Adhesive Transfer Tapes with Adhesive 300

927 • 950 • 950EK • 9458 • 9471 • 9472 9671• 9672 • 9674

Technical Data December 2017

Product Description

3M™ Adhesive Transfer Tapes with 3M™ Adhesive 300 offer excellent adhesion to a wide variety of surfaces, including low surface energy plastics and foam. This pressure sensitive medium firm acrylic adhesive family features very high initial adhesion with good holding power and is available in several thicknesses and a variety of liner configurations to help ensure excellent process flexibility.

Construction Information



Product	Adhesive Thickness	Liner Type Liner Thickness	Liner Color
3M™ Adhesive Transfer Tape 927	2.0 mils (0.05 mm)	60# Densified Kraft 3.5 mils (0.09 mm)	Tan, No Print
3M™ Adhesive Transfer Tape 950	5.0 mils (0.13 mm)	60# SCK 3.5 mils (0.09 mm)	Tan, No Print
3M™ Adhesive Transfer Tape 950EK	5.0 mils (0.13 mm)	78# Extensible Kraft 5.7 mils (0.13 mm)	White, No Print
3M™ Adhesive Transfer Tape 9458	1.0 mils (0.025 mm)	55# Densified Kraft 3.2 mils (0.08 mm)	White, No Print
3M™ Adhesive Transfer Tape 9471	2.0 mils (0.05 mm)	60# Densified Kraft 3.5 mils (0.09 mm)	Tan liner, Green print on 3M logo
3M™ Adhesive Transfer Tape 9472	5.0 mils (0.13 mm)	60# SCK 3.5 mils (0.09 mm)	Tan liner, Green print on 3M logo
3M™ Adhesive Transfer Tape 9671	2.0 mils (0.05 mm)	83# Polycoated Kraft 6.0 mils (0.15 mm)	Tan liner, Green print on 3M logo
3M™ Adhesive Transfer Tape 9672	5.0 mils (0.13 mm)	83# Polycoated Kraft 6.0 mils (0.15 mm)	Tan liner, Green print on 3M logo
3M™ Adhesive Transfer Tape 9674	5.0 mils (0.13 mm)	83# Polycoated Kraft 6.0 mils (0.15 mm)	Tan, No Print

Note: The thickness listed is based on a calculation from manufacturing controlled adhesive coat weights using a density of 1.012 g/cc. While past data pages have listed nominal thicknesses, the coat weight (and theoretical caliper) has not changed.

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Typical Physical Properties and Performance Characteristics

90° Peel Adhesion @ RT: ASTM D-3330 (Modified)
2 mil Aluminum Foil Backer

Substrate	Product	15 min dwell @ RT	72 hr dwell @ RT
Stainless Steel	9458	42 oz/in 12 N/25 mm	50 oz/in 14 N/25 mm
	927, 9471, 9671	52 oz/in 14 N/25 mm	59 oz/in 16 N/25 mm
	950, 950EK, 9472, 9672, 9674	74 oz/in 20 N/25 mm	86 oz/in 24 N/25 mm
ABS	9458	30 oz/in 8 N/25 mm	30 oz/in 8 N/25 mm
	927, 9471, 9671	31 oz/in 8 N/25 mm	34 oz/in 9 N/25 mm
	950, 950EK, 9472, 9672, 9674	34 oz/in 9 N/25 mm	40 oz/in 11 N/25 mm
Polypropylene	9458	31 oz/in 8 N/25 mm	41 oz/in 11 N/25 mm
	927, 9471, 9671	45 oz/in 12 N/25 mm	52 oz/in 14 N/25 mm
	950, 950EK, 9472, 9672, 9674	60 oz/in 16 N/25 mm	62 oz/in 17 N/25 mm

Application Ideas

- Long term bonding of graphic nameplates and overlays to surfaces such as metal and low surface energy plastics in the aerospace, medical and industrial equipment, automotive, appliance and electronic markets.
- Bonding metal nameplates and rating plates in the aerospace, medical and industrial equipment, automotive, appliance and electronic markets.
- Lamination to foam for gasket application.

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Environmental Performance

Humidity Resistance – High humidity has a minimal effect on adhesive performance. Bond strength (is generally higher/shows no significant reduction) after exposure for 7 days at 90ºF (32ºC) and 90% relative humidity.

UV Resistance – When properly applied, nameplates and decorative trim parts are not adversely affected by outdoor exposure.

Water Resistance – Immersion in water has no appreciable effect on the bond strength. After 100 hours at room temperature, the high bond strength (increases/is maintained).

Temperature Cycling Resistance – High bond strength (is maintained/increases) after cycling four times through:

4 hours at 158ºF (70ºC)
4 hours at -20ºF (-29ºC)
4 hours at 73ºF (22ºC)

Chemical Resistance – When properly applied, nameplate and decorative trim parts will hold securely after exposure to numerous chemicals including oil, mild acids and alkalis.

Bond Build-up: The bond strength of 3M™ Adhesive 300 increases as a function of time and temperature.

Temperature/Heat Resistance: Adhesive 300 is usable for short periods (minutes, hours) at temperatures up to 250ºF (120ºC) and for intermittent longer periods (days, weeks) up to 150ºF (65ºC).

Lower Temperature Service Limit: -40F (-40ºC)

Electrical and Thermal Performance

Property	
Dielectric Strength – (500 vac, rms [60 hz/sec]) ASTM D149-92	340 volts/mil
Dielectric Constant (at 1 KHz) ASTM D150-92	3.21
Dissipation Factor	0.040
Coefficient of Thermal Expansion ASTM D696	First heat: 20 x 10-5 m/m/°C Second heat: 58 x 10-5 m/m/°C

Note: This data is not for specification purposes. Because of inherent process variability, results may be slightly higher or lower than the typical results listed.

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Master Width

Product	Master Width
9458	54”
927, 9471, 9671	48”
950, 950EK, 9472, 9672, 9674	48”

More sizes may be available. Please call 800-223-7427 or talk to your local 3M representative for more information.

Application Techniques

For maximum bond strength (during installation of the final part) the surface should be thoroughly cleaned and dried. Typical cleaning solvents are heptane (for oily surfaces) or isopropyl alcohol for plastics. Use reagent grade solvents since common household materials like rubbing alcohol frequently contain oils to minimize the drying effect on skin. These oils can interfere with the performance of a pressure-sensitive adhesive.

Consult solvent manufacturers MSDS for proper handling and storage instructions. Also, use disposable wipes that do not contain oils, to remove the cleaning solvents.

It is necessary to provide pressure during lamination (1.5-20 PLI recommended) and during final part installation (10-15 PLI) to allow to adhesive the come into direct contact with the substrate. Using a hard edged plastic tool, which is the full width of the laminated part, helps to provide the necessary pressure at the point of lamination. Heat can increase bond strength when bonding to metal parts (generally this same increase is observed at room temperature over longer times, weeks). For plastic parts, the bond strength is not enhanced with the addition of heat.

The ideal adhesive application temperature range is 70°F (21°C) to 100°F (38°C). Application is not recommended if the surface temperature is below 50°F (10°C) because the adhesive becomes too firm to adhere readily. Once properly applied, at the recommended application temperature, low temperature holding is generally satisfactory (refer to the Typical Physical Properties and Performance Characteristics section).

When bonding a thin, smooth, flexible material to a smooth surface, it is generally acceptable to use 2 mils of adhesive. If a texture is visible on one or both surfaces, the 5 mil adhesive would be suggested. If both materials are rigid, it may be necessary to use a thicker adhesive to successfully bond the components. 3M™ VHB™ Acrylic Foam Tapes may be required (refer to data page 70-0709-3863-7).

Application Equipment

To apply adhesives in a wide web format, lamination equipment is required to ensure acceptable quality. To learn more about working with pressure-sensitive adhesives please refer to technical bulletin, Lamination Techniques for Converters of Laminating Adhesives (70-0704-1430-8).

For additional dispenser information, contact your local 3M sales representative, or the toll free 3M sales assistance number at 1-800-362-3550.

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Storage	It is suggested that products are stored at room temperature conditions of 70ºF (21ºC) and 50% relative humidity.
Shelf Life	If stored properly, product retains its performance and properties for 24 months from date of manufacture.
Recognition/ Certification	TSCA: This product is defined as an article under the Toxic Substances Control Act and therefore, it is exempt from inventory listing requirements. SDS: 3M has not prepared a SDS for this product which is not subjected to the SDS requirements of the Occupational Safety and Health Administration's Hazard Communication Standard, 29 C.F.R.1910.1200(b)(6)(v). When used under reasonable conditions or in accordance with the 3M directions for use, this product should not present a health and safety hazard. However, use or processing of the product in a manner not in accordance with the directions for use may affect its performance and present potential health and safety hazards. UL: These products have been recognized by Underwriters Laboratories, Inc. under UL 969, Marking and Labeling Systems Materials Component. For more information on the UL Certification, please visit the website at http://www.3M.com/converter, select UL Recognized Materials, then select the specific product area. Military: Meets Mil-P 19834B Type 1. Note: One of 3M's core values is to respect our social and physical environment. 3M is committed to comply with ever-changing, global, regulatory and consumer environmental, health, and safety (EHS) requirements. As a service to our customers, 3M is providing information on the regulatory status of many 3M products. Further regulation information including that for OSHA, USCPSI, FDA, California Proposition 65, READY and RoHS, can be found at 3M.com/regs.

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Technical Information

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ISO 9001

This Industrial Adhesives & Tapes Division product was manufactured under a 3M quality system registered to ISO 9001 standards.

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