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3M™ High Strength Double Coated Tape 93010LE

Product Description

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

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.

Product 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™ Acrylic Adhesive 300LSE increases as a function of time and temperature, and has very high initial adhesion.

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		Method	Test Name
Total Tape Thickness	3.9 mil	0.1 mm	ASTM D3652	
Carrier Thickness	0.5 mil	0.012 mm		
Liner Print	300LSE			
Liner Thickness	4 mil	0.1 mm		
Adhesive Carrier	Clear Polyester			
Liner	58# Polycoated Kraft			
Liner Color	Tan			Primary

Adhesive Thickness		Test Name	Notes
1.7 mil		Backside	Backside adhesive is on the exterior of the roll, exposed when liner is removed.
0.044 mm	1.7 mil	Faceside	Faceside adhesive is on the interior of the roll, exposed when unwound and liner removed.
0.044 mm		Backside	The caliper listed is based on a calculation from manufacturing controlled adhesive coat weight. While past data pages have listed nominal thicknesses of 1 and 2 mils, the coat weight (and theoretical caliper) has not changed.

Property: Adhesive Thickness

Adhesive Type	Test Name	Notes
Acrylic		
300LSE	Faceside	Faceside adhesive is on the interior of the roll, exposed when unwound and liner removed.
300LSE	Backside	Backside adhesive is on the exterior of the roll, exposed when liner is removed.

Property: Adhesive Type

Typical Performance Characteristics

Property	Values		Test Condition	Method	Notes
Short Term Temperature Resistance	300 °F	149 °C	Short Term (minutes, hour)		
Long Term Temperature Resistance	200 °F	93 °C	Long Term (day, weeks)		
Static Shear	>10,000 min		1000 g @ Room Temperature	ASTM D3654	1 in² sample size
Static Shear	>10,000 min		500 g @ 70°C (158°F)	ASTM D3654	1 in² sample size

180° Peel Adhesion		Dwell/Cure Time	Dwell Time Units	Substrate
9.3 N/cm	85 oz/in	15	min	Stainless Steel
12.3 N/cm	110 oz/in	15	min	Polycarbonate (PC)
8.8 N/cm	80 oz/in	15	min	ABS
10.4 N/cm	95 oz/in	15	min	Polypropylene (PP)
12 N/cm	110 oz/in	72	hr	Stainless Steel
15.3 N/cm	140 oz/in	72	hr	Polycarbonate (PC)
12 N/cm	110 oz/in	72	hr	ABS
12 N/cm	110 oz/in	72	hr	Polypropylene (PP)

Property: 180° Peel Adhesion
Method: ASTM D3330
Temp C: 23C
Temp F: 72F
Environmental Condition: 50%RH
Backing: Aluminum Foil
notes: 12 in/min (300 mm/min)

Available Sizes

Property	Values	
Note	Subject to Minimum Order Requirements	
Normal Slitting Tolerance	± 0.8 mm	± 1/32 in
Core Size (ID)	76.2 mm	3 in

Available Sizes (continued)

Maximum Length		Width
164 m	180 yd	1/2 in to 63/64 in
329 m	360 yd	1 in to 3 in
329 m	360 yd	3 in to 48 in
329 m	360 yd	48 in to 54 in

Property: Maximum Length

Electrical and Thermal Properties

Breakdown Voltage: 5600 V

Typical Environmental Performance

Environmental Resistance

Humidity Resistance: High humidity has 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.
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 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.

Handling/Application Information

Application Examples

- Foam to powder coated painted surfaces.
- Low surface energy plastic adhesion.

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 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 because the adhesive becomes too firm to adhere readily. However, once properly applied, low temperature holding is generally satisfactory.

Storage and Shelf Life

Store in original cartons at 70°F (21°C) and 50% relative humidity.
If stored under proper conditions, these products retain their performance and properties for 24 months from date of manufacture.

Trademarks

References

Property	Values
3m.com Product Page	https://www.3m.com/3M/en_US/company-us/all-3m-products/~/3M-Double-Coated-Tape-93010LE/?N=5002385+3293240964&rt=rud
Safety Data Sheet SDS	https://www.3m.com/3M/en_US/company-us/SDS-search/results/?gsaAction=msdsSRA&msdsLocale=en_US&co=ptn&q=93010LE

Family Group

	93010LE	93015LE	93020LE
Liner Color Test Name: Primary	Tan	Tan	Tan
Adhesive Type Test Name: Backside	300LSE	300LSE	300LSE
Adhesive Type Test Name: Faceside	300LSE	300LSE	300LSE
Short Term Temperature Resistance (°C) Test Condition: Short Term (minutes, hour)	148.8889	148.8889	148.8889
Long Term Temperature Resistance (°C) Test Condition: Long Term (day, weeks)	93.33333	93.33333	93.33333
Long Term Temperature Resistance (°F) Test Condition: Long Term (day, weeks)	200	200	200
Adhesive Thickness (mm) Test Name: Faceside	0.044	0.069	0.095
Adhesive Thickness (mm) Test Name: Backside	0.044	0.069	0.095
Total Tape Thickness (mm)	0.1	0.15	0.2
Carrier Thickness (mm)	0.012	0.012	0.012
Adhesive Type	Acrylic	Acrylic	Acrylic
Adhesive Carrier	Clear Polyester	Clear Polyester	Clear Polyester
Liner	58# Polycoated Kraft	58# Polycoated Kraft	58# Polycoated Kraft
Liner Thickness (mm)	0.1	0.11	0.11

ISO Statement

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

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