



Adhesive Transfer Tapes with Adhesive 300LSE

8132LE • 8153LE • 9453LE • 9471LE • 9472LE
9653LE • 9671LE • 9672LE • 9698LE

Technical Data

April, 2012

Product Description 3M™ Adhesive Transfer Tapes with 3M™ 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 Construction	Product Number	Adhesive: (Solvent Free)	Liner:
	3M™ Adhesive Transfer Tape 8132LE	2.3 mils (58 microns) 3M High Strength Acrylic Adhesive 300LSE	4.0 mils (100 microns) 58# Polycoated kraft 6.2 mils (157 microns) 83# Polycoated kraft
	3M™ Adhesive Transfer Tape 8153LE	3.5 mils (88 microns) 3M High Strength Acrylic Adhesive 300LSE	4.0 mils (100 microns) 58# Polycoated kraft 6.2 mils (157 microns) 83# Polycoated kraft
	3M™ Adhesive Transfer Tape 9453LE	3.6 mils (91 microns) 3M High Strength Acrylic Adhesive 300LSE	4.2 mils (107 microns) 58# Polycoated kraft
	3M™ Adhesive Transfer Tape 9471LE	2.3 mils (58 microns) 3M High Strength Acrylic Adhesive 300LSE	4.2 mils (107 microns) 58# Polycoated kraft
	3M™ Adhesive Transfer Tape 9472LE	5.2 mils (132 microns) 3M High Strength Acrylic Adhesive 300LSE	4.2 mils (107 microns) 58# Polycoated kraft
	3M™ Adhesive Transfer Tape 9653LE	3.5 mils (88 microns) 3M High Strength Acrylic Adhesive 300LSE	6.2 mils (157 microns) 83# Polycoated kraft
	3M™ Adhesive Transfer Tape 9671LE	2.3 mils (58 microns) 3M High Strength Acrylic Adhesive 300LSE	6.2 mils (157 microns) 83# Polycoated kraft
	3M™ Adhesive Transfer Tape 9672LE	5.0 mils (127 microns) 3M High Strength Acrylic Adhesive 300LSE	6.2 mils (157 microns) 83# Polycoated kraft
	3M™ Adhesive Transfer Tape 9698LE	8.5 mils (216 microns) 3M High Strength Acrylic Adhesive 300LSE	4.2 mils (107 microns) 58# Polycoated kraft

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Typical Physical Properties and Performance Characteristics

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 Adhesion - ounces/inch (Newtons/100 mm) ASTM D3330, modified: 90° peel, 2 mil aluminum backing.

Typical Adhesion Chart

	3M™ Adhesive Transfer Tape	15 Minute Room Temperature		72 Hour Room Temperature	
		Oz./In.	N/100 mm	Oz./In.	N/100 mm
Stainless Steel	8132LE	71	78	75	82
	8153LE	90	98	100	109
ABS	8132LE	70	77	79	86
	8153LE	80	88	113	124
Polypropylene	8132LE	69	75	74	81
	8153LE	89	97	103	113
Stainless Steel	9453LE	90	98	100	109
	9471LE	71	78	75	82
	9472LE	109	119	140	153
ABS	9453LE	80	88	113	124
	9471LE	70	77	79	86
	9472LE	102	112	128	140
Polypropylene	9453LE	89	97	103	113
	9471LE	69	75	74	81
	9472LE	115	126	136	149
Stainless Steel	9653LE	90	98	100	109
	9671LE	71	78	75	82
	9672LE	109	119	140	153
ABS	9653LE	80	88	113	124
	9671LE	70	77	79	86
	9672LE	102	112	128	140
Polypropylene	9653LE	89	97	103	113
	9671LE	69	75	74	81
	9672LE	115	126	136	149
Stainless Steel	9698LE	110	120	145	159
ABS	9698LE	106	116	157	172
Polypropylene	9698LE	70	77	144	158

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Typical Physical Properties and Performance Characteristics (continued)

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.

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: 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).

Available Sizes

Width and Length (subject to minimum order requirements):

	3M™ Adhesive Transfer Tapes 8132LE, 8153LE*	3M™ Adhesive Transfer Tapes 9453LE, 9471LE, 9472LE, 9653LE, 9671LE, 9672LE, 9698LE
Standard Sheet Size:	24 in. x 36 in.	—
Limitations:	Maximum 360 yards	1/2 in. to 63/64 in.: Maximum 180 yards 1 in. to 54 in.: Maximum 360 yards
Minimum Slit Width:	12 in.	1/2 in.
Maximum Slit Width:	48 in.	54 in.
Normal Slitting Tolerance:	± 1/32 in.	± 1/32 in.
Core	6.0 in.	3.0 in.

*Custom sheets are available.

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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 2.0 mils, 3.5 mils, 5.0 mils and 8.5 mils for use on smooth, or rough surfaces.
- Extremely smooth adhesive for excellent graphics appearance.
- Double lined for selective die-cutting.
- Polycoated kraft liner for die-cutting end tabs and waste removed nameplates on a common carrier.
- 3M™ Adhesive Transfer Tapes 8132LE and 8153LE are double lined for selective die-cutting.

Application Techniques

For maximum bond strength, the surface should be thoroughly cleaned and dried. Typical cleaning solvents are heptane or isopropyl alcohol. 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.

General Information

- 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.

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Application Ideas

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 Laminoleum evaporative stamping oil, which is available from Metal Lubricants Company (708-333-8900), or with Lubri-Blade 907 from Ceramic Technologies Inc. (800-258-8495). You may also refer to our Technical Bulletin on 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

Store at room temperature conditions of 72°F (22°C) and 50% relative humidity. Storage in a plastic bag is recommended.

Shelf Life

If stored under proper conditions, product retains its performance and properties for two years from date of manufacture.

Technical Information

The technical information, recommendations and other statements contained in this document are based upon tests or experience that 3M believes are reliable, but the accuracy or completeness of such information is not guaranteed.

Product Use

Many factors beyond 3M's control and uniquely within user's knowledge and control can affect the use and performance of a 3M product in a particular application. Given the variety of factors that can affect the use and performance of a 3M product, user is solely responsible for evaluating the 3M product and determining whether it is fit for a particular purpose and suitable for user's method of application.

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