



# High Performance Adhesive Transfer Tapes

9482PC • 9485PC • 9675 • F-9752PC • F-9755PC

Technical Data

October, 1997

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|                            |                 |  |
|----------------------------|-----------------|--|
| <b>Product Description</b> | <b>9482PC</b>   | 0.002 in. (0.05 mm) thick Adhesive Transfer Tape |
|                            | <b>9485PC</b>   | 0.005 in. (0.13 mm) thick Adhesive Transfer Tape |
|                            | <b>9675</b>     | 0.005 in. (0.13 mm) thick Adhesive Transfer Tape |
|                            | <b>F-9752PC</b> | 0.002 in. (0.05 mm) thick Adhesive Transfer Tape |
|                            | <b>F-9755PC</b> | 0.005 in. (0.13 mm) thick Adhesive Transfer Tape |

Tapes **9482PC** and **9485PC** utilize the A-25 high performance adhesive system with fiber reinforcement. Fiber reinforcement is important for roll stability in narrow widths. These products utilize a 62 lb. polycoated liner for moisture stability.

Tape **9675** – this tape utilizes a 86 lb. polycoated layflat liner.

Tapes **F-9752PC** and **F-9755PC** utilize the A-35 high performance adhesive system. This offers the ability to make adhesive bonds at temperatures as low as 32°F (0°C). These products utilize a 58 lb. polycoated liner for moisture stability.

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## Construction

| Tapes                  | 9482PC                       | 9485PC                       | 9675                         | F-9752PC                     | F-9755PC                     |
|------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| Adhesive Type:*        | A-25                         | A-25                         | A-25                         | A-35                         | A-35                         |
| Adhesive Carrier:      | None                         | None                         | None                         | None                         | None                         |
| Release Liner:         | Moisture Resistant Tan Paper | Moisture Resistant Tan Paper | Moisture Resistant Tan Paper | Moisture Resistant Tan Paper | Moisture Resistant Tan Paper |
| Approximate Thickness: |                              |                              |                              |                              |                              |
| Release Liner          | 0.004 in. (0.10 mm)          | 0.004 in. (0.10 mm)          | 0.004 in. (0.10 mm)          | 0.004 in. (0.10 mm)          | 0.004 in. (0.10 mm)          |
| Tape Only              | 0.002 in. (0.05 mm)          | 0.005 in. (0.135 mm)         | 0.005 in. (0.135 mm)         | 0.002 in. (0.05 mm)          | 0.005 in. (0.13 mm)          |
| Tape Color:            | Clear                        | Clear                        | Clear                        | Clear                        | Clear                        |

## Typical Physical Properties and Performance Characteristics

**Note: The following technical information and data should be considered representative or typical only and should not be used for specification purposes.**

|  |                          |                            |                            |                          |                          |
|--|--------------------------|----------------------------|----------------------------|--------------------------|--------------------------|
| Adhesion to Steel: (ASTM D-3330)   | 70 oz./in. (76 N/100 mm) | 150 oz./in. (163 N/100 mm) | 150 oz./in. (163 N/100 mm) | 40 oz./in. (43 N/100 mm) | 55 oz./in. (60 N/100 mm) |
| Relative High Temperature Operating Ranges:  |                          |                            |                            |                          |                          |
| Long Term (Days, Weeks):   | 300°F (149°C)            | 300°F (149°C)              | 300°F (149°C)              | 300°F (149°C)            | 300°F (149°C)            |
| Short Term (Minutes, Hours):   | 450°F (232°C)            | 450°F (232°C)              | 450°F (232°C)              | 450°F (232°C)            | 450°F (232°C)            |
| Relative Solvent Resistance:   | Very Good                | Very Good                  | Very Good                  | Very Good                | Very Good                |
| U.V. Resistance:   | Good                     | Good                       | Good                       | Excellent                | Excellent                |
| Shelf Life of Tape in Roll Form:   | 24 months                | 24 months                  | 24 months                  | 24 months                | 24 months                |
| from date of manufacture when stored in original cartons at 70°F (21°C) and 50% relative humidity. |                          |                            |                            |                          |                          |

\*A-25 is a firm acrylic pressure-sensitive adhesive system. It features very high adhesion to a variety of surfaces, excellent shear holding power and high temperature resistance.

A-35 is a medium firm acrylic pressure-sensitive adhesive system. It features high adhesion to a variety of surfaces, excellent shear holding power, high temperature resistance and excellent UV resistance.

## Available Sizes

| Tapes   | 9675<br>9482PC<br>(9485PC) | F-9752PC            | F-9755PC            |
|---|----------------------------|---------------------|---------------------|
| Core Size (ID):   | 3.0 in. (76.2 mm)          | 3.0 in. (76.2 mm)   | 3.0 in. (76.2 mm)   |
| Available Lengths (Subject to Minimum Order Requirements) |                            |                     |                     |
| Standard:   | 60 yds. (54.9 m)           | 60 yds. (54.9 m)    | 60 yds. (54.9 m)    |
| Maximum Lengths at Available Widths:                      |                            |                     |                     |
| 1/8 in. to 3/8 in.  | 60 yds. (54.9 m)           |                     |                     |
| 3/8 in. to 1/2 in.  | 180 yds. (165 m)           |                     |                     |
| 1/2 in. to 1 in.  | 360 yds. (329 m)           | 180 yds. (165 m)    | 180 yds. (165 m)    |
| 1 in. to Max.   | 360 yds. (329 m)           | 360 yds. (329 m)    | 360 yds. (329 m)    |
| Roll Width:   |                            |                     |                     |
| Minimum:  | 1/8 in.                    | 1/2 in.             | 1/2 in.             |
| Maximum:  | 48 in.                     | 54 in.              | 54 in.              |
| Normal Slitting Tolerance:                                | ± 1/32 in. (0.8 mm)        | ± 1/32 in. (0.8 mm) | ± 1/32 in. (0.8 mm) |

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## Typical Adhesion Properties

**Note: The following technical information and data should be considered representative or typical only and should not be used for specification purposes.**

### Peel Strength:

Peel Adhesion (ASTM D3330)

(180° Peel, Room Temperature Conditions)

| Tapes             | 9482PC      |            | 9485PC      |            | 9675        |            | F-9752PC    |            | F-9755PC    |            |
|-------------------|-------------|------------|-------------|------------|-------------|------------|-------------|------------|-------------|------------|
|                   | 72 Hr Dwell |            | 72 Hr Dwell |            | 72 Hr Dwell |            | 72 Hr Dwell |            | 72 Hr Dwell |            |
| Surface           | oz./in      | (N/100 mm) | oz./in      | (N/100 mm) | oz./in      | (N/100 mm) | oz./in      | (N/100 mm) | oz./in      | (N/100 mm) |
| Stainless Steel   | 70          | (76)       | 150         | (164)      | 150         | (164)      | 40          | (43)       | 70          | (75)       |
| Aluminum          | 50          | (55)       | 95          | (104)      | 95          | (104)      |             |            |             |            |
| Painted Metal     | 60          | (65)       | 145         | (158)      | 45          | (158)      | 45          | (48)       | 63          | (68)       |
| Glass             | 65          | (71)       | 145         | (158)      | 145         | (158)      | 35          | (38)       | 70          | (75)       |
| Polycarbonate     | 65          | (71)       | 145         | (158)      | 145         | (158)      | 50          | (54)       | 74          | (65)       |
| Acrylic           | 60          | (65)       | 125         | (136)      | 125         | (136)      | 50          | (54)       | 74          | (65)       |
| Epoxy             | 65          | (71)       | 120         | (131)      | 120         | (131)      | 45          | (48)       | 77          | (83)       |
| ABS               | 50          | (55)       | 85          | (93)       | 85          | (93)       | 45          | (48)       | 80          | (86)       |
| Rigid PVC         | 50          | (55)       | 90          | (98)       | 90          | (98)       |             |            |             |            |
| Polypropylene     | 45          | (49)       | 60          | (65)       | 60          | (65)       | 25          | (27)       | 40          | (43)       |
| L.D. Polyethylene | 35          | (38)       | 40          | (44)       | 40          | (44)       | 10          | (11)       | 15          | (16)       |
| H.D. Polyethylene | 30          | (33)       | 35          | (38)       | 35          | (38)       | 15          | (16)       | 25          | (27)       |

### Shear Strength:

Static Shear Adhesion (ASTM D3654)

(1" x 1" Area Contact – Aluminum to a Stainless Steel – 72 Hr. dwell)

| Temperature |     | Load  | Tapes 9482PC, 9485PC, 9675, F-9752PC, F-9755PC |  |
|-------------|-----|-------|--|--|
| °F          | °C  | Grams | Minutes to Failure                             |  |
| 72          | 22  | 1,000 |  |  |
| 158         | 70  | 500   |  |  |
| 200         | 93  | 400   | No Failures – Tests                            |  |
| 250         | 121 | 300   | Discontinued After                             |  |
| 300         | 149 | 300   | 10,000 Min.                                    |  |
| 350         | 177 | 300   |  |  |
| 450         | 232 | 200   |  |  |

### UL 746C Listings - File MH 17478

Category QOQW2 Category - Polymeric Adhesive Systems, Electrical Equipment

|   |   |      |
|---|---|------|
| High Performance Adhesive Transfer Tapes 9482PC, 9485PC | Aluminum, Stainless Steel, Galvanized Steel, Enameled Steel, Polycarbonate, Glass/Epoxy, Ceramic, PBT | 90°C |
|   | ABS, unplasticized PVC  | 75°C |

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## Application Techniques

- Bond strength is dependent upon the amount of adhesive-to-surface contact developed. Firm application pressure helps develop better adhesive contact and improve bond strength.
- To obtain optimum adhesion, the bonding surfaces must be clean, dry and well unified. Typical surface cleaning solvents are isopropyl alcohol and water (rubbing alcohol) or heptane. **Note:** Be sure to follow the manufacturer's precautions and directions for use when using solvents.
- Ideal tape application temperature range is 70°F to 100°F (21°C to 38°C). Initial tape application to surfaces at temperatures below 50°F (10°C) is not recommended for most pressure sensitive adhesives because the adhesive becomes too firm to adhere readily. However, once properly applied, low temperature holding is generally satisfactory. Tapes F-9752PC and F-9755PC can be bonded at temperatures as low as 32°F (0°C).
- Ultimate bond strength can be accelerated by exposure of the bond to elevated temperatures, such as 150°F (66°C) for about one hour.

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## Application Ideas

- These tapes are ideal for joining a variety of similar and dissimilar materials where high bond strength and high temperature performance are required. Tapes F-9752PC and F-9755PC are also ideal for many applications where excellent UV resistance is required.
- 2 mil thick tapes can generally be used for joining materials that are relatively smooth, thin and have low residual stress. For materials with a rough or textured surface, the thicker adhesive film of the 5 mil tapes would be more appropriate for evaluation.

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## For Additional Information

To request additional product information or to arrange for sales assistance, call toll free 1-800-362-3550. Address correspondence to: 3M Industrial Tape and Specialties Division, 3M Center, Building 220-7E-01, St. Paul, MN 55144-1000. Our fax number is 612-733-9175. In Canada, phone: 1-800-364-3577. In Puerto Rico, phone: 1-809-750-3000. In Mexico, phone: 5-728-2180.

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**ISO 9002**

This Industrial Tape and Specialties Division product was manufactured under a 3M quality system registered to ISO 9002 standards.

**3M**

### Industrial Tape and Specialties Division

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Printed in U.S.A.  
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