



8671 HS Polyurethane Protective Tape

Product Data Sheet

Updated : November 1995
Supersedes : February 1994

Product Description

8671 HS is made of an exceptionally tough abrasion and erosion resistant polyurethane formulated especially for its excellent resistance to ultraviolet light. There is little or no discolouration after prolonged periods of environmental exposure.

The high shear strength (HS) capability of this product was formulated to give better erosion resistance and better

performance at high temperatures (such as those caused by aerodynamic heating), while providing better peel strength and shock resistance at very low temperatures.

8671HS comes pre-coated with a long-ageing, solvent resistant, pressure sensitive acrylic adhesive and is protected with an easy-release liner.

8671HS can be applied by normal "wet" application techniques which allow ready sliding and repositionability, or by dry application techniques where complex curves need to be coated while allowing some repositionability. The product is easy to apply and stretches to conform to difficult contours where this is desired. For especially high adhesion the surface to be coated can be primed with 3M Adhesion Promoter 86.

Physical Properties

Not for specification purposes

Adhesive Type	Acrylic	
Backing	Polyurethane	
Liner	Polyethylene 1" Skip Slit	
Total Thickness (ASTM D-3652)	0.36mm ± 0.035mm	
Density	1057 kg/m ³	
Tape Colour	Transparent	
Shelf Life	12 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

Adhesion ASTM D1000 24 h dwell @ RT 12"/minute.	Glass 8.1 N/10mm Aluminium 7.6 N/10mm	Acrylic Enamel 5.2 N/10mm ABS Plastic 6.0 N/10mm
Tensile Strength ASTM D-3759	140 N/10mm	
Elongation at Break ASTM D-3759	500 %	
Tear Strength ASTM 1938	1.6 kg	

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Performance Characteristics (Cont..)
Not for specification purposes

Taber Abrasion ASTM C501 H18, 1kg, 1000 cycle.	Weight Loss 0.10g	
Hardness, Shore A ASTM D2240	85	
Dielectric Strength ASTM D1000	16029 Volts	
Temperature Range Maximum Service	160 °C	
Low Temperature Flexibility	¼" Mandrel Bend, Passes No cracking after 24 hour at -51°C.	
Dimensional Stability (% shrinkage after 30 minutes @ 120°C)	1% or less.	
	Florida 12 months at 5° South - Negligible Discolouration, Little or no gloss loss.	Arizona 12 months at 45° South - Negligible Discolouration, Little or no gloss loss.
Solvent Resistance 24 hour immersion of coated bonderised steel.	Car Engine Oil Distilled Water 4 Star Petrol Unleaded petrol Unleaded +10% EtOH Diesel Fuel JP4 Jet Fuel JP5 Jet Fuel Hydraulic Fluid	Little or no effect. Little or no effect. Slight edge lift. Slight edge lift. Slight edge lift. Slight edge lift. Slight edge lift. Slight edge lift. Little or no effect.

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 21°C to 38°C (70°F to 100°F).

Initial tape application to surfaces at temperatures below 10°C (50°F) is not recommended because the adhesive becomes too firm to adhere readily. However once properly applied low temperature holding is generally satisfactory.

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Applications

This tape is used in military, commercial, business and private aviation as lead edge" protection against particle and rain erosion.

8671HS can easily be die-cut to exacting shapes and is paintable, printable and thermoformable. Care should be taken when handling die-cut shapes to prevent them from sticking together ("face to face").

It is recommended that they be stacked with liner side to film side of adjacent pieces.

Additional Product Information

Polyurethane Protective Tapes are a fast and exact way to provide exceptionally tough surface protection on metals, woods and plastics.

They are made from a highly durable thermoplastic elastomer and pre-coated with either a natural rubber or high performance acrylic adhesive.

They conform well to curvatures, can be pre-cut into convenient shapes and can even be painted or printed over without priming.

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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

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