

Technical Data Sheet

3M™ Thermal Transfer Polyester Label Material 7871

Product Description

3M™ Thermal Transfer Polyester Label Material 7871 is a gloss polyester label material that offers premium durability and moisture resistance. 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 thermal transfer printing. Resin ribbons are recommended for optimum durability. The topcoat also provides improved ink anchorage for traditional forms of press printing.
- UL recognized (File MH16411) and CSA accepted (File 99316). See the UL and CSA listings for details.
- UL listing includes approval for use on powder coated surfaces.
- 3M™ Thermal Transfer Polyester Label Material 7871 meets British Standard BS-5609.

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 Acrylic	
Liner	55# Densified Kraft	
Liner Thickness	0.081 mm	
Facestock	White Polyester Gloss TC	
Facestock Thickness	0.051 mm	
Adhesive Thickness	1.8 mil	
Adhesive Thickness	0.046 mm	

Facestock Thickness 2 mil






Liner Thickness 3.2 mil

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.

Adhesive Coat Weight 2.70 to 3.24 g/100 in²

Typical Performance Characteristics

Property	Values	Additional Information
180° Peel Adhesion	8.4 N/cm	View 
Test Method: ASTM D3330 Dwell/Cure Time: 20.0 Dwell Time Units: min Substrate: Stainless Steel		
180° Peel Adhesion	77 oz/in	View 
Test Method: ASTM D3330 Dwell/Cure Time: 20.0 Dwell Time Units: min Substrate: Stainless Steel		
180° Peel Adhesion	8.5 N/cm	View 
Test Method: ASTM D3330 Dwell/Cure Time: 20.0 Dwell Time Units: min Substrate: Polycarbonate (PC)		
180° Peel Adhesion	77 oz/in	View 
Test Method: ASTM D3330 Dwell/Cure Time: 20.0 Dwell Time Units: min Substrate: Polycarbonate (PC)		
180° Peel Adhesion	7.4 N/cm	View 

Test Method: ASTM D3330

Dwell/Cure Time: 20.0
Dwell Time Units: min
Substrate: Polypropylene (PP)

180° Peel Adhesion

68 oz/in

View 

Test Method: ASTM D3330

Dwell/Cure Time: 20.0
Dwell Time Units: min
Substrate: Polypropylene (PP)

180° Peel Adhesion

9.2 N/cm

View 


Test Method: ASTM D3330

Dwell/Cure Time: 72.0
Dwell Time Units: hr
Temp C: 23C
Temp F: 72F
Environmental Condition: 50%RH
Substrate: Polycarbonate (PC)

Notes: 12 in/min (300 mm/min)

180° Peel Adhesion

83 oz/in

View 

Test Method: ASTM D3330

Dwell/Cure Time: 72.0
Dwell Time Units: hr
Temp C: 23C
Temp F: 72F
Environmental Condition: 50%RH
Substrate: Polycarbonate (PC)

Notes: 12 in/min (300 mm/min)

180° Peel Adhesion

8 N/cm

View 


Test Method: ASTM D3330

Dwell/Cure Time: 72.0
Dwell Time Units: hr
Temp C: 23C
Temp F: 72F
Environmental Condition: 50%RH
Substrate: Polypropylene (PP)

Notes: 12 in/min (300 mm/min)

180° Peel Adhesion

73 oz/in

View 

Test Method: ASTM D3330

Dwell/Cure Time: 72.0
Dwell Time Units: hr
Temp C: 23C
Temp F: 72F
Environmental Condition: 50%RH
Substrate: Polypropylene (PP)

Notes: 12 in/min (300 mm/min)

180° Peel Adhesion

9.6 N/cm

View 

Test Method: ASTM D3330


Dwell/Cure Time: 72.0

Dwell Time Units: hr
Temp C: 23C
Temp F: 72F
Environmental Condition: 50%RH
Substrate: Stainless Steel

Notes: 12 in/min (300 mm/min)

180° Peel Adhesion

87 oz/in

View 

Test Method: ASTM D3330

Dwell/Cure Time: 72.0
Dwell Time Units: hr
Temp C: 23C
Temp F: 72F
Environmental Condition: 50%RH
Substrate: Stainless Steel

Notes: 12 in/min (300 mm/min)

180° Peel Adhesion

7 N/cm

View 

Test Method: ASTM D3330

Dwell/Cure Time: 72.0
Dwell Time Units: hr
Temp C: 37C
Temp F: 100F
Environmental Condition: 100%RH
Substrate: Stainless Steel

180° Peel Adhesion

63 oz/in

View 

Test Method: ASTM D3330

Dwell/Cure Time: 72.0
Dwell Time Units: hr
Temp C: 37C
Temp F: 100F
Environmental Condition: 100%RH
Substrate: Stainless Steel

180° Peel Adhesion

6.6 N/cm


View 

Test Method: ASTM D3330

Dwell/Cure Time: 72.0
Dwell Time Units: hr
Temp C: 37C
Temp F: 100F
Environmental Condition: 100%RH
Substrate: Polycarbonate (PC)

180° Peel Adhesion

60 oz/in

View 

Test Method: ASTM D3330

Dwell/Cure Time: 72.0
Dwell Time Units: hr
Temp C: 37C
Temp F: 100F
Environmental Condition: 100%RH
Substrate: Polycarbonate (PC)

180° Peel Adhesion







7.7 N/cm

View 

Test Method: ASTM D3330

Dwell/Cure Time: 72.0
Dwell Time Units: hr

Temp C: 37C
Temp F: 100F
Environmental Condition: 100%RH
Substrate: Polypropylene (PP)

180° Peel Adhesion	70 oz/in	View 
Test Method: ASTM D3330 Dwell/Cure Time: 72.0 Dwell Time Units: hr Temp C: 37C Temp F: 100F Environmental Condition: 100%RH Substrate: Polypropylene (PP)		
Long Term Temp C	149 °C	View 
Test Condition: Long Term (day, weeks)		
Minimum Long Term Temperature Resistance	-40 °C	View 
Test Condition: Long Term (day, weeks)		
Long Term Temp F	300 °F	View 
Test Condition: Long Term (day, weeks)		
Minimum Long Term Temperature Resistance	-40 °F	View 
Test Condition: Long Term (day, weeks)		
Minimum Application Temperature	10 °C	
Minimum Application Temperature	50 °F	
Note	Calipers are nominal values	
Liner Release	5 to 70 g/2 in	View 
Test Method: TLMI Notes: 180° removal, 300 in/min		



Available Sizes

Finished labels should be stored in plastic bags.

Note

**Calculated using averages of different powder coated surfaces.

Typical Environmental Performance

Property	Values	Additional Information
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. -	
Humidity Resistance	24 hours at 100°F (38°C) and 100% relative humidity: no significant change in appearance or adhesion	
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	
Accelerated Aging	11 N/cm	View 
<p>Test Method: ASTM D3611</p> <p>Dwell/Cure Time: 96.0 Dwell Time Units: hr Temp C: 65C Temp F: 150F Environmental Condition: 80%RH Substrate: Stainless Steel</p> <p>Notes: 12 in/min (300 mm/min)</p>		
Accelerated Aging	100 oz/in	View 
<p>Test Method: ASTM D3611</p> <p>Dwell/Cure Time: 96.0 Dwell Time Units: hr Temp C: 65C Temp F: 150F Environmental Condition: 80%RH Substrate: Stainless Steel</p> <p>Notes: 12 in/min (300 mm/min)</p>		

Printing

Facestock is topcoated for improved ink receptivity and is designed for thermal transfer printing. It is printable by all standard roll processing methods including flexography, hot stamp, letterpress, and screen printing. Refer to UL Listing for specific ribbons.

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 PGJ12.MH16411, Printing Materials - Component, ANSI/UL 969

CSA Group Certified, File 99316, Class 7922, Adhesive-Type Labels - Label Stock, CSA-C22.2 NO. 0.15-15 Update No. 1; CSA Group Certified, File 99316, Class 7924, Adhesive-Type Labels - Label Stock, CSA-C22.2 NO. 0.15-15 Update No. 1

BS-5609

Bottom Matter

3M

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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.

Handling/Application Information

Application Examples

- 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.

References

Property	Values
3m.com Product Page	https://www.3m.com/3M/en_US/p/d/b5005329047/
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

Link Tags:



Products	Adhesive Type	Facestock	Facestock Thickness	Adhesive Thickness	Long Term Temp C	Minimum	Long Term Temp F	Liner Thickness	Liner
						Long Term Temperature Resistance			

7872	350 Acrylic	Matte Platinum Polyester Gloss TC	0.051 mm	0.046 mm	149 °C	-40 °C	300 °F	N/A	N/A
7871FL	N/A	N/A	0.051 mm	0.046 mm	149 °C	N/A	300 °F	0.038 mm	Clear Polyester
7871	350 Acrylic	White Polyester Gloss TC	N/A	N/A	N/A	N/A	N/A	0.081 mm	55# Densified Kraft
7873	N/A	N/A	N/A	N/A	N/A	N/A	300 °F	0.081 mm	N/A

ISO Statement

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

Information

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