



8561 Indoor Grade Polyurethane Protective Tape

Product Data Sheet

Updated : March 1996
Supersedes : November 1995

Product Description

8561 is made of exceptionally tough, abrasion resistant polyurethane designed primarily for indoor industrial type applications.

8561 is pre-coated with acrylic adhesive for long term applications.

Physical Properties

Not for specification purposes

| | | |
|---|---|-----------------|
| Adhesive Type | Acrylic | 3M ref : |
| Liner | Paper | |
| Thickness (ASTM D-3652) Overall | 0.36 mm | |
| Tape Colour | Glossy Transparent | |
| Tolerance | ±0.035 mm | |
| Density | 1090 kg/m ³ | |
| 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-hour dwell at room temp; 180° peel at 12"/minute | Glass 4.5 N/10mm | Aluminium 4.5 N/10mm |
| | Acrylic Enamel 3.4 N/10mm | ABS Plastic 4.2 N/10mm |

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**Performance
 Characteristics Cont...**
 Not for specification purposes

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|--|---|--|----------|-----------------|-------------------|--------------------|--------------|----------------|----------------|----------------------------|----------------------------------|--|
| Tensile Strength ASTM-D882 2" jaw separation and 6in/mm crosshead rate | 1313 N/100mm | | | | | | | | | | | |
| Elongation at Break ASTM-D882 2" jaw separation and 6in/mm crosshead rate | 400 % | | | | | | | | | | | |
| Tear Strength ASTM-1938 | 3.1 kg | | | | | | | | | | | |
| Taber Abrasion ASTM-C501 H18, 1 Kg 1000 cycle | Wt, loss 0.10 g. | | | | | | | | | | | |
| Hardness Shore A ASTM-D2240 | 85 | | | | | | | | | | | |
| Dielectric Strength ASTM-D1000 | 12,500 Volts | | | | | | | | | | | |
| Solvent Resistance | <p>There is little or no effect after 24 hours immersion in the following solvents when applied to bonderised steel unless otherwise stated (* Slight edge lifting)</p> <table> <tr> <td>Auto Oil</td> <td>Distilled Water</td> </tr> <tr> <td>Regular Gasoline*</td> <td>Unleaded Gasoline*</td> </tr> <tr> <td>Diesel Fuel*</td> <td>JP-4 Jet Fuel*</td> </tr> <tr> <td>JP-5 Jet Fuel*</td> <td>Mil 5606-D Hydraulic Fluid</td> </tr> <tr> <td>Unleaded Gas with w/10% ethanol*</td> <td></td> </tr> </table> | | Auto Oil | Distilled Water | Regular Gasoline* | Unleaded Gasoline* | Diesel Fuel* | JP-4 Jet Fuel* | JP-5 Jet Fuel* | Mil 5606-D Hydraulic Fluid | Unleaded Gas with w/10% ethanol* | |
| Auto Oil | Distilled Water | | | | | | | | | | | |
| Regular Gasoline* | Unleaded Gasoline* | | | | | | | | | | | |
| Diesel Fuel* | JP-4 Jet Fuel* | | | | | | | | | | | |
| JP-5 Jet Fuel* | Mil 5606-D Hydraulic Fluid | | | | | | | | | | | |
| Unleaded Gas with w/10% ethanol* | | | | | | | | | | | | |

**Environmental
 Exposure**
 Not for specification purposes

| | | |
|---|---|--|
| Low Temperature Flexibility ¼" Mandrel bend | No cracking after 24 hours at -60°F (-51°C) | |
| Maximum Service Temperature | Film softens above this limit. 300°F 149°C | |
| Dimensional Stability % shrinkage after 30 minutes at 250°F (120°C) | 1.0 or less | |
| Florida 12 months @ 5° South exposure | Discoloration and loss of surface gloss. | |
| Arizona 12 months @ 45° South exposure | Discoloration and loss of surface gloss. | |

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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.

Applications

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

8561 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

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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