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3M
Laser Toner Printable Polyester Label Material
7850TL

Technical Data **August, 2007**

Product Description

3M™ Laser Toner Printable Polyester Label Material 7850 is a matte radiant white polyester label stock that offers . This label product utilizes 3M™ Adhesive 350 which is an universal adhesive for label material that offers excellent chemical resistance and holding strength even at high temperatures.

Construction

(Calipers are nominal values.)

Facestock	Adhesive	Liner
2.3 mil (58 micron) Matte radiant white polyester	1.1 mil (28 micron) #350 Acrylic	3.7 mil (94 micron) 55# Clay coated kraft

Features

- Adhesive can permanently bond to high surface energy (HSE) and low surface energy (LSE) plastics, textured and contoured surfaces, powder coatings, and slightly oily metals
- 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.
- 55# TL layflat liner is designed for sheet fed laser toner products.
- UL recognized (File MH16411). See the UL listings for details.
- Meets British Standard BS-5609.
- Ambient temperatures and humidity levels will impact lay flat properties of label material. Store unconverted label stock in controlled environment of 70°F (21°C) and 50% relative humidity.
- To test lay flat properties of converted material, place in controlled environment described above. Converted laser sheet will acclimate and return to lay flat state.
- Slight curl may not affect processing in many laser printers.

**Refer to Technical Bulletin for tips on proper Storing, Converting, and Processing of sheet fed label products.

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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	72	79	47	51	83	91	73	80
Polycarbonate	70	77	46	50	75	82	52	57
Polypropylene	41	45	12	13	50	55	20	22
Glass	75	82	61	67	80	88	69	76
HD Polyethylene	37	40	13	14	40	44	19	21
LD Polyethylene	35	38	22	24	35	38	31	34
Smooth Powder Coating	65	71	–	–	66	72	–	–
Finely Textured Powder Coating	35	38	–	–	36	39	–	–

	Conditioned for 3 Days at 120F (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	88	96	83	91	92	101	81	89
Polycarbonate	54	59	25	27	53	58	31	34
Polypropylene	50	55	22	24	36	39	25	27
Glass	84	92	74	81	81	89	68	74
HD Polyethylene	39	43	22	24	39	43	26	28
LD Polyethylene	11	12	11	12	25	27	33	36
Smooth Powder Coating	71	78	–	–	64	70	–	–
Finely Textured Powder Coating	34	37	–	–	34	37	–	–

Liner Release: 180° Removal of Liner from Facestock

Rate of Removal	Gram/Inch Width	N/100 mm
90 inches/minute	50	1.93
300 inches/minute	112	4.32

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Environmental Performance

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

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	71	78	No change	0.5
Detergent 1% Alconox® Cleaner	82	90	No change	1.6
Engine Oil (10W30) @ 250°F (121°C)	82	90	No change	1.4
Water for 48 hours	83	91	No change	1.2
pH 4	77	84	No change	5.0
pH 10	77	84	No change	5.0
409® Formula	84	92	No change	3.0
Toluene	38	42	No change	5.0
Acetone	53	58	No change	5.0
Brake Fluid	93	102	No change	0.6
Gasoline	48	52	No change	5.0
Diesel Fuel	80	88	No change	1.0
Mineral Spirits	69	76	No change	3.0
Hydraulic Fluid	88	96	No change	0.0

Temperature Resistance: When applied to stainless steel. Other substrates should be tested per application.

300°F (149°C) for 24 hours: no significant visual change
0.4% MD shrinkage
0.6% CD shrinkage

-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	Grams/Inch Width	N/100 mm
180° Removal of Liner from Facestock	90 inches/minute	54	2.08

	Rate of Removal	Oz./In. Width	N/100 mm
180° Peel Adhesion from Stainless Steel	12 inches/minute	76	83

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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 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.

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

Application Ideas

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

Agency Listing Information

Laser Toner Printing

Laser Toner/UL Recognized

Hewlett Packard 92274A, 92275A, 92291A, 92295A, 92298A, C3900A, C3903A, C3909A toner cartridges for producing finished printed labels with compatible UL listed Hewlett Packard HP Laserjet printers.

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 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 if recommended.

Packaging:
Finished labels should be stored in plastic bags.

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Storage

Store at room temperature conditions of 72°F (22°C) and 50% relative humidity.

Shelf Life

If stored under proper conditions, product retains its performance and properties for one year from date of manufacture.

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

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