



3M™ Adhesive Transfer Tape 9453LE

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Product Description

Finite Element Analysis (FEA) data is available for this product at: [3m.com/FEA](https://www.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, 3.6 and 5.2 mils for use on smooth, or rough surfaces.

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

Property	Values	Additional Information
Adhesive Type	3M High Strength Acrylic Adhesive 300LSE	
Liner	58# Polycoated Kraft	
Liner Thickness	0.107 mm	
Total Tape Thickness	3.6 mil	View 
Test Method: ASTM D3652		
Total Tape Thickness	0.091 mm	View 
Test Method: ASTM D3652		
Liner Print	300LSE	

Liner Thickness 4.2 mil

Typical Performance Characteristics


Property	Values	Additional Information
90° Peel Adhesion	9.8 N/cm	View 
Test Method: ASTM D3330 Dwell/Cure Time: 15.0 Dwell Time Units: min Temp C: 23C Temp F: 72F Environmental Condition: 50%RH Substrate: Stainless Steel Backing: 2 mil Aluminum Foil		
90° Peel Adhesion	90 oz/in	View 
Test Method: ASTM D3330 Dwell/Cure Time: 15.0 Dwell Time Units: min Temp C: 23C Temp F: 72F Environmental Condition: 50%RH Substrate: Stainless Steel Backing: 2 mil Aluminum Foil Notes: 12 in/min (300 mm/min)		
90° Peel Adhesion	8.8 N/cm	View 
Test Method: ASTM D3330 Dwell/Cure Time: 15.0 Dwell Time Units: min Temp C: 23C Temp F: 72F Environmental Condition: 50%RH Substrate: ABS Backing: 2 mil Aluminum Foil Notes: 12 in/min (300 mm/min)		
90° Peel Adhesion	80 oz/in	View 
Test Method: ASTM D3330 Dwell/Cure Time: 15.0 Dwell Time Units: min Temp C: 23C Temp F: 72F Environmental Condition: 50%RH Substrate: ABS Backing: 2 mil Aluminum Foil Notes: 12 in/min (300 mm/min)		
90° Peel Adhesion	9.7 N/cm	View 
Test Method: ASTM D3330 Dwell/Cure Time: 15.0 Dwell Time Units: min Temp C: 23C Temp F: 72F		

Environmental Condition: 50%RH
 Substrate: Polypropylene (PP)
 Backing: 2 mil Aluminum Foil

Notes: 12 in/min (300 mm/min)

90° Peel Adhesion

89 oz/in

View 

Test Method: ASTM D3330

Dwell/Cure Time: 15.0

Dwell Time Units: min

Temp C: 23C

Temp F: 72F

Environmental Condition: 50%RH

Substrate: Polypropylene (PP)

Backing: 2 mil Aluminum Foil

Notes: 12 in/min (300 mm/min)

90° Peel Adhesion

10.9 N/cm

View 

Test Method: ASTM D3330

Backing: 2 mil Aluminum Foil

Notes: 12 in/min (300 mm/min)

90° Peel Adhesion

100 oz/in

View 

Test Method: ASTM D3330

Dwell/Cure Time: 72.0

Dwell Time Units: hr

Temp C: 23C

Temp F: 72F

Environmental Condition: 50%RH

Substrate: Stainless Steel

Backing: 2 mil Aluminum Foil

Notes: 12 in/min (300 mm/min)

90° Peel Adhesion

12.4 N/cm

View 

Test Method: ASTM D3330

Dwell/Cure Time: 72.0

Dwell Time Units: hr

Temp C: 23C

Temp F: 72F

Environmental Condition: 50%RH


Substrate: ABS

Backing: 2 mil Aluminum Foil

Notes: 12 in/min (300 mm/min)

90° Peel Adhesion

113 oz/in

View 

Test Method: ASTM D3330

Dwell/Cure Time: 72.0

Dwell Time Units: hr

Temp C: 23C

Temp F: 72F

Environmental Condition: 50%RH

Substrate: ABS

Backing: 2 mil Aluminum Foil

Notes: 12 in/min (300 mm/min)

90° Peel Adhesion

11.3 N/cm

View 

Test Method: ASTM D3330

Dwell/Cure Time: 72.0

Dwell Time Units: hr

Temp C: 23C

Temp F: 72F

Environmental Condition: 50%RH


Substrate: Polypropylene (PP)

Backing: 2 mil Aluminum Foil

Notes: 12 in/min (300 mm/min)

90° Peel Adhesion

103 oz/in

View 

Test Method: ASTM D3330

Dwell/Cure Time: 72.0

Dwell Time Units: hr

Temp C: 23C

Temp F: 72F

Environmental Condition: 50%RH

Substrate: Polypropylene (PP)

Backing: 2 mil Aluminum Foil

Notes: 12 in/min (300 mm/min)

Short Term Temperature Resistance

300 °F

Short Term Temperature Resistance

149 °C

Long Term Temperature Resistance

93 °C

Long Term Temperature Resistance

200 °F

Available Sizes

Property

Values

Additional Information

Normal Slitting Tolerance

±0.8 mm

Normal Slitting Tolerance

±1/32 in

Minimum Slit Width

12.7 mm

Minimum Slit Width

1/2 in

Maximum Slit Width

1219 mm

Maximum Slit Width	54 in
Core Size (ID)	76.2 mm
Core Size (ID)	3 in
Limitations	1/2 in to 63/64 in: Maximum 180 yd (165 m) 1 in to 54 in: Maximum 360 yd (329 m)

Typical Environmental Performance

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)

Storage and Shelf Life

Store at room temperature conditions of 70°F (21°C) and 50% relative humidity.

If stored properly, product retains its performance and properties for 24 months from date of manufacture.

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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Bottom Matter

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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.

References

Property	Values
3m.com Product Page	https://www.3m.com/3M/en_US/p/d/b40065912/
Safety Data Sheet SDS	https://www.3m.com/3M/en_US/company-us/SDS-search/results/?gsaAction=msdsSRA&msdsLocale=en_US&co=ptn&q=9453LE

Family Group

Link Tags:

[8132LE](#)
[8153LE](#)
[9453LE](#)
[9471LE](#)
[9472LE](#)
[9653LE](#)
[9671LE](#)
[9672LE](#)

Products	Adhesive Type	Liner	Liner Thickness	Total Tape Thickness	Short Term Temperature Resistance	Long Term Temperature Resistance	Secondary Liner Thickness	Primary Liner Type	Secondary Liner Type	Primary Liner Thickness
9471LE	3M High Strength Acrylic Adhesive 300LSE	58# Polycoated Kraft	0.102 mm	0.058 mm	149 °C	200 °F	N/A	N/A	N/A	N/A
9653LE	3M High Strength Acrylic Adhesive 300LSE	83# Polycoated Kraft	0.157 mm	0.091 mm	149 °C	200 °F	N/A	N/A	N/A	N/A
9671LE	3M High Strength Acrylic Adhesive 300LSE	83# Polycoated Kraft	0.157 mm	0.058 mm	149 °C	200 °F	N/A	N/A	N/A	N/A
9672LE	3M High Strength Acrylic Adhesive 300LSE	83# Polycoated Kraft	0.157 mm	0.132 mm	149 °C	200 °F	N/A	N/A	N/A	N/A
9453LE	3M High Strength Acrylic Adhesive 300LSE	58# Polycoated Kraft	0.107 mm	0.091 mm	149 °C	200 °F	N/A	N/A	N/A	N/A
8132LE	3M High Strength Acrylic Adhesive 300LSE	PCK	0.102 mm	0.058 mm	149 °C	200 °F	0.157 mm	83# Polycoated Kraft	58# Polycoated Kraft	0.102 mm
9472LE	3M High Strength Acrylic Adhesive 300LSE	58# Polycoated Kraft	0.107 mm	0.132 mm	149 °C	200 °F	N/A	N/A	N/A	N/A
8153LE	3M High Strength Acrylic Adhesive 300LSE	PCK	0.107 mm	0.091 mm	149 °C	200 °F	0.157 mm	83# Polycoated Kraft	58# Polycoated Kraft	0.107 mm

ISO Statement

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

Information

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