

August, 2016

3M™ Double Coated Polyester Tape L1 + DCP

Product Description

The L1 adhesive platform features a modified acrylic adhesive with good initial tack and peel adhesion to many open cell foam substrates. The 3M L1 tapes are designed to withstand temperatures up to 200°F (93°C) and bond well to a wide range of foam substrates, including Polyurethane (PU) foam, Cross-Linked Polyethylene (PE) foam, and Microcellular Urethane foam. All L1 constructions feature a white 74# densified kraft (DK) liner for excellent processing.



Product Features

- The L1 adhesive is a modified acrylic adhesive that withstands temperatures up to 200°F (93°C).
- Adhesive offers good initial tack and peel adhesion to many open cell foam materials.
- Bonds well to polyurethane (PU) foam, cross-linked polyethylene (PE) foam, and microcellular urethane foam.
- An 74# white colored, unprinted densified kraft (PCK) liner for excellent processing.

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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	0.097 mm	3.5 mil	ASTM D3652	
Adhesive Type	Acrylic			
Liner	74# DK			
Liner Print	None			
Liner Color	White			Primary
Liner Thickness	0.103 mm	4.1 mil		
Product Construction	L1+DCP is a 3.5 mil double-coated polyester (PET) tape which provides added dimensional stability and improved handling during laminating or die cutting processes, particularly on thin or flexible substrates. An adhesive coat weight of 1.5 mils on each side of a 0.50 mil PET carrier provides good adhesion to many foam substrates.			

Typical Performance Characteristics

Property	Values		Test Condition	Method	Dwell/Cure Time	Dwell Time Units	Notes
Short Term Temperature Resistance	93 °C	200 °F	Short Term (minutes, hour)				

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Typical Performance Characteristics (continued)

Property	Values		Test Condition	Method	Dwell/Cure Time	Dwell Time Units	Notes
Long Term Temperature Resistance	66 °C	150 °F	Long Term (day, weeks)				
Static Shear	1088 min		1000 g @ Room Temperature	ASTM D3654	72	hr	1 in ² sample size
Static Shear	3 min		1000 g @ 70°C (158°F)	ASTM D3654	72	hr	1 in ² sample size

T-Peel Adhesion		Substrate	Failure mode
1.5 N/cm	14 oz/in	Polyurethane Foam	POF
5.3 N/cm	48 oz/in	Microcellular Urethane	FT
5.1 N/cm	47 oz/in	Cross-linked Polyethylene	FT

Property: T-Peel Adhesion
 Method: ASTM D1876
 Test Name: Foam Faceside
 Dwell/Cure Time: 72
 Dwell Time Units: hr
 Temp C: 23C
 Temp F: 73F
 Backing: PET Film
 notes: POF=Pop Off Foam, FT=Foam Tear, FP=Foam Picking

90° Peel Adhesion		Substrate
4.4 N/cm	40 oz/in	Stainless Steel
3.7 N/cm	34 oz/in	Polypropylene (PP)
4.3 N/cm	39 oz/in	ABS
4.2 N/cm	38 oz/in	Aluminum

Property: 90° Peel Adhesion
 Method: ASTM D3330
 Test Name: Backside
 Dwell/Cure Time: 72
 Dwell Time Units: hr
 Temp C: 23C
 Temp F: 72F
 Environmental Condition: 50%RH
 Backing: 2 mil Aluminum Foil
 notes: 12 in/min (300 mm/min)

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Available Sizes

Property	Values	
Note	Subject to Minimum Order Requirements	
Standard Roll Length	230 m	251 yd
Available Width	1000, 1372, 1524 mm	39, 54, 60 in
Normal Slitting Tolerance	±0.8 mm	±1/32 in
Core Size (ID)	76.2 mm	3 in

Typical Environmental Performance

Environmental Resistance

Temperature Resistance: The L1 adhesive family is usable for short periods (minutes, hours) at temperatures up to 200°F (93°C) and for intermittent longer periods of time (days, weeks) up to 150°F (66°C).

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

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.

Handling/Application Information

Application Techniques

Bond strength is dependent upon the amount of adhesive-to-surface contact developed. Firm application will assist the adhesive in developing intimate contact with the bonding surface.

To obtain optimum adhesion, the bonding surfaces must be clean, dry, and well unified. Some typical surface cleaning solvents are isopropyl alcohol or heptane.* 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, product retains its performance and properties for 24 months from the date of manufacture.

Trademarks

3M is a trademark of 3M Company.

References

Property	Values
3m.com Product Page	https://www.3m.com/3M/en_US/company-us/all-3m-products/-/3M-Double-Coated-Adhesive-Tape-L1-DCPX/?N=5002385+3291983983&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=L1+DCP

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Family Group

	L1 + DCP	L1 + RT
Short Term Temperature Resistance (°C) Test Condition: Short Term (minutes, hour)	93	93
Liner Color Test Name: Primary	White	White
Long Term Temperature Resistance (°C) Test Condition: Long Term (day, weeks)	66	66
Total Tape Thickness (mm)	0.097	0.081
Adhesive Type	Acrylic	Acrylic
Liner	74# DK	74# DK
Liner Thickness (mm)	0.103	0.103

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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