

March, 2019

3M™ Versatile Print Label Material 7871V

Product Description

3M™ Versatile Print Polyester Label Material 7871V is a gloss polyester label material that offers premium durability and moisture resistance. The topcoat is formulated to print with multiple technologies, including UV inkjet, water flexo, UV flexo, thermal transfer, and screen printing. This label product utilizes 3M™ High Performance Acrylic Adhesive 350, it offers excellent chemical resistance and holding strength even at high temperatures.

Product Features

- Adhesive can permanently bond to high surface energy (HSE) and low surface energy (LSE) plastics, textured and contoured surfaces, powder coatings, and slightly oily metals.
- Thick adhesive caliper provides for stronger bond on textured surfaces.
- Facestock is topcoated for high quality and durable printing with multiple print technologies including UV inkjet, water and UV flexo, thermal transfer, and screen.
- UL recognized (File MH16411) See the UL listing for details.

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	
Facestock	White Polyester Versatile TC	
Facestock Thickness	0.051 mm	2 mil
Adhesive	350 Acrylic	
Adhesive Thickness	0.046 mm	1.8 mil
Liner	55# Densified Kraft	
Liner Thickness	0.081 mm	3.2 mil
Adhesive Coat Weight	2.70 to 3.24 g/100 in ²	

Convertability

In order to capture the superior performance properties of 3M™ High Holding Acrylic Adhesive 350, thicker calipers are utilized for LSE or textured substrates. Its higher caliper, while desirable for the end use applications, may require extra care during processing. Please refer to the die cutting/converting section of this data page or the "Guide to Converting and Handling Label Products" technical bulletin for additional information.

Note

Calipers are nominal values

Typical Performance Characteristics

Property	Values		Method	Notes
Service Temperature Range	-40 to 149 °C	-40 to 300 °F		
Minimum Application Temperature	10 °C	50 °F		
Release Range	5 to 70 g/2 in		TLMI	180° removal, 300 in/min

180° Peel Adhesion		Dwell/Cure Time	Substrate
7.7 N/cm	70 oz/in	72 hr @ Room Temperature	Stainless Steel
8.4 N/cm	76 oz/in	72 hr @ Room Temperature	Polycarbonate (PC)
2.9 N/cm	27 oz/in	72 hr @ Room Temperature	Polypropylene (PP)
7.7 N/cm	70 oz/in	72 hr @ Room Temperature	Glass

Table continued on next page

Typical Performance Characteristics (continued)

180° Peel Adhesion		Dwell/Cure Time	Substrate
1.6 N/cm	42 oz/in	72 hr @ Room Temperature	High Density Polyethylene (HDPE)
2.8 N/cm	25 oz/in	72 hr @ Room Temperature	Low Density Polyethylene (LDPE)
9.9 N/cm	90 oz/in	72 hr @ 120°F(49°C)	Stainless Steel
4.9 N/cm	45 oz/in	72 hr @ 120°F(49°C)	Polycarbonate (PC)
7 N/cm	64 oz/in	72 hr @ 120°F(49°C)	Polypropylene (PP)
7.6 N/cm	69 oz/in	72 hr @ 120°F(49°C)	Glass
5.8 N/cm	53 oz/in	72 hr @ 120°F(49°C)	High Density Polyethylene (HDPE)
1 N/cm	9.9 oz/in	72 hr @ 120°F(49°C)	Low Density Polyethylene (LDPE)
9.1 N/cm	83 oz/in	24 hr @ 90°F(32°C) at 90% Relative Humidity	Stainless Steel
6.3 N/cm	57 oz/in	24 hr @ 90°F(32°C) at 90% Relative Humidity	Polycarbonate (PC)
7.1 N/cm	64 oz/in	24 hr @ 90°F(32°C) at 90% Relative Humidity	Polypropylene (PP)
7.9 N/cm	72 oz/in	24 hr @ 90°F(32°C) at 90% Relative Humidity	Glass
5.1 N/cm	46 oz/in	24 hr @ 90°F(32°C) at 90% Relative Humidity	High Density Polyethylene (HDPE)
3.3 N/cm	30 oz/in	24 hr @ 90°F(32°C) at 90% Relative Humidity	Low Density Polyethylene (LDPE)

Property: 180° Peel Adhesion
Method: ASTM D3330

Available Sizes**Packaging**

Finished labels should be stored in plastic bags.

Typical Environmental Performance**Chemical and Environmental Exposure**

The properties defined are based on four hour immersions at room temperature (72°F/22°C) unless otherwise noted. Samples were applied to stainless steel panels 24 hours prior to immersion and were evaluated one hour after removal from the solution for peel adhesion. Adhesion measured at 180° peel angle (ASTM D 3330) at 12 inches/minute.

Typical Environmental Performance (continued)

Chemical	Adhesion to Stainless Steel		Appearance	Edge Penetration
	oz/in	N/cm		
Isopropyl Alcohol	76	8.4	No visual change	0
1% Alconox Cleaner	86	9.5	No visual change	0
10W30 Engine Oil at 250°F (121°C)	102	11.2	No visual change	1/32"
pH 4	83	9.1	No visual change	0
pH 10	88	9.7	No visual change	1/16"
409 Formula	77	8.5	No visual change	1/32"
Toluene	40	4.4	No visual change	1/4"
Acetone	54	5.9	No visual change	0
Gasoline	63	6.9	No visual change	0
Mineral Spirits	90	9.9	No visual change	0
Water for 48 hours	85	9.4	No visual change	1/32"

Temperature Resistance

When applied to stainless steel. Other substrates should be tested per application.
 300°F (149°C) for 24 hours: no significant visual change

-40°F (-40°C) for 10 days: no significant visual change

Property	Values		Method	Test Condition	Notes
Humidity Resistance	24 hours at 100°F (38°C) and 100% relative humidity: no significant change in appearance or adhesion				
Accelerated Aging	11 N/cm	100 oz/in	ASTM D3611	96 hr @ 150°F (65°C) and 80% relative humidity	180° Peel Adhesion from Stainless Steel at 12 in/min

Handling/Application Information

Application Ideas

- Barcode labels and rating plates
- Property identification and asset labeling
- Warning, instruction, and service labels for durable goods
- Nameplates and durable goods

Application Techniques

For maximum bond strength, the surface should be clean and dry. Typical cleaning solvents are heptane and isopropyl alcohol.*
 For best bonding conditions, application surface should be at room temperature or higher. Low temperature surfaces, below 50°F (10°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.
 *When using solvents, read and follow the manufacturer's precautions and directions for use.

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Printing

Facestock is topcoated for improved ink receptivity and is designed for UV Inkjet, water flexo, UV flexo, screen, and thermal transfer printing.

Converting

Rotary die cutting is recommended. Fanfolding of labels is not recommended. Small labels should be evaluated carefully. Winding tensions should be kept at a minimum to help prevent the adhesive from oozing.

Storage and Shelf Life

Store at room temperature conditions of 72°F (22°C) and 50% relative humidity.

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

Industry Specifications

UL Recognized (File MH16411)

Trademarks

3M is a trademark of 3M Company.

Alconox is a registered trademark of Alconox, Inc.

Formula 409 Cleaner is a registered trademark of Clorox, Inc.

References

Safety Data Sheet (SDS)

https://www.3m.com/3M/en_US/company-us/SDS-search/results/?gsaAction=msdsSRA&msdsLocale=en_US&co=ptn&q=7871

Family Group

	7871V	7908V	7872V	7816V	7875V	7331V	7868V
Facestock	White Polyester Versatile TC	White Polyester Versatile TC	Platinum Polyester Versatile TC	White Polyester Versatile TC	Platinum Polyester Versatile TC	White Polyester Versatile TC	White Polyester Versatile TC
Facestock Thickness (mm)	0.051	0.051	0.051	0.051	0.051	0.051	0.051
Adhesive	350 Acrylic	350 Acrylic	350 Acrylic	310 Acrylic	310 Acrylic	300 Acrylic	350 Acrylic
Adhesive Thickness (mm)	0.046	0.046	0.046	0.02	0.02	0.02	0.028
Liner	55# Densified Kraft	88# Polycoated Kraft	55# Densified Kraft	55# Densified Kraft	55# Densified Kraft	55# Densified Kraft	55# Densified Kraft
Liner Thickness (mm)	0.081	0.17	0.081	0.081	0.081	0.081	0.081

ISO Statement

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

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