



# Polyester Overlaminating Film

7744FL

Page 1 of 5

Technical Data

September 1, 2000

*Supersedes: new*

---

## Construction

(Calipers are nominal values.)

### Facestock

1.3 mil (33 micron)  
Matte clear polyester

### Adhesive

0.8 mil (20 micron)  
#400 Acrylic

### Liner

1.5 mil (38 micron)  
Polyester Film

---

## Features

- Facestock is topcoated for thermal transfer printing. Resin ribbons are recommended for optimum durability. The topcoat also provides improved ink anchorage for traditional forms of press printing.
  - #400 adhesive offers excellent low temperature performance and peel adhesion to a wide variety of substrates. It has excellent long term aging that resists yellowing.
  - Polyester liner contributes to improved diecutting by allowing for deeper diecuts than paper without the added concern of exposing paper fibers. A backside release coating helps minimize label blocking. The film liner resists breakage during high speed dispensing. The polyester liner is recommended for clean room applications.
  - High-bond strength resists edge lifting.
  - Superior abrasion, humidity and solvent resistance.
  - Premium overlaminate performance for extreme environmental conditions.
  - Film liner offers superior graphic appearance for metalized or darker colors.
  - 3M™ Label Material 7744FL is UL recognized (File MH16411). See UL listing for details.
  - CSA acceptance is pending. After completion see the CSA listing (File 99316).
- 

## Application Ideas

- Barcode labels and rating plates.
- Property identification and asset labeling.
- Warning, instruction, and service labels for durable goods.
- Nameplates for durable goods.
- Printable overlaminate for variable information.
- Protective overlaminate for label and nameplate graphics can be used on appliances, industrial equipment, tools, etc.

# 3M™ Polyester Overlaminating Film

## 7744FL

### Typical Physical Properties and Performance Characteristics

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

Adhesion: 180° Peel, 12" /minute Dwell (ASTM D-3330, 305 mm/min), 1" wide sample, at 72°F (22°C) and 50% relative humidity. Values: oz./inch width.

Surface	Initial (10 Minute Dwell/RT)				Conditioned for 3 Days at Room Temperature 72°F (22°C)			
	180° Peel		90° Peel		180° Peel		90° Peel	
	Oz./In.	N/100 mm	Oz./In.	N/100 mm	Oz./In.	N/100 mm	Oz./In.	N/100 mm
Stainless Steel	29	32	23	25	41	45	32	35
Polycarbonate	33	36	28	31	39	43	37	40
Polypropylene	27	30	19	21	29	32	26	28
Glass	32	35	24	26	40	44	40	44
HD Polyethylene	12	13	8	9	14	15	12	13
LD Polyethylene	11	12	9	10	14	15	17	19

Surface	Conditioned for 3 Day at 120°F (49°C)				Conditioned for 24 Hours at 90°F (32°C) at 90% Relative humidity			
	180° Peel		90° Peel		180° Peel		90° Peel	
	Oz./In.	N/100 mm	Oz./In.	N/100 mm	Oz./In.	N/100 mm	Oz./In.	N/100 mm
Stainless Steel	46	50	38	42	67	73	33	36
Polycarbonate	26	28	27	30	34	37	33	36
Polypropylene	32	35	25	27	28	31	21	23
Glass	50	55	38	42	47	51	26	28
HD Polyethylene	21	23	15	16	17	19	15	16
LD Polyethylene	5	5	7	8	10	11	17	19

**Liner Release:** 180° Removal of Liner from Facestock

Rate of Removal	Grams/Inch Width	N/100 mm
90 inches/minute	11	0.42
300 inches/minute	13	0.50

**Environmental Performance**

The properties defined are based on 4-hour immersions at room temperature (72°F/22°C) unless otherwise noted. Samples were applied to stainless steel panels 24 hours prior to immersion and were evaluated one hour after removal from the solution for peel adhesion. Adhesion measured at 180° peel angle (ASTM D 3330) at 12 inches/minute.

Chemical Resistance:

Chemical	Adhesion to Stainless Steel		Appearance	Edge Penetration
	Oz./in.	N/100 mm	Visual	Millimeters
Isopropyl Alcohol	39	43	No change	0.0
Detergent (1% Alconox®*)	42	46	No change	0.0
Engine Oil (10W30) @ 250°F (121°C)	53	58	No change	2.0
Water for 48 hours	62	68	No change	0.0
pH 4	43	47	No change	0.0
pH 10	44	48	No change	0.0
409®* Cleaning Solution	45	49	No change	0.0
Toluene	23	25	No change	7.0
Acetone	28	31	No change	5.0
Brake Fluid	54	59	No change	0.0
Gasoline	24	26	No change	6.0
Diesel Fuel	39	43	No change	1.5
Mineral Spirits	34	37	No change	3.0
Hydraulic Fluid	43	47	No change	0.0

**Temperature Resistance:**

300°F (149°C) for 24 hours:

No significant visual change.

-60°F (-51°C) for 10 days:

No significant visual change.

**Humidity Resistance:**

24 hours at 100°F (38°C) and 100% relative humidity: No significant changes in appearance or adhesion

---

**Shelf Life**

Two years from date of manufacture of product when properly stored at 72°F (22°C) and 50% relative humidity.

---

**Processing****Printing:**

Facestock is topcoated for improved ink receptivity and is designed for thermal transfer printing. It is printable by all standard roll processing methods including flexography, hot stamp, letterpress, and screen printing.

**Thermal Transfer Printing:**Ink Ribbon/UL Recognized Components:

Advent: 301 Black; 303 Black; 501 Black; 501 Red; 501 Blue; 501 Green

Armor: AXR-7; AXR-7+; AXR-600

Astromed™: R5

CP™: 5440 Red; 5640 Blue; 5940 Black

Dasco: DR-74; DR-84

Great Ribbon: SDR; GPR

ICS: ICS-CC-2000; ICS-CC-4099.1

Iimak™: SH-36; SP-330; PrimeMark

Intermec: 051864-3; 053258-2; 054048-4; 054195-2

Japan Pulp and Paper: JP Resin 1; JP Resin 2 Blue;

JP Resin 2 Red; JP Resin 2 Green

Kurz™: K501

Markem™: 716

Mid City Columbia™: CGL-80; CGL-80HE

NCR™: Matrix Resin; Matrix (suitable for indoor use only);

PaceSetter; Promark II; Ultra V

Pelikan™: T016

Ricoh™: B110A; B110C; B110CS

Sato™: Premier 1

Sony™: 4050; 4051; 4070; 4072; 4075; 4085; 5070;

Signature™ Series Resin; Signature™ Series Wax

UBI™: HR03; HR04

Zebra™: 5095; 5097; 5099; 5100; 5175; 5555

**Laser Toner Printing:**

UL recognized with the following printers and toners.

Toner and Printer/UL Recognized Components:

Hitachi HMT 446 toner kit for producing finished printed labels with UL listed

Synergystex CT-1000 laser printer

**Die Cutting:**

Rotary die cutting is recommended. Fanfolding of labels is not recommended.

Small labels should be evaluated carefully. Winding tensions should be kept at a minimum to help prevent the adhesive from oozing.

**Packaging:**

Finished labels should be stored in plastic bags.

---

**Special Considerations**

For maximum bond strength, surface should be clean and dry. A typical cleaning solvent is heptane or isopropyl alcohol.

Note- Consult the manufacturer's Material Safety Data Sheet for proper handling and storage of solvents.

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

Silicone overspray/contamination of the substrate can cause poor adhesion.

---

**Technical Information and Data**

The technical information and data, recommendations, and other statements provided are based on tests or experience which 3M believes to be reliable, but the accuracy or completeness of such information is not guaranteed.

---

**Product Use**

Please remember that many factors can affect the use and performance of a 3M product in a particular application. The materials to be bonded with the product, the surface preparation of those materials, the product selected for use, the conditions in which the product is used, and the time and environmental conditions in which the product is expected to perform are among the many factors that can affect the use and performance of a 3M product. Given the variety of factors that can affect the use and performance of a 3M product, some of which 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.

---

**Warranty and Limited Remedy**

The 3M product will be free from defects in material and manufacture for a period of one (1) year from the date of manufacture. 3M MAKES NO OTHER WARRANTIES OR CONDITIONS, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY IMPLIED WARRANTY ARISING OUT OF A COURSE OF DEALING, CUSTOM, OR USAGE OF TRADE. User is responsible for determining whether the 3M product is fit for a particular purpose and suitable for user's method of application. If the 3M product is proved to be defective within the warranty period stated above, your exclusive remedy and 3M's sole obligation shall be, at 3M's option, to replace or repair the 3M product or refund the purchase price of the 3M product.

---

**Limitation of Liability**

Except where prohibited by law, 3M will not be liable for any loss or damage arising from the 3M product, whether direct, indirect, special, incidental, or consequential, regardless of the legal theory asserted, including, but not limited to, contract, warranty, negligence, or strict liability.

\* Trademarks listed are the property of their respective owners.



**Industrial Tape and Specialties Division**

Converter Markets  
3M Center, Building 220-7W-03  
St. Paul, MN 55144-1000  
USA  
1 800 223 7427 Product Information/Fax On Demand  
[www.3M.com/converter](http://www.3M.com/converter)

Printed in U.S.A.  
Copyright 2000, 3M IPC all rights reserved  
70-0709-4888-3