



Clear Polyester Label Products

FM04E • FM04N • FM040 • FM042 • FM043
FM045 • FM046 • FM048 • FM049

Technical Data

December, 2007

Product Description

3M™ Clear Polyester Label Products are durable high performance materials that offer excellent thermal stability and moisture resistance. These products are suitable for demanding applications such as nameplates and product ID labels. These polyester labels utilize 3M™ Adhesive P1212, which is a high clarity general purpose acrylic emulsion for use on overlamination and decorative films and exhibits good initial tack, excellent die cutting properties, minimal cold flow, and good UV resistance.

Construction

Product Number	Facestock	Adhesive	Liner
3M™ Clear Polyester Label Product FM04E	.002 in. Clear Polyester TC	P1212 Perm. 18	50# SC C2S 3.1 mil semi-bleached super calendered kraft sheet
3M™ Clear Polyester Label Product FM04N	.002 in. Clear Polyester TC	P1212 Perm. 18	.001 in. Clear Polyester Liner
3M™ Clear Polyester Label Product FM040	.002 in. Clear Polyester TC	P1212 Perm. 18	60# SBK 3.4 mil stabilized bleached kraft sheet
3M™ Clear Polyester Label Product FM042	.002 in. Clear Polyester TC	P1212 Perm. 18	50# SC 3.1 mil semi-bleached super calendered kraft sheet
3M™ Clear Polyester Label Product FM043	.002 in. Clear Polyester TC	P1212 Perm. 18	78# CCK 4.6 mil bleached clay coated kraft sheet
3M™ Clear Polyester Label Product FM045	.002 in. Clear Polyester TC	P1212 Perm. 18	90# Polycyd. 7.0 mil bleached kraft sheet polyethylene coated on two sides
3M™ Clear Polyester Label Product FM046	.002 in. Clear Polyester TC	P1212 Perm. 18	55# CCK 3.0 mil clay coated kraft sheet
3M™ Clear Polyester Label Product FM048	.002 in. Clear Polyester TC	P1212 Perm. 18	50# Polykraft 3.1 mil liner where polypropylene has been laminated to a 44# brown kraft sheet.
3M™ Clear Polyester Label Product FM049	.002 in. Clear Polyester TC	P1212 Perm. 18	.0015 in. Clear Polyester Liner

(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

- 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.
- CSA approved file 076368. Indoor UL recognized files MH11410 and MH16411.
- Liner for 3M™ Clear Polyester Label Product FM042 is designed for high-speed die cutting and matrix stripping. Not recommended for sheet on press applications.
- Liner for 3M™ Clear Polyester Label Product FM04E is the same as FM042 except that the backside has been coated with a light coating of silicone to reduce label pick on the backside.
- Liner for 3M™ Clear Polyester Label Product FM043 is excellent for sheet on press applications where additional strength and stiffness is required. The backside of this sheet is printable.
- Liner for 3M™ Clear Polyester Label Product FM040 is ideal for most sheet on press applications. The backside of the sheet is printable.
- Liner for 3M™ Clear Polyester Label Products FM04N and FM049 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™ Clear Polyester Label Product FM045 is designed for the ultimate in layflat. The backside of this liner is not printable.
- Liner for 3M™ Clear Polyester Label Product FM046 is used in selected layflat and roll to sheet applications. The backside of the liner is printable.
- Liner for 3M™ Clear Polyester Label Product FM048 has excellent caliper control and strength making it ideal for high speed labeling applications.

Application Ideas

- Durable goods, nameplates, product ID labels.

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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	3.5 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	1.75 g/100 in. ² ± 10%	3M Method E10MFP01
Release Range	3M™ Label Product M04E	15 to 50 g/2 in. TLMI Method, 180° removal, 300 in./min.
	3M™ Label Product FM04N	10 to 30 g/2 in. TLMI Method, 180° removal, 300 in./min.
	3M™ Label Product FM040	30 to 100 g/2 in. TLMI Method, 180° removal, 300 in./min.
	3M™ Label Product FM042	15 to 50 g/2 in. TLMI Method, 180° removal, 300 in./min.
	3M™ Label Product FM043	30 to 100 g/2 in. TLMI Method, 180° removal, 300 in./min.
	3M™ Label Product FM045	20 to 80 g/2 in. TLMI Method, 180° removal, 300 in./min.
	3M™ Label Product FM046	30 to 100 g/2 in. TLMI Method, 180° removal, 300 in./min.
	3M™ Label Product FM048	20 to 80 g/2 in. TLMI Method, 180° removal, 300 in./min.
	3M™ Label Product FM049	10 to 30 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)	

Printing

- High gloss general purpose topcoating is designed for use with a variety of film inks, including flexo, screen, ion deposition, off set, letter press, hot stamp, and thermal transfer printing (the end user should fully evaluate specific ribbons for suitability).

Water-based Flexo inks:

Akzo Nobel Hydro Film 4000 Series

Arcar Ultra Film Series 5 Inks

Ribbons:

Sony 4070

Sony 4075

Sony 5070

Imak SP330

Storage Conditions

Store under normal conditions of 70°F (21°C) and 50% relative humidity. To minimize the effects of humidity on the products, package the die-cut and printed stock in polyethylene bags. Low density polyethylene (2-4 mils) can help prevent humidity penetration.

Shelf Life

To obtain best performance, use this product within two years from the date of manufacture.

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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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