



# Laser Markable Label Material 7847

Technical Data

June 2017

Product Description	3M™ Laser Markable Label Material 7847 are specialty film label materials where a laser can ablate the top layer of a dual-layer facestock to create an image. The same laser can also kiss cut the label to size, maximizing flexibility for producing variable labels for durable applications.
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Construction	(Calipers are nominal values.)			
	Product	Facestock	Adhesive	Liner
	3M™ Label Material 7847	2.4 mil (60 microns)	0.8 mil (24 microns) #350 high-holding acrylic	3.0 mil (77 microns) Densified Kraft

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| Features | <ul style="list-style-type: none"><li>• Cast modified acrylate facestock offers long-term durability and excellent abrasion, temperature, chemical and environmental resistance</li><li>• High-resolution and high-contrast images markable with standard Nd-Yag lasers for smaller barcodes, 2-D symbologies and fine point text.</li><li>• Excellent convertability (“kiss cutting”) of acrylate facestock on densified kraft liner.</li><li>• Matte surface provides good printability resulting in excellent bar code readability.</li><li>• 3M™ High Performance Acrylic Adhesive 350 provides reliable, permanent adhesion to LSE plastics, oily metals, powder coatings and textured surfaces.</li><li>• Brittle facestock material provides destructibility to meet security labeling requirements.</li><li>• No corrosive emissions during the laser marking process.</li><li>• UL Recognized Component under file MH11410.</li><li>• CSA Recognized Component under file 99316.</li></ul> |
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| Application Ideas | <ul style="list-style-type: none"><li>• Durable goods marking</li><li>• Under hood labels</li><li>• Barcode labels</li><li>• Process labeling in-plant</li></ul> | <ul style="list-style-type: none"><li>• Asset labels</li><li>• Security labels</li><li>• Information labels with 2-D</li></ul> |
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# 3M™ Laser Markable Label Material 7847

## Typical Physical Properties and Performance Characteristics

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

<b>Minimum Application Temperature:</b>	39°F (4°C)
<b>Elongation at Break:</b>	ca. 5%
<b>Tensile Strength:</b>	28 N/cm width

## Environmental Performance

Note: The following tests are intended as a guide to product performance. Application testing is recommended using actual substrates, expected dwell times, and actual conditioning for best determination of product suitability.

Temperature Resistance: Resistant up to 392°F (200°C) (when applied to aluminum surfaces) 440°F (225°C) for 60 min.

Dimensional Stability: <1% after 2 hours at 200 °C, or 24 hours at 150 °C  
<1% after 24 hours -40°C:

Adhesive Performance/Bond Strength:

Substrate	Oz/inch	N/inch.
Stainless Steel	115	32
Polypropylene	86	24
Polycarbonate	82	23
ABS	93	26

72 hour room temperature dwell, 300 mm/min., at 180° angle, film width: 25.4 mm. Adhesive performance for each case can depend on the texture of the surface. The above adhesive values are average values. They are not appropriate for specifications.

Weather Resistance: Acceleration test in the Xenon device, 2000 hours: No change.

Resistance to Environmental Conditions:  
(applied to aluminum): No change.

24 hours	-40°F (-40°C)
24 hours	300°F (150°C)
2 hours	390°F (200°C)

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## Environmental Performance (continued)

Note: The following tests are intended as a guide to product performance. Application testing is recommended using actual substrates, expected dwell times, and actual conditioning for best determination of product suitability.

### Resistance to Chemical Immersion:

Substance	Exposure	Time Results
Diesel	4 hours	No change
Dot 4	1 Hour	No change

Salt Spray: 150 Hours : no change

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## Processing

### Laser Marking:

- 3M™ Laser Markable Label Material 7847 are compatible with many kinds of dispenser systems and is suitable for a continuous process with minimal supervision.
- 3M recommends operating an exhaust system combined with a charcoal filter to reduce emissions during the laser operation.
- All Nd-Yag laser marking equipment on the market can ablate and “kiss cut” 3M™ Laser Markable Label Material 7847.
- For optimized optical results, 3M recommends individually adjusting marking parameter, such as power, pulse rate, and speed, to your individual requirements depending on the type of labels to be produced (bar codes or characters).

### Printing:

- When using press printing methods, 3M recommends pre-printing tests to check for sufficient ink adhesion.

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## Storage

Store at room temperature conditions in cool, dry and sun-protected rooms.

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## Shelf Life

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

# 3M™ Laser Markable Label Material

## 7847

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### Technical Information

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ISO 9001

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