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English-US

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Technical Data Sheet

3M™ Durable Label Material 7850TL

Product Details

Regulatory Info/SDS

Product Description

3M™ Durable Label Material 7850HL is a matte radiant white polyester label stock that offers excellent moisture resistance and thermal stability. This label product utilizes 3M™ Adhesive 350 which is a versatile adhesive for label material that offers excellent chemical resistance and holding strength even at high temperatures.

Product 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.

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	#350 Acrylic
Facestock	Matte Radiant White Polyester

Attribute Name	Value
Adhesive Thickness	0.028 mm (1.1 mil)
Facestock Thickness	0.058 mm (2.3 mil)
Liner	55# Clay Coated Kraft
Liner Thickness	0.094 mm (3.7 mil)

Attribute Name	Value
Convertability	In order to capture the superior performance properties of 3M™ High Holding Acrylic Adhesive 350, thicker calipers are utilized for LSE or textured substrates. Its higher caliper, while desirable for the end use applications, may require extra care during processing.

Typical Performance Characteristics

180° Peel Adhesion

Temperature: 23 °C (73 °F)
Test Method: ASTM D3330

Dwell Time	Substrate	Value
10 min	Polycarbonate (PC)	7.7 N/cm (70 oz/in) [1]
10 min	Polypropylene (PP)	4.5 N/cm (41 oz/in) [1]
10 min	Stainless Steel	7.9 N/cm (72 oz/in) [1]
72 h	Polycarbonate (PC)	8.2 N/cm (75 oz/in) [1]
72 h	Polypropylene (PP)	5.5 N/cm (50 oz/in) [1]
72 h	Stainless Steel	9.1 N/cm (83 oz/in) [1]

[1] 304 mm/min (12 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)	4.3 N/cm (39 oz/in) [1]
Polycarbonate (PC)	5.8 N/cm (53 oz/in) [1]
Polypropylene (PP)	3.9 N/cm (36 oz/in) [1]
Stainless Steel	10.1 N/cm (92 oz/in) [1]

[1] 304 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

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. 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.

Converting

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.

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.*
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.

Industry Specifications

UL Recognized (File MH16411)
CSA Accepted (File 99316)

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 12 months from date of manufacture.

Available Sizes

Attribute Name	Value
Packaging	Finished labels should be stored in plastic bags.

Information

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ISO Statement

This product was manufactured under a 3M quality system registered to ISO 9001 standards.

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