



Lasermarkable Label Stock 7846, 7847, 7848

Product Data Sheet

May 2016
Supersedes: May 2015

Product Description

3M™ Lasermarkable films are speciality film stock materials that can be inscribed by a laser beam – which is designed to ablate the top layer off to create an inverse image. Since the laser is also able to cut the entire label, it provides high flexibility for producing just in time various formats.

Physical Properties

(Calipers are nominal values)

	7846	7847	7848
Facestock Top Layer	Gloss black	Matt black	Matt silver
Face Stock Base Layer	White	White	Black
Thickness	60 µm	60 µm	60 µm
Adhesive	22 micron #350 Hi-Holding		
Liner	75 microns Densified Kraft (glassine)		

Thickness tested by using Afera 5006 (8 edition)

Key Features

- Markable with all ND-YAG and CO2 laser marking equipment on the market.
- Two-layer construction and engraved inscription provide long-term readability, abrasion resistance and excellent image contrast
- #350 modified acrylic adhesive offers good adhesion on LSE/HSE plastics with high initial tack

Application Ideas

- Durable good marking
- Depending on specific application 7848 also can be used for tamper-indication. In most cases, labels cannot be transferred without damage once they have been applied.

Performance Characteristics

Standard Test Conditions are 23°C and 50% Relative Humidity

180° Peel Adhesion tested using FINAT Test Procedure FTM 1 (300mm/min)*

90° Peel Adhesion tested using FINAT Test Procedure FTM 2 (300mm/min)*

Adhesion	20 Minutes at Standard Conditions		72 Hours at Standard Conditions	
	180° Peel N/25mm	90° Peel N/25mm	180° Peel N/25mm	90° Peel N/25mm
Stainless Steel*	28	15	34	19
ABS*	25	14	27	16
Polycarbonate*	28	13	25	16
Polypropylene*	21	7	25	12

* = laminated by itself

Adhesion	72 Hours at 70°C		72 Hours at - 40°C	
	180° Peel N/25mm	90° Peel N/25mm	180° Peel N/25mm	90° Peel N/25mm
Stainless Steel*	35	22	32	17

Adhesion	72 Hours at 40°C and 95% RH	
	180° Peel N/25mm	90° Peel N/25mm
Stainless Steel*	30	17

Tensile Strength and Elongation

* tested using Afera Test Procedures Afera 5004 (8. edition)

	Unit	Result
Tensile Strength	at Fmax (N/25mm)	71
Elongation	at Fmax (%)	5

Resistance to Chemicals and Solvents

*Tested on Aluminium. Results 1h after Reconditioning

*Other solvents need to be tested.

Substance	Exposure Time	Result
n-Heptane	4h	No change
Isopropanol	1h	No significant change
Brake fluid Dot4	1h	No change
Diesel	4h	No change

*Temperature resistance of label applied to Aluminium.

* Other substrates should be tested as per application

Temperature Resistance	*-40°C – 190°C no change * from 200°C up to 250°C colour starts to change
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*Salt Water resistance of label applied to Aluminium.

* Other substrates should be tested as per application

Spraying with Salt Water (DIN 50021SS)	150h no change
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* UV resistance of label applied to Aluminium.

* Other substrates should be tested as per application

QUV (DIN EN ISO 4892-3; Typ 1A)	2000h no change
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Processing

Printing:

When using press printing methods, we recommend pre-printing tests to check ink properties, i.e. flexographic, screen letterpress etc. prior to use.

Laser Marking/Cutting:

3M™ Laser markable Label stock 7848 can be marked and cut with all ND-Yag laser marking equipment on the market.

In order to optimise optical results, we recommend individually adjusting marking parameters (power, pulse, rate, speed) to specific requirements depending on the kind of label to be produced (BARCODES or characters)

During laser marking we recommend operating an exhaust system to reduce emissions caused by laser marking-

For more information about emissions during the laser marking process with 3M™ 7848, please contact our safety, Security, Environmental Protection and Assurance Division in Neuss, Germany (Phone: 49-2131-14-2041)

Special Considerations

For maximum bond strength, the surface must be clean and dry. Isopropyl alcohol is a typical cleaning solvent.

NOTE:

When using solvents, read and follow the manufacturer's precautions and directions for use.

For best bonding conditions, application surface should be higher than 20°C. Low temperature surfaces (below 5°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.

Storage

Store product at temperature conditions between 15°C and 25°C and 40% - 60% relative humidity.

Shelf Life

24 months from date of manufacture by 3M when stored as recommended in cool, dry and sun protected room.

For Additional Information

For additional product information, please contact us at the address here below.

Important Notice

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Values presented have been determined by standard test methods and are average values not to be used for specification purposes. Our recommendations on the use of our products are based on tests believed to be reliable but we would ask that you conduct your own tests to determine their suitability for your applications. This is because 3M cannot accept any responsibility or liability direct or consequential for loss or damage caused as a result of our recommendations

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Adesivi e Nastri per l'industria
3M Italia S.p.A.

Via Norberto Bobbio, 21 - 20096 Pioltello (MI)
Tel: 02-7035.1 - Fax: 02-7035.2262