



Indoor UL Recognized Clear Polyester Overlaminated Label Products

FM010 • FM011 • FM012 • FM012R • FM013 • FM014 • FM015
FM016 • FM017 • FM018 • FM019 • FM01G • FM01N • FM0139

Technical Data

January, 2008

Product Description 3M™ Indoor UL Recognized Clear Polyester Overlaminated Label Products are durable, high performance materials that offer excellent thermal stability and moisture resistance. These polyester overlaminated labels utilize 3M™ Adhesive P1212, which is a high clarity general purpose acrylic emulsion that exhibits good initial tack, excellent die cutting properties, minimal cold flow, and good UV resistance.

Construction	Product Number	Facestock	Adhesive	Liner
	3M™ Indoor UL Recognized Clear Polyester Overlaminated Label Product FM010	.001 in. Clear Polyester NTC	P1212 Perm. 16	60# SBK 3.4 mil bleached clay coated two side kraft sheet
	3M™ Indoor UL Recognized Clear Polyester Overlaminated Label Product FM011	.001 in. Clear Polyester NTC	P1212 Perm. 16	40# SC 2.4 mil semi-bleached super calendered kraft sheet
	3M™ Indoor UL Recognized Clear Polyester Overlaminated Label Product FM012	.001 in. Clear Polyester NTC	P1212 Perm. 16	50# SC 3.1 mil semi-bleached super calendered kraft sheet
	3M™ Indoor UL Recognized Clear Polyester Overlaminated Label Product FM012R	.001 in. Clear Polyester NTC	P1212 Perm. 16	50# SC Remoist 3.1 mil semi-bleached super calendered kraft sheet
	3M™ Indoor UL Recognized Clear Polyester Overlaminated Label Product FM013	.001 in. Clear Polyester NTC	P1212 Perm. 16	78# CCK 4.7 mil stabilized clay coated two side kraft sheet
	3M™ Indoor UL Recognized Clear Polyester Overlaminated Label Product FM014	.001 in. Clear Polyester NTC	P1212 Perm. 16	100# Printable 7.5 mil bleached clay coated one side sheet
	3M™ Indoor UL Recognized Clear Polyester Overlaminated Label Product FM015	.001 in. Clear Polyester NTC	P1212 Perm. 16	90# Polyctd. 7.0 mil bleached kraft sheet polyethylene coated on two sides
	3M™ Indoor UL Recognized Clear Polyester Overlaminated Label Product FM016	.001 in. Clear Polyester NTC	P1212 Perm. 16	55# CCK 3.7 mil stabilized clay coated two side kraft sheet
	3M™ Indoor UL Recognized Clear Polyester Overlaminated Label Product FM017	.001 in. Clear Polyester NTC	P1212 Perm. 16	60# SC 3.4 mil semi-bleached super calendered kraft sheet
	3M™ Indoor UL Recognized Clear Polyester Overlaminated Label Product FM018	.001 in. Clear Polyester NTC	P1212 Perm. 16	44# Poly/Kraft 3.1 mil liner where polypropylene has been laminated to a 44# brown kraft sheet
	3M™ Indoor UL Recognized Clear Polyester Overlaminated Label Product FM019	.001 in. Clear Polyester NTC	P1212 Perm. 16	.0015 in. Clear Polyester Liner
	3M™ Indoor UL Recognized Clear Polyester Overlaminated Label Product FM01G	.001 in. Clear Polyester NTC	P1212 Perm. 16	.002 in. Clear Polypropylene Liner
	3M™ Indoor UL Recognized Clear Polyester Overlaminated Label Product FM01N	.001 in. Clear Polyester NTC	P1212 Perm. 16	.001 in. Clear Polyester Liner
	3M™ Indoor UL Recognized Clear Polyester Overlaminated Label Product FM0139	.001 in. Clear Polyester NTC	P1212 Perm. 16	.0015 in. Clear Polyester Liner – 50 gram

(Calipers are nominal values)

Note: For all clear film face and clear film liner material combinations, a slight appearance variation may be observed along the roll edge. This effect is due to the facestock's haze tolerance and is further magnified by the clear film liner and multiple wraps of clear films. This variation is not associated with a color shift of the facestock and does **NOT** negatively affect the labelstock's clarity in the final overlamination application.

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Features

- Meets CONEG requirements.
- Adhesive dry ingredients are listed by FDA as indirect food contact additives when used in food packaging with minimum opportunity for exposure. See 21 CFR 175.105.
- UL recognized for indoor use files MH11410 and MH16411.
- Liner for 3M™ Indoor UL Recognized Clear Polyester Overlaminated Label Product FM010 is ideal for most sheet on press applications. The backside of the sheet is printable.
- Liner for 3M™ Indoor UL Recognized Clear Polyester Overlaminated Label Products FM011 and FM012 is designed for high-speed die cutting and matrix stripping. Not recommended for sheet on press applications.
- Liner for 3M™ Indoor UL Recognized Clear Polyester Overlaminated Label Product FM012R is the same as FM012 except the liner has been remoisturized after silicone coating to restabilize the sheet and reduce side curl, an excellent choice for perforation and fanfold applications.
- Liner for 3M™ Indoor UL Recognized Clear Polyester Overlaminated Label Product FM013 is excellent for sheet on press applications where additional strength and stiffness is required. The backside of this sheet is printable.
- Liner for 3M™ Indoor UL Recognized Clear Polyester Overlaminated Label Product FM014 has good dimensional stability and caliper control. The backside is printable.
- Liner for 3M™ Indoor UL Recognized Clear Polyester Overlaminated Label Product FM015 is designed for the ultimate in layflat. The backside of this liner is not printable.
- Liner for 3M™ Indoor UL Recognized Clear Polyester Overlaminated Label Product FM016 is used in selected layflat and roll to sheet applications. The backside of the liner is printable.
- Liner for 3M™ Indoor UL Recognized Clear Polyester Overlaminated Label Product FM017 is excellent for perforation and fanfold applications where additional stiffness is required.
- Liner for 3M™ Indoor UL Recognized Clear Polyester Overlaminated Label Product FM018 has excellent caliper control and strength making it ideal for high speed labeling applications.
- Liner for 3M™ Indoor UL Recognized Clear Polyester Overlaminated Label Products FM019 and FM01N is used when high strength and caliper control are important. Recommended for high speed labeling applications or where clarity of the adhesive is critical.
- Liner for 3M™ Indoor UL Recognized Clear Polyester Overlaminated Label Product FM01G is bi-axially oriented and offers exceptional adhesive smoothness and clarity for excellent adhesive wet out. Ideal for overlaminating applications.

Application Ideas

- Overlaminated for labels used on durable goods, nameplates and product ID's.

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Typical Physical Properties

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

Adhesion properties determined per TLMI Method using 1.0 mil polyester with 0.9 mil of adhesive on a polished stainless steel panel.

Peel Adhesion	3.0 lbs./in. (616 N/m)	TLMI Method, 180° Peel, 12"/min., 1" wide sample
Loop Tack	1.8 lbs./in. (316 N/m)	TLMI Method, 12"/min., 1" wide sample
Shear	3 hours	TLMI Method, 0.25 in ² x 500g
Adhesive Coat Weight	1.40 to 1.71 g/100 in ²	TM-2279
Release Range	3M™ Label Products FM010, FM013 FM014, FM016	30 to 100 g/2 in. TLMI Method, 180° removal, 300 in./min.
	3M™ Label Products FM011, FM012, FM012R	5 to 25 g/2 in. TLMI Method, 180° removal, 300 in./min.
	3M™ Label Product FM015	20 to 80 g/2 in. TLMI Method, 180° removal, 300 in./min.
	3M™ Label Product FM017	15 to 50 g/2 in. TLMI Method, 180° removal, 300 in./min.
	3M™ Label Products FM019, FM01G, FM01N	10 to 30 g/2 in. TLMI Method, 180° removal, 300 in./min.
	3M™ Label Products FM018, FM0139	10 to 50 g/2 in. TLMI Method, 180° removal, 300 in./min.
Service Temperature	-20°F to 257°F (-29°C to 125°C)	
Application Temperature	40°F to 120°F (5°C to 49°C)	
Convertability	3M™ General Purpose Acrylic Adhesive P1212 is designed to be compatible with a variety of print methods and indoor end use applications. Adhesive processing issues are not anticipated when proper roll tensions, handling and storage conditions are used. Please refer to the die cutting/converting section of this data page or the "Guide to Converting and Handling Label Products" technical bulletin for additional information.	

Application Techniques

For maximum bond strength, surface should be clean and dry. A typical cleaning solvent is heptane or isopropyl alcohol. **Note:** Consult the manufacturer's MSDS for proper handling and storage of solvents. For best conditions, application surface should be at room temperature or higher. Low temperature surfaces (below 10°F [-12°C]) can cause the adhesive to become so firm that it will not develop contact with the substrate. Higher initial bonds are achieved through increased rub down pressure.

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Printing This film is not treated for printability.

Storage Store at room temperature conditions of 72°F (22°C) and 50% relative humidity. All unconverted and converted label materials should be stored in polyethylene protections to minimize the effects of humidity penetration.

Shelf Life If stored under proper conditions, product retains its performance and properties for two years from date of manufacture.

Product Use All statements, technical information and recommendations contained in this document are based upon tests or experience that 3M believes are reliable. However, many factors beyond 3M's control can affect the use and performance of a 3M product in a particular application, including the conditions under which the product is used and the time and environmental conditions in which the product is expected to perform. Since these factors are uniquely within the user's knowledge and control, it is essential that the user evaluate the 3M product to determine whether it is fit for a particular purpose and suitable for the user's method of application.

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ISO 9001:2000

This Industrial Adhesives and Tapes Division product was manufactured under a 3M quality system registered to ISO 9001:2000 standards.



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