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Technical Data Sheet

3M™ Adhesive Transfer Tape 927

English-US

Last Revision Date: September, 2024

Supersedes: June, 2024

Product Details

Regulatory Info/SDS

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 for a wide variety of surface bonding and provides a variety of liner configurations to help ensure excellent process flexibility.

Technical Information Note

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

Typical Physical Properties

Attribute Name	Test Method	Value
Adhesive Type		300 Fibered Acrylic
Total Tape Thickness	ASTM D3652	0.05 mm (2 mil)
Liner		60# Densified Kraft
Liner Thickness		0.09 mm (3.5 mil)
Primary Liner Color		Tan

Typical Performance Characteristics

90° Peel Adhesion

Temperature: 23 °C (73 °F)
Backing: 2 mil Aluminum Foil
Test Method: ASTM D3330

Dwell Time	Substrate	Value
15 min	ABS	3.4 N/cm (31 oz/in) [1]
15 min	Polypropylene (PP)	4.9 N/cm (45 oz/in) [1]
15 min	Stainless Steel	5.7 N/cm (52 oz/in) [1]
72 h	ABS	3.7 N/cm (34 oz/in) [1]
72 h	Polypropylene (PP)	5.7 N/cm (52 oz/in) [1]
72 h	Stainless Steel	6.5 N/cm (59 oz/in) [1]

[1] 304 mm/min (12 in/min)

Attribute Name	Value
Short Term Temperature Resistance	121 °C (250 °F) [1]
Long Term Temperature Resistance	70 °C (158 °F) [2]

[1] Short Term (minutes, hour)

[2] Long Term (day, weeks)

Typical Environmental Characteristics

Environmental Resistance

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 90°F (32°C) 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 158°F (70°C)
4 hours at -20°F (-29°C)
4 hours at 73°F (22°C)

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 250°F (120°C) and for intermittent longer periods (days, weeks) up to 150°F (65°C).

Lower Temperature Service Limit:-40F (-40°C).

Electrical and Thermal Properties

Coefficient of Thermal Expansion

Test Method: ASTM D696

Test Condition	Value
First Heat	20 x 10^{-5} m/m/°C
Second Heat	58 x 10^{-5} m/m/°C

Attribute Name	Test Method	Temperature	Test Condition	Value
Dielectric Constant	ASTM D150	23 °C (73 °F)	1 KHz	3.21
Dissipation Factor				0.04
Dielectric Strength	ASTM D149		500 vac, rms[60 hz/sec]	340 V/mil

Handling/Application Information

Application Examples

• 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.

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 (please 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 (please 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.

Industry Specifications

FDA Statement

This product might be suitable for use in indirect food contact applications. Please see the applicable Regulatory Data Sheet for more information relating to FDA compliance.

Storage and Shelf Life

Store under normal conditions of 16° to 27°C (60° to 80°F) and 40 to 60% relative humidity in the original packaging, out of direct sunlight. For best performance, use this product within 24 months from date of manufacture.

Available Sizes

Attribute Name	Value
Master Width	48 in [1]

[1] More sizes may be available. Please talk to your local 3M representative for more information.

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.

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Automotive Disclaimer

Select Automotive Applications:
This product is an industrial product and has not been designed or tested for use in certain automotive applications, such as automotive electric powertrain battery or high voltage applications, which may require the product to be manufactured in a IATF certified facility, meet a Ppk of 1.33 for all properties, undergo an automotive production part approval process (PPAP), or fully adhere to automotive design or quality system requirements (e.g., IATF 16949 or VDA 6.3). Customer assumes all responsibility and risk if customer chooses to use this product in these applications.

Information

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ISO Statement

This product was manufactured under a 3M quality system registered to ISO 9001 standards.

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