers Assembly Acrylic Foam Tape utilises an acrylic based polymer that exhibits excellent long term holding power. The peel adhesion and tensile holding performance of Sign Makers Assembly tape is significantly higher than typical pressure sensitive tape products. Resistance to solvents, temperature extremes, and UV. light make Sign Makers Assembly Tape suitable for many interior and exterior applications.

Physical Properties Not for specification purposes	Adhesive Type	Synthetic Acrylic
	Thickness (ASTM D-3652)	1.2mm ± 0.1mm
	Foam Density	650 kg/m ³
	Adhesive Carrier	Acrylic Foam (Closed Cell)
	Release Liner	White filmic
	Tape Colour	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	32N/10mm
	Static Shear Strength Weight held for 100 hours to stainless steel with ½ sq in (3.23 sq cm) overlap	1000 g @ 20°C 500 g @ 70°C
	Temperature Performance Max (minutes/hours) Max Continuous (days/weeks)	70°C 100°C
	Solvent Resistance	Good
	UV Light Resistance	Excellent

3M Sign Makers Assembly Tape has been developed especially for substrates commonly encountered within the signage market.

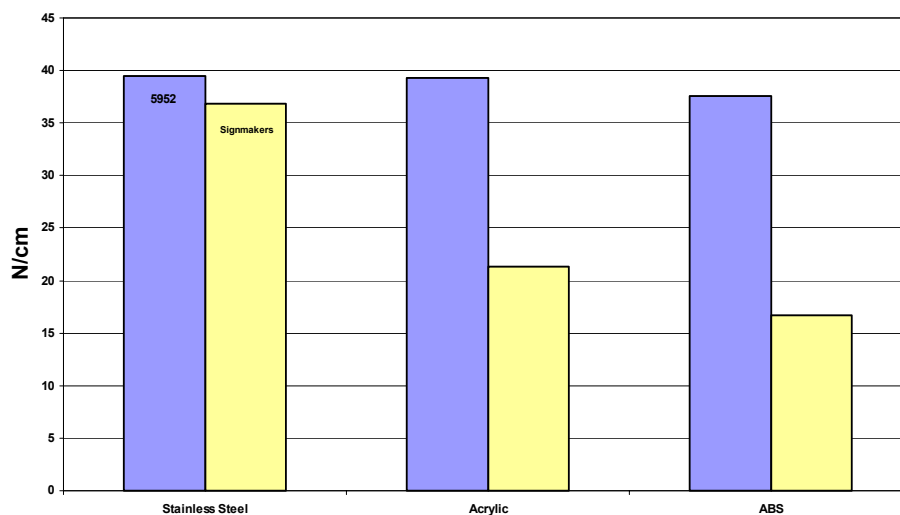
The tape gives a high level of performance on a variety of substrates and exhibits very good durability in terms of ageing and environmental resistance.

For the bonding of difficult or uncommon substrates the following table shows the positioning of Sign Makers Assembly tape in comparison to the well-known 3M VHB™ Range.

	Pre-Powder Coating	Powder Coated Surfaces	High Surface Energy	Low Temperature Bonding	Low Surface Energy (LSE)	Plasticised PVC
5952 VHB		●	●		○	○
4941 VHB		○	●		○	●
4910 VHB			●			
4943 VHB		○	●	●		
4611VHB	●		●			●
Signmakers			●			●
4947 VHB			●			
4951 VHB			●	●		
4950 VHB			●			
4952 VHB					●	

● - First Choice ○ - Second choice

The graph below shows the comparative performance between 3M 5952 VHB™ Tape and 3M Sign Makers Assembly Tape onto a range of substrates.



It can be seen that on high surface energy substrates, the performance between 3M 5952 and Sign Makers Tape is similar. However, on lower surface energy products, the 5952 exhibits greater adhesion and is hence more suited for demanding applications

Application Product Information

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

- i) Most porous or fibred materials (e.g. wood) will require sealing to provide a unified surface.
- ii) Some materials (e.g. copper, brass etc) may require priming or coating to prevent interaction between adhesive and substrates.

Ideal tape application temperature range is 20 to 40°C. Initial tape application to surfaces at temperatures below 10°C is not recommended because the adhesive becomes too firm to adhere readily. However, once properly applied, low temperature holding is generally very good. Where low temperature application is required then 3M 4943 and 4951 VHB™ tapes should be considered as they are suitable for application at 0°C.

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 wet-out on to the substrates.

Applications that require performance at severe cold temperatures must be thoroughly evaluated, especially if the expected use will subject the bond-line to high impact stresses.

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.



Industrial Adhesives & Tapes Division

© 3M United Kingdom PLC 2000

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

Product Information :
Tel 0870 60 800 50
Fax 0870 60 700 99

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

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