November 2017

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Technical Data

High Strength Double Coated Tape

93010LE • 93015LE • 93020LE

Product Description

3M™ Double Coated Tapes with 3M™ High Strength Acrylic Adhesive 300LSE provides a 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 with oil typically used with machine parts.

Construction Information

Product Number	Face side[1] Adhesive Type Thickness	Carrier Type Thickness	Backside[2] Adhesive Type Thickness	Liner Colour, Type, Caliper[3]	Total Thickness (w/o liner)
3M™ Double Coated Tape 93010LE	300LSE 0.044 mm (1.7 mil)	Clear Polyester 0.012 mm (0.5 mil)	300LSE 0.044 mm (1.7 mil)	Tan, 58# Polycoated Kraft 0.11 mm (4.2 mil)	0.10 mm (3.9 mil)
3M™ Double Coated Tape 93015LE	300LSE 0.069 mm (2.7 mil)	Clear Polyester 0.012 mm (0.5 mil)	300LSE 0.069 mm (2.7 mil)	Tan, 58# Polycoated Kraft 0.11 mm (4.2 mil)	0.15 mm (5.9 mil)
3M™ Double Coated Tape 93020LE	300LSE 0.095 mm (3.7 mil)	Clear Polyester 0.012 mm (0.5 mil)	300LSE 0.095 mm (3.7 mil)	Tan, 58# Polycoated Kraft 0.11 mm (4.2 mil)	0.20 mm (7.9 mil)

Note 1: Face side (FS) adhesive is on the interior of the roll, exposed when unwound.
Note 2: Backside (BS) adhesive is on the exterior of the roll, exposed when liner is removed.
Note 3: The caliper listed is based on a calculation from manufacturing controlled adhesive coat weights using a density of 1.012 g/cc.

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Typical Physical Properties and Performance Characteristics

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

	3M™ Double Coated Tape											
Product Number	**93010LE**				**93015LE**				**93020LE**			
Adhesive	300LSE				300LSE				300LSE			
Tape Thickness	0.10 mm				0.15 mm				0.20 mm			
Breakdown Voltage	5600 volts				6900 volts				7500 volts			
Dielectric Strength	1400 volts/mil				1200 volts/mil				900 volts/mil			
Adhesion 15 min dwell @ RT Modified ASTM D-3330 180 degree peel 2 mil Al foil backing		oz/in	N/cm	kg/25.4 mm		oz/in	N/cm	kg/25.4 mm		oz/in	N/cm	kg/25.4 mm
	SS	85	9.3	2.4	SS	100	10.9	2.8	SS	155	17.0	4.4
	PC	110	12.3	3.1	PC	130	14.2	3.7	PC	165	18.1	4.7
	ABS	80	8.8	2.3	ABS	85	9.3	2.4	ABS	145	15.9	4.1
	PP	95	10.4	2.7	PP	105	11.5	3.0	PP	155	17.0	4.4
Adhesion 72 hr dwell @ RT Modified ASTM D-3330 180 degree peel 2 mil Al foil backing		oz/in	N/cm	kg/25.4 mm		oz/in	N/cm	kg/25.4 mm		oz/in	N/cm	kg/25.4 mm
	SS	110	12.0	3.1	SS	125	13.7	3.6	SS	170	18.6	4.8
	PC	140	15.3	4.0	PC	165	18.1	4.7	PC	180	19.7	5.1
	ABS	110	12.0	3.1	ABS	125	13.7	3.6	ABS	155	17.0	4.4
	PP	110	12.0	3.1	PP	135	14.8	3.9	PP	175	19.2	5.1
Shear Strength at RT Modified ASTM D-3654 1 inch² sample size 1000 grams	10,000 Minutes				10,000 Minutes				10,000 Minutes			
Shear Strength at 70°C (158°F) Modified ASTM D-3654 1 inch² sample size 500 grams	10,000 Minutes				10,000 Minutes				10,000 Minutes			

Features

- This tape has a film carrier which can add dimensional stability to foams and other substrates and also makes it easier to handle the tape during slitting and die-cutting.
- The bond strength of 3M™ Adhesive 300LSE increases as a function of time and temperature, and has very high initial adhesion.

Product Construction

Roll length, width, slitting tolerance, core size.

Product	**3M™ Double Coated Tape 93010LE • 93015LE • 93020LE**
Maximum Length in:	
1.27 cm to 2.5 cm (1/2" to 63/64")	164 m (180 yds.)
2.54 cm to 7.6 cm (1" to 3")	329 m (360 yds.)
7.6 cm to 121.9 cm (3" to 48")	329 m (360 yds.)
121.9 cm to 137.1 cm (48" to 54")	329 m (360 yds.)
Normal Slitting Tolerance:	± 0.8 mm (1/32 in.)
Core Size (ID):	76.2 mm (3.0 in.)

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Temperature Resistance	Long Term (days/weeks) Short Term (minutes/hours)	121°C (250°F) 149°C (300°F)
Humidity Resistance	No adverse effect on the bond after exposed to 100% relative humidity at 38°C (100°F).	
U.V. Resistance	Adhesive is resistant to oxidation and ozone when exposed to air or ultraviolet light.	
Application Techniques	Bond strength is dependent upon the amount of adhesive-to-surface contact developed. Firm application pressure helps develop better adhesive contact and improve bond strength. To obtain optimum adhesion, the bonding surfaces must be clean, dry and well unified. Some typical surface cleaning solvents are isopropyl alcohol or heptane.* ***Note:** Carefully read and follow the manufacturer's precautions and directions for use when using solvents. Ideal tape application temperature range is 21°C to 38°C (70°F to 100°F). Initial tape application to surfaces at temperatures below 10°C (50°F) is not recommended because the adhesive becomes too firm to adhere readily. However, once properly applied, low temperature holding is generally satisfactory.	
Environmental Performance	**Humidity Resistance:** High humidity has minimal effect on adhesive performance. No significant reduction in bond strength is observed after exposure for 7 days at 32°C (90°F) and 90% relative humidity. **UV 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 70°C (158°F) 4 hours at -29°C (-20°F) 4 hours at 22°C (73°F) **Chemical Resistance:** When properly applied, nameplate and decorative trim parts will hold securely after exposure to numerous chemicals including oil, mild acids, and alkalis.	
Application Ideas	• Foam to powder-coated painted surfaces. • Low surface energy plastic adhesion.	

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Storage	Store in original cartons at 21°C (70°F) and 50% relative humidity.
Shelf Life	If stored under proper conditions, these products retain their 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.
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ISO 9001

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

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