



Membrane Switch Spacer/Data Page

FOD # 0919

Scotch™ 7959MP Membrane Switch Spacer

Description

Liner: 58# Polycoated Kraft
Adhesive: #200 “Hi-Performance” Acrylic
Adhesive Carrier: Polyester Film
Adhesive: #200 “Hi-Performance” Acrylic
Liner: 58# Polycoated Kraft

Typical Applications

Spacer for membrane switch/keyboard.

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.

| <u>Component</u> | <u>Description</u> | <u>Appropriate Thickness</u> | |
|------------------|----------------------------------|------------------------------|-------------|
| | | <u>Inches</u> | <u>(MM)</u> |
| Release Liner | 58# Polycoated Kraft | 0.004 | 0.10 |
| Adhesive | #200 High Performance Acrylic | 0.002 | 0.05 |
| Adhesive Carrier | Polyester | 0.005 | 0.127 |
| Adhesive | #200 High Performance Acrylic | 0.002 | 0.05 |
| Release Liner | 58# Polycoated Kraft | 0.004 | 0.10 |
| | Total | 0.017 | 0.427 |

Properties and Performance

(Typical Values – Not for Specification Use)

- Temperature Range
 - Low – –40 degrees F (–40 degrees C)
 - High Long Term (days, weeks) 250 degrees F (121 degrees C)
 - High Short Term (minutes, hours) 300 degrees F (149 degrees C)
- Chemical Resistance
 - Solvent resistance is excellent when this product is properly applied to impervious materials. The adhesive resists softening through edge contact with mild acids, alkalies, oil, gasoline, Kerosene, JP-4 fuel and many other solvents.
 - Not recommended for total immersion –
- Dielectric Strength (ASJM D149)

| | |
|-----|--------|
| 1.6 | KV/mil |
| 14 | |
- Insulation Resistance (ASTM P257)

| | |
|----------|------|
| 1.1 x 10 | ohms |
| 14 | |
- Volume Resistivity (ASTM D257)

| | |
|----------|---------|
| 1.1 x 10 | ohms-cm |
| 15 | |
- Surface Resistivity (ASTM D257)

| | |
|----------|-------------|
| 1.0 x 10 | ohms/square |
|----------|-------------|
- Moisture and Humidity Resistance
No adverse effect on the bond after exposure to 100% RH at 100 degrees F.
- Shelf Life
Twelve months from date of receipt by customer when stored in cartons at 70 degrees F at 50% relative humidity.
- Bond Build-Up
The bond strength of Scotch #200 “Hi-Performance” Acrylic adhesive increases as a function of time and temperature.
- U.V. Resistance
Adhesive is resistant to oxidation and ozone when exposed to air or sunlight (U.V.).

Adhesion Properties

The results indicated are typical values.

| | 7959MP | | | |
|---|---------------|-----------------|----------------|-----------------|
| | <u>OZ/IN</u> | | <u>N/100mm</u> | |
| ASTM D903 180 degree peel 12"/minute 1 mil polyester to stainless steel | 93 | | 102 | |
| 3M test 90% peel 12"/minute 8 mil aluminum to various surfaces | 72 Hour Dwell | | Ultimate Bond | |
| | <u>OZ/IN</u> | <u>N/100 mm</u> | <u>OZ/IN</u> | <u>N/100 mm</u> |
| Stainless Steel | 102 | 112 | 70 | 78 |
| Epoxy | 104 | 114 | 88 | 96 |
| Polyester | 86 | 94 | 92 | 102 |
| Polycarbonate | 96 | 106 | 122 | 134 |
| ABS | 130 | 144 | 96 | 104 |

Application Techniques

1. 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.
2. 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.
3. Ideal tape application temperature range is 70 degrees F. to 100 degrees F. (21 degrees C. to 38 degrees C.). Initial tape application to surfaces at temperatures below 50 degrees F. (10 degrees 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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