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.

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)				

Table continued on next page

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 in² sample size
Static Shear	3 min		1000 g @ 70°C (158°F)	ASTM D3654	72	hr	1 in² 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)

3M™ Double Coated Polyester Tape L1 + DCP

Available Sizes

Property	Values		Test Name
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	76.2 mm	3 in	ID

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

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

3M™ Double Coated Polyester Tape L1 + DCP

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

Technical Information: The technical information, guidance, and other statements contained in this document or otherwise provided by 3M are based upon records, tests, or experience that 3M believes to be reliable, but the accuracy, completeness, and representative nature of such information is not guaranteed. Such information is intended for people with knowledge and technical skills sufficient to assess and apply their own informed judgment to the information. No license under any 3M or third party intellectual property rights is granted or implied with this information.

Product Selection and 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. As a result, customer is solely responsible for evaluating the product and determining whether it is appropriate and suitable for customer's application, including conducting a workplace hazard assessment and reviewing all applicable regulations and standards (e.g., OSHA, ANSI, etc.). Failure to properly evaluate, select, and use a 3M product and appropriate safety products, or to meet all applicable safety regulations, may result in injury, sickness, death, and/or harm to property.

Warranty, Limited Remedy, and Disclaimer: Unless a different warranty is specifically stated on the applicable 3M product packaging or product literature (in which case such warranty governs), 3M warrants that each 3M product meets the applicable 3M product specification at the time 3M ships the product. 3M MAKES NO OTHER WARRANTIES OR CONDITIONS, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OR CONDITION OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR ARISING OUT OF A COURSE OF DEALING, CUSTOM, OR USAGE OF TRADE. If a 3M product does not conform to this warranty, then the sole and exclusive remedy is, at 3M's option, replacement of the 3M product or refund of the purchase price.

Limitation of Liability: Except for the limited remedy stated above, and except to the extent prohibited by law, 3M will not be liable for any loss or damage arising from or related to the 3M product, whether direct, indirect, special, incidental, or consequential (including, but not limited to, lost profits or business opportunity), regardless of the legal or equitable theory asserted, including, but not limited to, warranty, contract, negligence, or strict liability.

Disclaimer: 3M industrial and occupational products are intended, labeled, and packaged for sale to trained industrial and occupational customers for workplace use. Unless specifically stated otherwise on the applicable product packaging or literature, these products are not intended, labeled, or packaged for sale to or use by consumers (e.g., for home, personal, primary or secondary school, recreational/sporting, or other uses not described in the applicable product packaging or literature), and must be selected and used in compliance with applicable health and safety regulations and standards (e.g., U.S. OSHA, ANSI), as well as all product literature, user instructions, warnings, and limitations, and the user must take any action required under any recall, field action or other product use notice. Misuse of 3M industrial and occupational products may result in injury, sickness, or death. For help with product selection and use, consult your on-site safety professional, industrial hygienist, or other subject matter expert. For additional product information, visit www.3M.com.

3M United States
3M Center
St. Paul, MN 55144-1000
800-362-3550
www.3M.com

Please recycle.