3M™ Double Coated Polyester Tape L1 + DCP

Last Revision Date: August, 2016

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.

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	Acrylic	
Liner	74# DK	
Liner Thickness	0.103 mm (4.1 mil)	
Liner Color	White	View
Test Name: Primary		
Total Tape Thickness	3.5 mil (0.097 mm)	View
Test Method: ASTM D3652		
Total Tape Thickness	0.097 mm	View
Test Method: ASTM D3652		

Liner Print	None
Liner Thickness	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	Additional Information
Short Term Temperature Resistance	200 °F (93 °C)	
Short Term Temperature Resistance	93 °C	
Long Term Temperature Resistance	66 °C (150 °F)	
Long Term Temperature Resistance	150 °F	
Static Shear	1088 min (3 min)	View

Test Method: ASTM D3654

Dwell/Cure Time: 72.0
Dwell Time Units: hr

Notes: 1 in² sample size

Static Shear	3 min	View

Test Method: ASTM D3654

Dwell/Cure Time: 72.0
Dwell Time Units: hr

Notes: 1 in² sample size

T-Peel Adhesion	1.5 N/cm	View

Test Method: ASTM D1876

Test Name: Foam Faceside
Dwell/Cure Time: 72.0
Dwell Time Units: hr
Temp C: 23C

Temp F: 73F
Substrate: Polyurethane Foam
Backing: PET Film
Failure Mode: POF

Notes: POF=Pop Off Foam, FT=Foam Tear, FP=Foam Picking

T-Peel Adhesion	14 oz/in	View

Test Method: ASTM D1876

Test Name: Foam Faceside
Dwell/Cure Time: 72.0
Dwell Time Units: hr
Temp C: 23C
Temp F: 73F
Substrate: Polyurethane Foam
Backing: PET Film

Notes: POF=Pop Off Foam, FT=Foam Tear, FP=Foam Picking

T-Peel Adhesion	5.3 N/cm	View

Test Method: ASTM D1876

Test Name: Foam Faceside
Dwell/Cure Time: 72.0
Dwell Time Units: hr
Temp C: 23C
Temp F: 73F
Substrate: Microcellular Urethane
Backing: PET Film
Failure Mode: FT

Notes: POF=Pop Off Foam, FT=Foam Tear, FP=Foam Picking

T-Peel Adhesion	48 oz/in	View

Test Method: ASTM D1876

Test Name: Foam Faceside
Dwell/Cure Time: 72.0
Dwell Time Units: hr
Temp C: 23C
Temp F: 73F
Substrate: Microcellular Urethane
Backing: PET Film

Notes: POF=Pop Off Foam, FT=Foam Tear, FP=Foam Picking

T-Peel Adhesion	5.1 N/cm	View

Test Method: ASTM D1876

Test Name: Foam Faceside
Dwell/Cure Time: 72.0
Dwell Time Units: hr
Temp C: 23C
Temp F: 73F
Substrate: Cross-linked Polyethylene
Backing: PET Film
Failure Mode: FT

Notes: POF=Pop Off Foam, FT=Foam Tear, FP=Foam Picking

T-Peel Adhesion	47 oz/in	View

Test Method: ASTM D1876

Test Name: Foam Faceside
Dwell/Cure Time: 72.0
Dwell Time Units: hr
Temp C: 23C

Temp F: 73F
Substrate: Cross-linked Polyethylene
Backing: PET Film

Notes: POF=Pop Off Foam, FT=Foam Tear, FP=Foam Picking

90° Peel Adhesion	4.4 N/cm (40 oz/in)	View

Test Method: ASTM D3330

Test Name: Backside
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	40 oz/in	View

Test Method: ASTM D3330

Test Name: Backside
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	3.7 N/cm (34 oz/in)	View

Test Method: ASTM D3330

Test Name: Backside
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	34 oz/in	View

Test Method: ASTM D3330

Test Name: Backside
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	4.3 N/cm (39 oz/in)	View

Test Method: ASTM D3330

Test Name: Backside
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	39 oz/in	View

Test Method: ASTM D3330

Test Name: Backside
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	4.2 N/cm (38 oz/in)	View

Test Method: ASTM D3330

Test Name: Backside
Dwell/Cure Time: 72.0
Dwell Time Units: hr
Temp C: 23C
Temp F: 72F
Environmental Condition: 50%RH
Substrate: Aluminum
Backing: 2 mil Aluminum Foil

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

90° Peel Adhesion	38 oz/in	View

Test Method: ASTM D3330

Test Name: Backside
Dwell/Cure Time: 72.0
Dwell Time Units: hr
Temp C: 23C
Temp F: 72F
Environmental Condition: 50%RH
Substrate: Aluminum
Backing: 2 mil Aluminum Foil

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

Available Sizes

Property	Values	Additional Information
Note	Subject to Minimum Order Requirements	
Standard Roll Length	230 m (251 yd)	
Standard Roll Length	251 yd	
Available Width	1000, 1372, 1524 mm (39, 54, 60 in)	

Available Width	39, 54, 60 in

Normal Slitting Tolerance	±0.8 mm

Normal Slitting Tolerance	±1/32 in

Core Size (ID)	76.2 mm (3 in)

Core Size (ID)	3 in

Typical Environmental Performance

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.

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.

Bottom Matter

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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.

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

Family Group

Link Tags:

L1 + DCP | L1 + RT

Products	Adhesive Type	Liner	Liner Thickness	Liner Color	Total Tape Thickness	Short Term Temperature Resistance	Long Term Temperature Resistance
L1 + RT	Acrylic	74# DK	0.103 mm	White	0.081 mm	93 °C	150 °F
L1 + DCP	Acrylic	74# DK	0.103 mm	White	0.097 mm	93 °C	150 °F

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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