



VHB™

4980F Traffic Sign Grade Acrylic Foam Tape

Product Data Sheet

Updated : March 1996
Supersedes : November 1993

Product Description

4980F tape is a double-sided acrylic foam tape intended for the attachment of stiffening channel to the rear face of traffic signs, to provide both rigidity and mounting points for standard fixing clips.

It exhibits good adhesion to approved paint finishes, as well as bare metals and tested grades of rigid plastics. Low surface energy materials such as polypropylene should be avoided on either side of the bond.

4980F tape is supplied in combination with VHB 'Traffic Sign Grade' Adhesion Promoter for rapid bond build up, and increased impact performance.

BS873 Road Traffic Signs

Traffic signs constructed from approved materials and bonded with VHB 4980F tape have been tested to BS873 parts 7, 8, and 9, and passed.

Physical Properties

Not for specification purposes

Adhesive Type	Firm Acrylic	3M ref :
Thickness (ASTM D-3652) Tape Liner Total	1.10 mm ± 10 % 0.05 mm 1.15 mm	
Release Liner	Red Film	
Foam Density	800 kg/m ²	
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	60 N/10mm 60 N/10mm 44 N/10mm	Approved paint finish with abrasion. Chromated aluminium. Acrylic rigid sheeting.
Overlap Shear Strength 25mm x 250mm overlap; 2.5mm/min jaw speed; 72 hour dwell.	1000 N 1000 N	Mill finish aluminium. Approved paint finish (abraded).
Temperature Performance Max (minutes/hours) Max Continuous (days/weeks)	150 °C 93 °C	

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Additional Product Information

When applying to an approved painted surface, it is important that correct procedure be followed. This procedure is described in "Rivetless Traffic Sign Manufacture - VHB Adhesive Tape Systems", available from 3M S.T.A. Technical Service, as is the current listing of approved paint finishes. It is strongly advised that 3M S.T.A. Technical Service is contacted prior to attempting an application for the first time.

4980F tape will bond successfully at temperatures in the range 18-38°C; bonds can be made at 10°C, but bond development will be slightly slower at this low temperature. Both the tape and the sign components to be bonded must have been conditioned at or above 10°C for 12 hours before making the bond.

Optimum adhesion can only be gained when the bonding surfaces are clean, dry and well-unified. 3M supplies a range of VHB preparation products to remove rust, oil, grease, dust and dirt from the bonding surfaces prior to taping and assembly (proper safety precautions should be used when handling solvents).

Bond strength is dependent upon the amount of adhesive-to-surface contact development. Firm application pressure develops better adhesive contact and thus improves bond strength. The use of Adhesion Promoter VHB 'Traffic Sign Grade' with 4980F tape increases the rate of bond build up and gives high immediate impact strength.

The forces acting along a bond line are various and complex; for traffic signing these include shear force loading of the sign face on stiffener rails; tensile forces caused by horizontal wind loads; peel forces caused by attempted vandalism; extremes of temperature; rain, snow and frost; and roadside and atmospheric pollutants. Each customer should make his own assessment as to the likely usage his product will encounter - 3M offers as a "rule of thumb" the following estimate of long-term shear loading performance that can be expected from a well-made joint using 4980F adhesive tape:

1 kilogram load per 60cm² tape.

A safety factor should be included to cover any risk from insufficient cleaning, inadequate application pressure or possible lack of contact due to mismatch.

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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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