



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
---------------------	---------

Liner Thickness	3 mil
-----------------	-------

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 hour:s 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

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

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

UL Recognized (File MH11410)

CSA Accepted (File 99316)

Bottom Matter

3M

Industrial Adhesives and Tapes Division

3M Center, Building 225-3S-06

St. Paul, MN 55144-1000

800-362-3550

Trademarks

3M is a trademark of 3M Company.

Handling/Application Information

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

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

Family Group

Link Tags:

- 7847

Products	Liner	Liner Thickness	Adhesive Thickness
7847	Densified Kraft	0.077 mm	0.03 mm

ISO Statement

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

Information

Technical Information: The technical information, guidance, and other statements contained in this document or otherwise provided by 3M are based upon records, tests, or experience that 3M believes to be reliable, but the accuracy, completeness, and representative nature of such information is not guaranteed. Such information is intended for people with knowledge and technical skills sufficient to assess and apply their own informed judgment to the information. No license under any 3M or third party intellectual property rights is granted or implied with this information.

Product Selection and Use: Many factors beyond 3M’s control and uniquely within user’s knowledge and control can affect the use and performance of a 3M product in a particular application. As a result, customer is solely responsible for evaluating the product and determining whether it is appropriate and suitable for customer’s application, including conducting a workplace hazard assessment and reviewing all applicable regulations and standards (e.g., OSHA, ANSI, etc.). Failure to properly evaluate, select, and use a 3M product and appropriate safety products, or to meet all applicable safety regulations, may result in injury, sickness, death, and/or harm to property.

Warranty, Limited Remedy, and Disclaimer: Unless a different warranty is specifically stated on the applicable 3M product packaging or product literature (in which case such warranty governs), 3M warrants that each 3M product meets the applicable 3M product specification at the time 3M ships the product. 3M MAKES NO OTHER WARRANTIES OR CONDITIONS, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OR CONDITION OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR ARISING OUT OF A COURSE OF DEALING, CUSTOM, OR USAGE OF TRADE. If a 3M product does not conform to this warranty, then the sole and exclusive remedy is, at 3M’s option, replacement of the 3M product or refund of the purchase price.

Limitation of Liability: Except for the limited remedy stated above, and except to the extent prohibited by law, 3M will not be liable for any loss or damage arising from or related to the 3M product, whether direct, indirect, special, incidental, or consequential (including, but not limited to, lost profits or business opportunity), regardless of the legal or equitable theory asserted, including, but not limited to, warranty, contract, negligence, or strict liability.

Disclaimer: 3M industrial and occupational products are intended, labeled, and packaged for sale to trained industrial and occupational customers for workplace use. Unless specifically stated otherwise on the applicable product packaging or literature, these products are not intended, labeled, or packaged for sale to or use by consumers (e.g., for home, personal, primary or secondary school, recreational/sporting, or other uses not described in the applicable product packaging or literature), and must be selected and used in compliance with applicable health and safety regulations and standards (e.g., U.S. OSHA, ANSI), as well as all product literature, user instructions, warnings, and limitations, and the user must take any action required under any recall, field action or other product use notice. Misuse of 3M industrial and occupational products may result in injury, sickness, or death. For help with product selection and use, consult your on-site safety professional, industrial hygienist, or other subject matter expert. For additional product information, visit www.3M.com.