# **3M** Laser Markable Label Material 7847

#### FOD# 0311

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Description	3M <sup>™</sup> label material 7847 is by a laser beam. The top la a laser beam, to create an in thus leading to maximum f	a specialty film label materi yer of 3M label material 78 nage. A laser beam can bot lexibility for producing vari	al that can be imaged and "kiss c 47 is engineered to be ablated by h ablate and cut the label materi iable label formats.		
Construction	Facestock	Adhesive	Liner		
	Top Layer:	1.2 mil (30 microns)	3.2 mil (80 microns)		
	0.4 mil (10 microns) Matte black acrylate	#350 high-holding	Densified kraft		
	Base Layer: 2.0 mil (50 microns) Matte white acrylate				
Features	• Cast modified acrylate facestock offers long-term durability and excellent temperature, chemical and environmental resistance				
	• Excellent convertability ("kiss cutting") of acrylate facestock on densified kraft line				
	• Matte surface provides good printability resulting in excellent bar code readability				
	• Two-layer construction with engraved inscription provides long-term readability, abrasion resistance and excellent contrast of images.				
	• #350 modified acrylic adhesive provides reliable, permanent adhesion to LSE plastics, oily metals, powder coatings and textured surfaces.				
	• Destructible facestock material provides tamper evidence to meet security labeling requirements.				
	<ul> <li>No corrosive emissions during the laser marking process.</li> </ul>				
	<ul> <li>3M label material 7847 is a Recognized Component under file MH11410 by Underwriters Laboratories Inc.</li> </ul>				
	• Cast modified acrylate facestock can achieve high resolution with standard Nd-Ya lasers for smaller barcodes, 2-D symbologies and fine point text.				
Application Ideas	• Durable goods marking	Asset label	S		
	• Under hood labels	• Security la	Security labels		
	Barcode labels	Information	n labels with 2-D symbologies		
	<ul> <li>Process labeling in-plant</li> </ul>				
Typical Physical Properties and	Note: The following technical information and data should be considered representative or typical only, and should not be used for specification purposes.				
Performance Characteristics	Minimum application temperature: 39°F (4°C)				
	Weight per yd <sup>2</sup> (film and adhesive): 75-84g/yd <sup>2</sup> (90-100 g/m <sup>2</sup> )				
	Elongation at break: ca. 13%				
	Tensile strength: Min. 3,630 p been tested	si (25N/mm²) [elongation at b according to DIN 53455/ISO	reak and tensile strength have 527, 300mm/min.]		

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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: (when applied to aluminum surfaces)	Resistant up to 392°F (200°C) 530°F (275°C) for 1 min. 482°F (250°C) for 5 min. 440°F (225°C) for 60 min.				
	Dimensional stability:	No changes Low temperature resistance without stress: -76°F (-6 with stress*: -22°F (-3	0°C): No change 0°C): No change			
		* Tested according to Gardner Impact Test.				
	Adhesive performance/bond strength:					
		SubstrateOz/inchStainless Steel108Aluminum108Polypropylene72Polyethylene64Polycarbonate90ABS101PVC108	N/inch. 30 20 18 25 28 30			
		Measured according to DIN 30 angle, film width: 25.4 mm). Ac depend on the texture of the su average values. They are not a	0646, part 1 (300 mm/ Ihesive performance f urface. The above adh uppropriate for specific	min., at 180° for each case ca nesive values are cations.		
	Weather resistance : (thermal cycling)	Acceleration test in the Xenon device > 2000 hours according to DIN 53387 (equivalent to 4-5 years outdoor exposure to weather): No change				
	Resistance to environmental conditions: (according to automotive specification DCC 654A-(Europe), applied to aluminum): No change					
		72 hours       176°F (80°C)         24 hours       100°F (38°C) 98% rh         7 hours       -22°F (-30°C) 98% rh         17 hours       100°F (38°C) 98% rh         7 hours       176°F (80°C)         24 hours       100°F (38°C) 98% rh         7 hours       176°F (80°C)         24 hours       100°F (38°C) 98% rh         17 hours       -22°F (-30°C)				
	Resistance to chemical in	nmersion:				
		Substance Distilled water, 149°F (65°C) SAE 20 motor oil, 77°F (25°C) Sodium hydroxide solution Sulphuric acid Gasoline (unleaded) 95% rh, 100°F (38°C) Xylene Isopropanol	Exposure Time 390 hours 250 hours 200 hours 300 hours 1 hour 250 hours 0.5 hour 0.5 hour	Results No change No change No change No change No change No change No change		
	Spraying with salt water:	168 hours/5% concentration/95	5°F (35°C): No change	e		
	Resistance to abrasion:	Abrasion test Tabor/Abraser (applied to aluminum panels) CS 10 wheels, 500 grams per wheel up to 300 cycles: No change				

Storage/shelf life: 2 years storage stability if stored at room temperature conditions in cool, dry and sun-protected rooms.

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Processing	<ul> <li>Laser Marking:</li> <li>3M label material 7847 is compatible with many kinds of dispenser systems and is suitable for a continuous process with minimal supervision.</li> <li>3M recommends operating an exhaust system combined with a charcoal filter to reduce emissions during the laser operation.</li> <li>All Nd-Yag laser marking equipment on the market can ablate and "kiss cut" 3M label material 7847.</li> <li>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).</li> </ul>		
	<ul> <li>Printing:</li> <li>When using press printing methods, 3M recommends pre-printing tests to check for sufficient ink adhesion.</li> </ul>		
Technical Information and Data	The technical information and data, recommendations, and other statements provided are based on test or experience which 3M believes to be reliable, but the accuracy or completeness of such information is not guaranteed.		
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	<u>ISO 9002</u>		
	This Industrial Tape and Specialties Division product was manufactured under a 3M quality system registered to ISO 9002 standards.		



#### **Industrial Tape and Specialties Division**

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