Laser Toner Printable Polyester Label Material

7845TL

Technical Data **April 15, 1999**

Supersedes July 1, 1997

Construction

(Calipers are nominal values.)

Facestock	Adhesive	Liner
1.3 mil (33 micron) Matte clear polyester	0.8 mil (20 micron) #310 acrylic	3.7 mil (94 micron) 55# Clay coated kraft

Features

- Topcoated polyester provides excellent toner anchorage. It is also receptive to dot matrix printing and is hand writeable. The matte coating resists degradation from scuffing, chemicals, moisture, and wide temperature fluctuations. The topcoat also provides improved ink anchorage for traditional forms of press printing.
- #310 adhesive is a firm adhesive which resists oozing and provides high strength on a variety of surfaces including high surface energy (HSE) plastics and metals.
- 55# TL layflat liner is designed for sheet fed laser toner printers.
- 3M™ Label Material 7845TL is UL recognized (File MH16411). See the UL listing for details.

Application Ideas

- Barcode labels and rating plates.
- Property identification and asset labeling.
- Warning, instruction, and service labels for durable goods.
- Nameplates for durable goods.

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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: 180° peel test procedure is ASTM D 3330.
90° peel test procedure is ASTM D 3330 modified for the angle change.

	Initial (10 Minute Dwell/RT)				Conditioned for 3 Days at Room Temperature 72°F (22°C)			
	180° Peel		90° Peel		180° Peel		90° Peel	
Surface	Oz./In.	N/100 mm	Oz./In.	N/100 mm	Oz./In.	N/100 mm	Oz./In.	N/100 mm
Stainless Steel	43	47	35	38	51	56	41	45
Polycarbonate	47	51	37	40	52	57	43	47
Polypropylene	18	20	16	18	18	20	24	26
Glass	52	57	34	37	68	74	47	51
HD Polyethylene	24	26	16	18	33	36	20	22
LD Polyethylene	20	22	12	13	32	35	22	24

	Conditioned for 3 Days 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	
Surface	Oz./In.	N/100 mm	Oz./In.	N/100 mm	Oz./In.	N/100 mm	Oz./In.	N/100 mm
Stainless Steel	60	66	46	50	74	81	46	50
Polycarbonate	41	45	32	35	62	68	40	44
Polypropylene	35	38	30	33	38	42	27	30
Glass	68	74	42	46	66	72	32	35
HD Polyethylene	30	33	20	22	35	38	27	30
LD Polyethylene	5	4	8	9	20	22	24	26

Liner Release: 180° Removal of Liner from Facestock

Rate of Removal	Grams/Inch Width	N/100 mm
90 inches/minute	34	1.31
300 inches/minute	32	1.24

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Environmental Performance

The properties defined are based on four 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:

	Adhesion to Stainless Steel		Appearance	Edge Penetration
Chemical	Oz./in.	N/100 mm	Visual	Millimeters
Isopropyl Alcohol	54	59	No change	1
Detergent (1% Alconox®*)	66	72	No change	0
Engine Oil (10W30) @ 250°F (121°C)	70	77	No change	1.5
Water for 48 hours	72	79	No change	0
pH 4	70	77	No change	0
pH 10	66	72	No change	0
409®* Cleaning solution	65	71	No change	0
Toluene	29	32	Top coat damaged	6.3
Acetone	38	42	Top coat damaged or gone	4.5
Brake Fluid	77	84	No change	0
Gasoline	32	35	No change	5.5
Diesel Fuel	55	60	No change	1
Mineral Spirits	48	52	No change	2.3
Hydraulic Fluid	58	63	No change	0

Temperature Resistance:

300°F (149°C) for 24 hours: no significant visual change

-40°F (-40°C) for 10 days: no significant visual change

Humidity Resistance:

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

Accelerated Aging:

ASTM D 3611: 96 hours at 150°F (65°C) and 80% relative humidity

	Rate of Removal	Oz./In. Width	N/100 mm
180° Peel Adhesion from Stainless Steel	12 inches/minute	49	54

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Shelf Life

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

Agency Listing Information

Laser Toning Printing:
*Laser Toner/UL Recognized

Hitachi HMT 446 toner kit for producing finished printed labels with UL Listed Synergystex™ CF1000 laser printer, Analog Technology Corporation (ATC) 8030, Facit™ D7160, IBJ 1600C, Diagraph™ Predator™, OTC Laser Matrix 1000, CAB CF1000 or QMS™ Magnum CF2215 laser printer.

Processing

General:
Use label material in environment of 70°F (21°C) and 50% relative humidity. 1/16" periphery removal of the label matrix is recommended to minimize adhesive ooze. If foam is used to pack the die when rotary sheeting, the foam should be kept at least 3/4" away from knife edges.

Poly-bag sheets after converting the label material. Keep the laser label material in polyethylene (LDPE) bags until printing. No more than 250 sheets per box.

Fan all edges of sheets prior to laser printing. Use the straightest printing path when printing laser label materials. The extreme heat and pressure used in the toner fusing section of some laser printers may cause curl in the printed label material.

Printing:
Facestock is topcoated for improved ink receptivity and is designed for laser toner and dot matrix printing. It is printable by all standard roll processing methods including flexography, hot stamp, letterpress, and screen printing. Refer to the Graphic Ink Selection Guide or call 3M Customer Service at 1-800-223-7427 for additional information.

Die Cutting:
Designed for rotary die cutting. Use sharp rotary dies tooled for the specific label material. Avoid stacking fanfolded labels higher than three or four inches. Polybagging of finished, fanfolded or stacked labels is recommended.

Packaging:
Finished labels should be stored in plastic bags.

Special Considerations

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

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

For best bonding conditions, application surface should be at room temperature or higher. Low temperature surfaces, below 50°F (10°C), can cause the adhesive to become so firm that it will not develop maximum contact with the substrate. Higher initial bonds can be achieved through increased rubdown pressure.

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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.

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Industrial Tape and Specialties Division

3M Center, Building 220-7W-03
St. Paul, MN 55144-1000
USA
1 800 362 3550
1 800 223 7427 Fax On Demand
www.3M.com

 70-0709-1045-3