



Technical Data Sheet

3M™ Indoor UL Recognized Matte Clear Polyester Durable Label Material FM232



Additional Info

Product Description

3M™ Indoor UL Recognized Matte Clear Polyester Durable Label Material FM232 is a durable, high performance material that offers thermal stability and moisture resistance. This polyester label utilizes 3M™ Adhesive P1212, which is a high clarity general purpose acrylic emulsion that exhibits initial tack, die cutting properties, minimal cold flow, and UV resistance.

Product Features

- Meets CONEG requirements.
- UL Recognized files MH11410 and MH16411
- Liner for 3M label product FM232 is designed for high-speed die cutting and matrix stripping. Not recommended for sheet on press applications.

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

Attribute Name	Value
Adhesive Type	P1212 Perm. 16
Facestock	Matte Clear Polyester TC
Conformability	Semi-rigid – Label is suitable for flat or slightly curved surfaces.
Adhesive Coat Weight	1.55 g/100 in ² ± 10%

Attribute Name	Value
Facestock Thickness	0.025 mm (1 mil)
Liner	50# SC semi-bleached super calendered kraft sheet
Liner Thickness	0.079 mm (3.1 mil)

Construction Tested

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

Typical Performance Characteristics

Test Method: TLMI

Attribute Name	Temperature	Substrate	Value
180° Peel Adhesion	23 °C (73 °F)	Stainless Steel	5.28 N/cm (48 oz/in) ¹
Liner Release	23 °C (73 °F)		2 – 9.8 g/cm (10 – 50 g/2 in) ²
Shear Adhesion			3 h ³
Loop Tack			3.16 N/cm (28.8 oz/in) ¹

¹ 300 mm/min (12 in/min)

² 180° removal, 300 in/min

³ 0.25 in² x 500g

Attribute Name	Value
Application Temperature	5 — 49 °C (40 — 120 °F)
Long Term Temperature Resistance	125 °C (257 °F) ¹
Minimum Long Term Temperature Resistance	-29 °C (-20 °F) ¹

¹ Long Term (day, weeks)

Attribute Name	Value
Note	Calipers are nominal values

Printing

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
limak SP330

Handling/Application Information

Application Examples

Durable goods, nameplates, product ID labels and overlaminates.

Industry Specifications

UL Recognized, File PGGU2.MH11410, Marking & Labeling System Materials - Component, ANSI/UL 969
UL Recognized, File PGJ12.MH16411, Printing Materials - Component, ANSI/UL 969
Meets CONEG requirements

Storage and Shelf Life

Store under normal conditions of 16° to 27°C (60° to 80°F) and 40 to 60% relative humidity in a sealed plastic bag, out of direct sunlight. For best performance, use this product within 24 months from date of manufacture.

Information

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ISO Statement

This product was manufactured under a 3M quality system registered to ISO 9001 standards.

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