



Technical Data Sheet

3M™ Durable Label Material 7840HL



Additional Info

Product Description

3M™ Durable Label Material 7840HL is a matte radiant white polyester label stock that offers excellent moisture resistance and thermal stability. This label product utilizes utilize 3M™ Adhesive 310 which is a firm adhesive which resists oozing and provides high strength on a variety of surfaces including high surface energy (HSE) plastics and metals.

Product 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.
- UL recognized (File MH16411) See the UL listing for additional details
- 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.
- 78# CCK liner is designed for sheet fed laser toner products and is backside printable. 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 occur as a result of heat exposure through the laser print but should not affect processing in many laser printers.

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	#310 Acrylic
Facestock	Matte Radiant White Polyester

Attribute Name	Value
Adhesive Thickness	0.02 mm (0.8 mil)
Facestock Thickness	0.058 mm (2.3 mil)
Liner	78# Clay coated kraft
Liner Thickness	0.117 mm (4.6 mil)

Typical Performance Characteristics

180° Peel Adhesion

Temperature: 23 °C (73 °F)

Test Method: ASTM D3330

Dwell Time	Substrate	Value
10 min	Polycarbonate (PC)	5.1 N/cm (47 oz/in) ¹
10 min	Polypropylene (PP)	2 N/cm (18 oz/in) ¹
10 min	Stainless Steel	4.7 N/cm (43 oz/in) ¹
72 h	Polycarbonate (PC)	5.7 N/cm (52 oz/in) ¹
72 h	Polypropylene (PP)	2 N/cm (18 oz/in) ¹

Dwell Time	Substrate	Value
72 h	Stainless Steel	5.6 N/cm (51 oz/in) ¹

¹ 300 mm/min (12 in/min)

Temperature: 23 °C (73 °F)

Attribute Name	Test Method	Value
Liner Release	TLMI	1 – 14.7 g/cm (5 – 70 g/2 in) ¹

¹ 180° removal, 300 in/min

Attribute Name	Value
Minimum Application Temperature	10 °C (50 °F)
Long Term Temperature Resistance	149 °C (300 °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 Performance

180° Peel Adhesion

Temperature: 32 °C (90 °F)

Dwell Time: 24 h

Test Method: ASTM D3330

Environmental Condition: 90 %RH

Substrate	Value
High Density Polyethylene (HDPE)	3.8 N/cm (35 oz/in) ¹
Polycarbonate (PC)	6.8 N/cm (62 oz/in) ¹
Polypropylene (PP)	4.2 N/cm (38 oz/in) ¹
Stainless Steel	8.1 N/cm (74 oz/in) ¹

¹ 300 mm/min (12 in/min)

Typical Environmental Characteristics

Humidity Resistance

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

Processing

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.

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.

Handling/Application Information

Application Examples

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

Application Techniques

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.

Agency Listing Information

Laser Toner 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.

Industry Specifications

UL Recognized (File MH16411)

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 24 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.

3M™ Industrial Adhesives and Tapes Division
3M Center, St. Paul, MN 55144-1000
3M.com/iatd

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