



# Membrane Switch Spacer 7959MP

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## Product Data Sheet

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Updated : July 2000  
Supersedes : November 1994

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### Physical Properties

Not for specification purposes

|                   |   |
|-------------------|---|
| <b>Liner</b>      | 0.10mm 58# Polycoated Kraft   |
| <b>Adhesive</b>   | 0.05mm #200 "High Performance" Acrylic  |
| <b>Carrier</b>    | 0.127mm Polyester Film  |
| <b>Adhesive</b>   | 0.05mm #200 "High Performance" Acrylic  |
| <b>Liner</b>      | 0.10mm 58# Polycoated Kraft   |
| <b>Shelf Life</b> | 12 months from date of manufacture by 3M if stored at room temperature condition in cool, dry and sun protected room. |

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### Features:

- Long term, environmentally stable bond
- High cohesive strength to withstand repeated stresses from switch activation.
- Excellent temperature, humidity, and chemical resistance.
- High bond strength to high surface energy plastics such as polyester and polycarbonate.

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### Applications

- Spacer for membrane switch/keyboard circuits.

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**Properties and Performance**  
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|   |  |
|---|--|
| <b>Temperature Range</b>                  | Low : -40°F (-40C)<br>High Long Term (days/weeks) : 250°F (121°C).<br>High Short Term (minutes/hours) : 300°F (149°C).   |
| <b>Chemical Resistance</b>                | Solvent resistance is excellent when this product is properly applied to impervious materials. The adhesive resists softening through edge contact with mild acids, alkalis, oil, gasoline, Kerosene, JP-4 fuel and many other solvents.<br><br>Not recommended for total immersion. |
| <b>Dielectric Strength (ASTM D149)</b>    | 1.6 KV/mil   |
| <b>Insulation Resistance (ASTM P257)</b>  | $1.1 \times 10^{14}$ ohms  |
| <b>Volume Resistivity (ASTM D257)</b>     | $1.1 \times 10^{15}$ ohm-cm  |
| <b>Surface Resistivity (ASTM D257)</b>    | $3.4 \times 10^{14}$ ohms/square   |
| <b>Moisture &amp; Humidity Resistance</b> | No adverse effect on the bond after exposure to 100% Relative Humidity at 100°F.   |
| <b>Bond Build Up</b>                      | The bond strength of Scotch #200 Hi-Performance Acrylic adhesive increases as a function of time and temperature.  |
| <b>U.V. Resistance</b>                    | Adhesive is very resistant to oxidation and ozone when exposed to air or sunlight (U.V.).  |

**Physical Properties**  
 Not for specification purposes

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| <b>180° Peel 12"/minute 1 mil polyester to stainless steel (ASTM D903)</b> |
| 10.2 N/10mm  |

|   |                      |                      |
|---|----------------------|----------------------|
| 3M test 90° peel 12"/minute 8 mil aluminium to various surfaces |                      |                      |
|   | 72 hour Dwell N/10mm | Ultimate Bond N/10mm |
| <b>Stainless Steel</b>  | 11.2                 | 7.8                  |
| <b>Epoxy</b>  | 11.4                 | 9.6                  |
| <b>Polyester</b>  | 9.4                  | 10.2                 |
| <b>Polycarbonate</b>  | 10.6                 | 13.4                 |
| <b>ABS</b>  | 14.4                 | 10.4                 |

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- Application Techniques**
- Bond strength is dependent upon the amount of adhesive 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 smooth. Some typical surface cleaning solvents are isopropyl alcohol or heptane. Use proper safety precautions for handling solvents.
  - Ideal tape application temperature range is 70°F to 100°F.
  - Application to surfaces at temperatures below 50°F (10°C) 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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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.



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