

# Technical Data Sheet

## 3M™ Laser Markable Label Material 7847

### 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.

### Product Features

- Cast modified acrylate facestock offers long-term durability and excellent abrasion, temperature, chemical and environmental resistance
- High-resolution and high-contrast images markable with standard Nd-Yag lasers for smaller barcodes, 2-D symbologies and fine point text.
- Excellent convertability (“kiss cutting”) of acrylate facestock on densified kraft liner.
- Matte surface provides good printability resulting in excellent bar code readability.
- 3M™ High Performance Acrylic Adhesive 350 provides reliable, permanent adhesion to LSE plastics, oily metals, powder coatings and textured surfaces.
- Brittle facestock material provides destructibility to meet security labeling requirements.
- No corrosive emissions during the laser marking process.
- UL Recognized Component under file MH11410.
- CSA Recognized Component under file 99316.

### 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

Property	Values	Additional Information
Adhesive Type	#350 high-holding acrylic	
Liner	Densified Kraft	
Liner Thickness	0.077 mm	
Facestock Thickness	0.06 mm	
Adhesive Thickness	1.2 mil	
Adhesive Thickness	0.03 mm	

Facestock Thickness	2.4 mil
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Liner Thickness	3 mil
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### Typical Performance Characteristics

Property	Values	Additional Information
Tensile Strength	28 N/cm	
Tensile Strength	3.1 oz/in	
Elongation at Break	ca. 5 %	
Minimum Application Temperature	4 °C	
Minimum Application Temperature	39 °F	
Note	Calipers are nominal values	

### Typical 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/in N/in

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)

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

## Processing

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### 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.

## Storage and Shelf Life

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

If stored under proper conditions, product retains its performance and properties for 24 months from date of manufacture.

## Industry Specifications

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UL Recognized (File MH11410)

CSA Accepted (File 99316)

## Bottom Matter

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3M

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## Trademarks

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3M is a trademark of 3M Company.

## Handling/Application Information

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### Application Examples

- Durable goods marking
- Under hood labels
- Barcode labels
- Process labeling in-plant
- Asset labels
- Security labels
- Information labels with 2-D symbologies

## References

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Property	Values
3m.com Product Page	<a href="https://www.3m.com/3M/en_US/p/d/b5005329168/">https://www.3m.com/3M/en_US/p/d/b5005329168/</a>
Safety Data Sheet SDS	<a href="https://www.3m.com/3M/en_US/company-us/SDS-search/results/?gsaAction=msdsSRA&amp;msdsLocale=en_US&amp;co=ptn&amp;q=7847">https://www.3m.com/3M/en_US/company-us/SDS-search/results/?gsaAction=msdsSRA&amp;msdsLocale=en_US&amp;co=ptn&amp;q=7847</a>

## ISO Statement

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This Industrial Adhesives and Tapes Division product was manufactured under a 3M quality system registered to ISO 9001 standards.

## Information

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