



Technical Data Sheet

3M™ Polyester Overlaminating Film 7731FL



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Product Description

3M™ Polyester Overlaminating Films utilize a clear or matte polyester film that is recommended for optimum durability and outdoor UV exposure. 3M™ Adhesive 400 offers low temperature performance and long term aging for resistance to yellowing in outdoor applications.

Product Features

- These polyester overlaminates are abrasion, humidity and solvent resistance materials that offer high-bond strength to resist edge lifting UV exposure resistant for extended periods of time.
- 3M polyester overlaminating film 7731FL film liner version offers graphic appearance for metallized or darker colors. The polyester liner is recommended for clean room applications.
- UL Recognized file MH11410

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	#400 Acrylic
Facestock	Clear Polyester

Attribute Name	Value
Adhesive Thickness	0.02 mm (0.8 mil)
Facestock Thickness	0.05 mm (2 mil)
Liner	Clear Polyester
Liner Thickness	0.038 mm (1.5 mil)

Attribute Name	Value
Convertability	Low temperature, high clarity 3M™ Acrylic Adhesive 400 is specifically designed to be compatible with a variety of print methods and over laminate applications. When converting labels for thermal transfer applications, care should be taken with regard to proper roll tensions, handling and storage conditions.

Typical Performance Characteristics

180° Peel Adhesion

Temperature: 23 °C (73 °F)

Test Method: ASTM D3330

Dwell Time	Substrate	Value
10 min	Polyester (PET)	5.2 N/cm (48 oz/in) ¹
10 min	Stainless Steel	4.9 N/cm (45 oz/in) ¹
72 h	Polyester (PET)	5.5 N/cm (51 oz/in) ¹
72 h	Stainless Steel	6.5 N/cm (60 oz/in) ¹

¹ 300 mm/min (12 in/min)

Temperature: 23 °C (73 °F)

Attribute Name	Test Method	Value
Liner Release	TLMI	1 — 10.8 g/cm (5 — 55 g/2 in) ¹

¹ 180° removal, 300 in/min

Attribute Name	Value
Minimum Application Temperature	-12 °C (10 °F)
Long Term Temperature Resistance	121 °C (250 °F) ¹
Minimum Long Term Temperature Resistance	-40 °C (-40 °F) ¹

¹ Long Term (day, weeks)

Attribute Name	Value
Note	Calipers are nominal values

Typical Environmental Characteristics

Environmental Resistance

Chemical Resistance:

Isopropyl Alcohol:No Change

Detergent:No Change

Engine Oil at 250°F (121°C): No Change

Water for 48 hours:Slight Fogging

Temperature Resistance:

300°F (149°C) for 24 hours: Slight Yellowing

-40°F (-40°C) for 24 hours: No Change

Humidity Resistance:

24 hours at 100°F (38°C) at 100% relative humidity:

3M polyester overlaminating film 7732FL:Slight Change, Cloudy

3M polyester overlaminating film 7730FL/31FL/33FL/41/42: No Change

Printing

Facestocks are not print treated.

Converting

Rotary or flat-bed after lamination.

Handling/Application Information

Application Examples

- Protective overlamine for label and nameplate graphics can be used on appliances, industrial equipment, tools etc.
- Graphics requiring a high-gloss or matte appearance.

Application Techniques

For maximum bond strength, the surface should be clean and dry. Typical cleaning solvents are heptane and isopropyl alcohol.*

For best bonding conditions, application surface should be at room temperature or slightly higher. Low temperature surfaces, below 50°F (10°C) can cause the adhesive to become firm and will not allow the adhesive to flow and develop intimate contact with the substrate.

Higher initial bonds are achieved through increased rub down pressure. Use maximum laminating pressure for best results.

*Note: When using solvents, read and follow the manufacturer's precautions and directions for use.

Industry Specifications

UL Recognized, File PGGU2.MH11410, Marking & Labeling System Materials - Component, ANSI/UL 969

Storage and Shelf Life

Store under normal conditions of 16° to 27°C (60° to 80°F) and 40 to 60% relative humidity in the original packaging, out of direct sunlight. For best performance, use this product within 12 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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