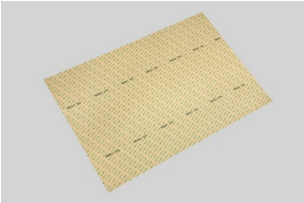

English-US

Last Revision Date: September, 2024

Supersedes: June, 2024

Technical Data Sheet

3M™ Adhesive Transfer Tape 8153LE

Product Details

Regulatory Info/SDS

Product Description

Finite Element Analysis (FEA)data is available for this product at: **3m.com/FEA**

3M™ Adhesive Transfer Tapes with 3M™ Low Surface Energy Acrylic Adhesive 300LSE provides high bond strength to most surfaces, including many low surface energy plastics such as polypropylene and powder coated paints. The acrylic adhesive also provides excellent adhesion to surfaces contaminated lightly with oil typically used with machine parts.

Product Features

- 3M™ Adhesive 300LSE is a hi-strength acrylic adhesive that provides a very high bond strength to most surfaces.
- Excellent bond to low surface energy plastics such as polypropylene and powder coatings.
- Excellent adhesion to lightly oiled surfaces typical of machine parts.
- Thickness range of 2.3 and 3.6 mils for use on smooth, or rough surfaces.
- Extremely smooth adhesive for excellent graphics appearance.
- Polycoated kraft liner for die-cutting end tabs and waste removed nameplates on a common carrier.
- 3M™ Adhesive Transfer Tape 8153LE is double linered for selective die-cutting.

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		3M High Strength Acrylic Adhesive 300LSE
Total Tape Thickness	ASTM D3652	0.091 mm (3.6 mil)
Liner Print		300LSE
Primary Liner Type		83# Polycoated Kraft [1]
Secondary Liner Type		58# Polycoated Kraft [1]
Primary Liner Thickness		0.107 mm (4.2 mil)
Secondary Liner Thickness		0.157 mm (6.2 mil)

[1] Inner liner is primary (stays with die-cut part); Outer liner is secondary (removed first)

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	8.8 N/cm (80 oz/in) [1]
15 min	Polypropylene (PP)	9.7 N/cm (89 oz/in) [1]
15 min	Stainless Steel	9.8 N/cm (90 oz/in) [1]
72 h	ABS	12.4 N/cm (113 oz/in) [1]
72 h	Polypropylene (PP)	11.3 N/cm (103 oz/in) [1]
72 h	Stainless Steel	10.9 N/cm (100 oz/in) [1]

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

Attribute Name	Value
Short Term Temperature Resistance	149 °C (300 °F) [1]
Long Term Temperature Resistance	93 °C (200 °F) [2]

[1] Short Term (minutes, hour)

[2] Long Term (day, weeks)

Typical Environmental Characteristics

Environmental Resistance

The properties defined are based on the attachment of impervious faceplate materials (such as aluminum) to a stainless steel test surface.

Bond Build-up: The bond strength of 3M™ Adhesive 300LSE increased as a function of time and temperature, and has very high initial adhesion.

Humidity Resistance: High humidity has a minimal effect on adhesive performance. No significant reduction in bond strength is observed after exposure for 7 days at 90°F (32°C) and 90% relative humidity.

U.V. Resistance: When properly applied, nameplates and decorative trim parts are not adversely affected by exposure.

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

Temperature Cycling Resistance: High bond strength is maintained 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, nameplates and decorative trim parts will hold securely after exposure to numerous chemicals including oil, mild acids and alkalis.

Temperature Resistance:3M™ Adhesive 300LSE is usable for short periods (minutes, hours) at temperatures up to 300°F (148°C) and for intermittent longer periods of time (days, weeks) up to 200°F (93°C).

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

Processing

Slitting and die-cutting: This adhesive is very aggressive and may be difficult to convert depending on your application requirements. Chilling the adhesive between 35°F and 50°F will improve the processability. In addition, dies can be lubricated with evaporative stamping oil. You may also refer to our Technical Bulletin on 3M™ Adhesive 300LSE converting. (70-0707-6205-2)

Roll Laminating:A combination of metal and rubber rollers with moderate pressure is recommended. Note: Please refer to the Technical Bulletin on slitting. (70-0709-3905-6)

Handling/Application Information

Application Examples

• Plastic nameplates or graphic overlays for use on low surface energy plastics.
• Waste removed nameplates on a common sheet for ease of application.
• Attaching membrane switch assemblies to powder coated surfaces and low surface energy plastics.
• Graphic overlays with end tabs for easy liner removal.
• Graphic application to surfaces such as wood, fabric, plastic, where very high bond strength is required.
• Attaching identification material to lightly oily surfaces typical of machine parts.

Application Techniques

For maximum bond strength, the surface should be thoroughly cleaned and dried. Typical cleaning solvents are methyl ethyl ketone for metals or isopropyl alcohol for plastics. Carefully read and follow manufacturer's precautions and directions for use when using cleaning solvents.

Bond strength can also be improved with firm application pressure and moderate heat, from 100°F (38°C) to 130°F (54°C), causing the adhesive to develop intimate contact with the bonding surface.

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.

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
Core Size (ID)	152.4 mm (6 in)
Limitations	Maximum 360 yd (329 m)
Maximum Slit Width	1219 mm (48 in)
Minimum Slit Width	305 mm (12 in)
Normal Slitting Tolerance	±0.8 mm (±1/32 in)
Standard Sheet Size	24in x 36in in [1]

[1] Custom sheets are available for 3M™ Adhesive Transfer Tapes8132LE, 8153LE

Recognition/Certification

TSCA: These products are defined as articles under the Toxic Substances Control Act and therefore, are exempt from inventory listing requirements.
MSDS: These products are not subject to the MSDS 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, the products should not present a health and safety hazard. However, use or processing of the products in a manner not in accordance with the directions for use may affect their performance and present potential health and safety hazards.
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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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