Computer-Imprintable Polyester Label Material

7883

Technical Data **April 15, 1999**

Supersedes November 1, 1997

Construction

(Calipers are nominal values.)

Facestock	Adhesive	Liner
3.3 mil (84 micron)	0.8 mil (20 micron)	3.2 mil (81 micron)
Matte silver polyester	#300 Acrylic	55# Densified kraft

Features

- Topcoated polyester is compatible with 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.
- #300 adhesive bonds well to a wide variety of substrates including metals, high surface energy (HSE) plastics and low surface energy (LSE) plastics. It is ideal for applications requiring high initial adhesion especially to LSE plastic surfaces.
- 55# densified kraft liner assures consistent die cutting.
- 3M™ Label Material 7883 is UL recognized (Files MH11410 and MH16411) and CSA accepted (File 99316). See the UL and CSA listings 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.
- Substitutes for stamped metal, riveted plates.

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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	56	61	42	46	67	73	46	50
Polycarbonate	59	67	44	48	61	67	46	50
Polypropylene	53	58	38	42	56	61	38	42
Glass	60	66	42	46	71	78	48	52
LD Polyethylene	35	38	28	31	40	44	28	31
HD Polyethylene	32	35	25	27	42	46	34	37

	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	70	77	50	55	68	74	53	58
Polycarbonate	30	33	17	19	55	60	36	39
Polypropylene	54	59	42	46	66	72	44	48
Glass	70	77	50	55	67	73	44	48
LD Polyethylene	40	44	29	32	45	49	32	35
HD Polyethylene	9	10	10	11	36	39	30	33

Liner Release: 180° Removal of Liner from Facestock

Rate of Removal	Grams/Inch Width	N/100 mm
90 inches/minute	14	0.54
300 inches/minute	18	0.69

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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	60	66	No change	0.8
Detergent (1% Alconox®*)	64	70	No change	0
Engine Oil (10W30) @ 250°F (121°C)	64	70	No change	1
Water for 48 hours	66	72	No change	0
pH 4	65	71	No change	0
pH 10	64	70	No change	0
409®* Cleaning solution	64	70	No change	0
Toluene	33	36	Topcoat damaged	6.5
Acetone	47	51	Topcoat damaged or gone	4.3
Brake Fluid	74	81	No change	0
Gasoline	36	39	No change	5.8
Diesel Fuel	62	68	No change	1
Mineral Spirits	54	59	No change	2.4
Hydraulic Fluid	66	72	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	Grams/Inch Width	N/100 mm
180° Removal of Liner from Facestock	90 inches/minute	16	0.62
	Rate of Removal	**Oz./In. Width**	**N/100 mm**
180° Peel Adhesion from Stainless Steel	12 inches/minute	54	59

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Shelf Life

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

Agency Listing Information

Dot Matrix Printing:
*UL recognized and CSA accepted component for indoor and outdoor use.
The following ribbons are UL recognized when used with this material.

- CGL-79™ from Mid-City Columbia, 800-462-2336 or 800-996-4656
- Ranger 288 from Herbert Dehinton & Co., 847-998-8150

3M does not recommend the Ranger 288 ribbon for bar code printing.

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 CF-1000 laser printer

Processing

Printing:
Facestock is topcoated for improved ink receptivity and is designed for 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:
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, 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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