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## 3M™ Thermal Transfer Polyester Label Material 7818

### Product Description

3M™ Thermal Transfer Polyester Label Material 7818 is a matte silver polyester label materials that offer excellent moisture resistance and thermal stability. This label product utilizes 3M™ Acrylic Adhesive 310 which is a firm adhesive which resists oozing and provides high strength on a variety of surfaces including high surface energy (HSE) plastics and metals.



### Product Features

- Topcoated to provide the advantages of matte coating combined with a surface that is smooth enough for thermal transfer printing. Resin ribbons are recommended for optimum durability. The matte coating resists degradation from scuffing, chemicals, moisture, and wide temperature fluctuations. The topcoat also provides improved ink anchorage for traditional forms of press printing.
- 3M™ Label Material 7818 55# densified kraft liner assures consistent die cutting.
- UL recognized (File MH16411) and CSA accepted (File 99316). See the UL and CSA listings 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	Silver Polyester Matte TT TC	
Facestock Thickness	0.08 mm	3.3 mil
Adhesive	310 Acrylic	
Adhesive Thickness	0.02 mm	0.8 mil
Liner	55# Densified kraft	
Liner Thickness	0.081 mm	3.2 mil
Adhesive Coat Weight	1.00 to 1.25 g/100 in <sup>2</sup>	

**Convertability**

The firmness of 3M™ Acrylic Adhesive 310 is specifically designed to be compatible with thermal transfer and laser technologies. Adhesive processing issues are not anticipated when proper roll tensions, handling and storage conditions are used. 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**

90° Peel Adhesion		Dwell/Cure Time	Dwell Time Units	Temp C	Temp F	Environmental Condition	Substrate	Backing
2.6 N/cm	24 oz/in	72	hr	22C	72F	52%RH	Polypropylene (PP)	2 mil PET
41 oz/in	4.5 N/cm	72	hr	22C	72F	52%RH	Stainless Steel	2 mil PET
2.2 N/cm	20 oz/in	72	hr	22C	72F	52%RH	High Density Polyethylene (HDPE)	2 mil PET
22 oz/in	2.4 N/cm	72	hr	22C	72F	52%RH	Low Density Polyethylene (LDPE)	2 mil PET
5 N/cm	46 oz/in	72	hr	49C	120F	52%RH	Stainless Steel	
3.5 N/cm	32 oz/in	72	hr	49C	120F	52%RH	Polycarbonate (PC)	
3.3 N/cm	30 oz/in	72	hr	49C	120F	52%RH	Polypropylene (PP)	

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## Typical Performance Characteristics (continued)

90° Peel Adhesion		Dwell/Cure Time	Dwell Time Units	Temp C	Temp F	Environmental Condition	Substrate	Backing
4.6 N/cm	42 oz/in	72	hr	49C	120F	52%RH	Glass	
2.2 N/cm	20 oz/in	72	hr	49C	120F	52%RH	High Density Polyethylene (HDPE)	
0.9 N/cm	8 oz/in	72	hr	49C	120F	52%RH	Low Density Polyethylene (LDPE)	
5.1 N/cm	47 oz/in	72	hr	22C	72F	52%RH	Glass	2 mil PET
4.7 N/cm	43 oz/in	72	hr	22C	72F	52%RH	Polycarbonate (PC)	2 mil PET
5 N/cm	46 oz/in	24	hr	32C	90F	90%RH	Stainless Steel	
4.4 N/cm	40 oz/in	24	hr	32C	90F	90%RH	Polycarbonate (PC)	
3 N/cm	27 oz/in	24	hr	32C	90F	90%RH	Polypropylene (PP)	
3.5 N/cm	32 oz/in	24	hr	32C	90F	90%RH	Glass	
3 N/cm	27 oz/in	24	hr	32C	90F	90%RH	High Density Polyethylene (HDPE)	
2.6 N/cm	24 oz/in	24	hr	32C	90F	90%RH	Low Density Polyethylene (LDPE)	
3.8 N/cm	35 oz/in	10	min	22C	72F	52%RH	Stainless Steel	
4 N/cm	37 oz/in	10	min	22C	72F	52%RH	Polycarbonate (PC)	
1.8 N/cm	16 oz/in	10	min	22C	72F	52%RH	Polypropylene (PP)	
3.7 oz/in	34 oz/in	10	min	22C	72F	52%RH	Glass	
1.8 N/cm	16 oz/in	10	min	22C	72F	52%RH	High Density Polyethylene (HDPE)	
1.3 N/cm	12 oz/in	10	min	22C	72F	52%RH	Low Density Polyethylene (LDPE)	

Property: 90° Peel Adhesion  
Method: ASTM D3330  
notes: 12 in/min (300 mm/min)

## Typical Performance Characteristics (continued)

180° Peel Adhesion		Dwell/Cure Time	Dwell Time Units	Temp C	Temp F	Environmental Condition	Substrate
4.7 N/cm	43 oz/in	10	min	22C	72F	52%RH	Stainless Steel
5.1 N/cm	47 oz/in	10	min	22C	72F	52%RH	Polycarbonate (PC)
2 N/cm	18 oz/in	10	min	22C	72F	52%RH	Polypropylene (PP)
5.7 N/cm	52 oz/in	10	min	22C	72F	52%RH	Glass
5.7 N/cm	52 oz/in	72	hr	22C	72F	52%RH	Polycarbonate (PC)
2 N/cm	18 oz/in	72	hr	22C	72F	52%RH	Polypropylene (PP)
7.4 N/cm	68 oz/in	72	hr	22C	72F	52%RH	Glass
3.6 N/cm	33 oz/in	72	hr	22C	72F	52%RH	High Density Polyethylene (HDPE)
3.5 N/cm	32 oz/in	72	hr	22C	72F	52%RH	Low Density Polyethylene (LDPE)
6.6 N/cm	60 oz/in	72	hr	49C	120F	52%RH	Stainless Steel
4.5 N/cm	41 oz/in	72	hr	49C	120F	52%RH	Polycarbonate (PC)
3.8 N/cm	35 oz/in	72	hr	49C	120F	52%RH	Polypropylene (PP)
3.3 N/cm	30 oz/in	72	hr	49C	120F	52%RH	High Density Polyethylene (HDPE)
0.4 N/cm	5 oz/in	72	hr	49C	120F	52%RH	Low Density Polyethylene (LDPE)
5.6 N/cm	51 oz/in	72	hr	22C	72F	52%RH	Stainless Steel
7.4 N/cm	68 oz/in	72	hr	49C	120F	52%RH	Glass
8.1 N/cm	74 oz/in	24	hr	32C	90F	90%RH	Stainless Steel
6.8 N/cm	62 oz/in	24	hr	32C	90F	90%RH	Polycarbonate (PC)
4.2 N/cm	38 oz/in	24	hr	32C	90F	90%RH	Polypropylene (PP)
7.2 N/cm	66 oz/in	24	hr	32C	90F	90%RH	Glass
3.8 N/cm	35 oz/in	24	hr	32C	90F	90%RH	High Density Polyethylene (HDPE)

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## Typical Performance Characteristics (continued)

180° Peel Adhesion		Dwell/Cure Time	Dwell Time Units	Temp C	Temp F	Environmental Condition	Substrate
2.2 N/cm	20 oz/in	24	hr	32C	90F	90%RH	Low Density Polyethylene (LDPE)
2.6 N/cm	24 oz/in	10	min	22C	72F	52%RH	High Density Polyethylene (HDPE)
2.2 N/cm	20 oz/in	10	min	22C	72F	52%RH	Low Density Polyethylene (LDPE)

Property: 180° Peel Adhesion  
Method: ASTM D3330  
notes: 12 in/min (300 mm/min)

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

## 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.

Chemical	Adhesion to Stainless Steel		Appearance	Edge Penetration
	Oz./in.	N/100 mm	Visual	Millimeters
Isopropyl Alcohol	54	59	No change	1
Detergent 1% Alconox® Cleaner	66	72	No change	0
Engine Oil (10W30) @ 250°F (121°C)	70	77	No change	1.5
Water for 48 hours	72	79	No change	0
pH 4	70	77	No change	0
pH 10	66	72	No change	0
Formula 409® Cleaner	65	71	No change	0
Toluene	29	32	No change	6.3
Acetone	38	42	No change	4.5
Brake Fluid	77	84	No change	0
Gasoline	32	35	No change	5.5
Diesel Fuel	55	60	No change	1
Mineral Spirits	48	52	No change	2.3
Hydraulic Fluid	58	63	No change	0

# 3M™ Thermal Transfer Polyester Label Material 7818

## Typical Environmental Performance (continued)

### 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, 0.7% MD shrinkage, 0.8% CD shrinkage

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

Accelerated Aging		Notes
0.039 N/cm	11 g/in	180° Removal of Liner from Facestock at 90 in/min
0.189 N/cm	49 g/in	180° Peel Adhesion from Stainless Steel at 12 in/min

Property: Accelerated Aging

Method: ASTM D3611

Test Condition : 96 hr @ 150°F (65°C) and 80% relative humidity

## 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.

# 3M™ Thermal Transfer Polyester Label Material 7818

## 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.

Thermal Transfer Printing

Printer: UL no longer requires evaluation and listing of specific printers.

Ink Ribbon/UL Recognized Components

Advent: 301 Black; 303 Black; 501 Black; 501 Red; 501 Blue; 501 Green

Armor: AXR-7; AXR-7+; AXR-600

Astromed: R5

CP: 5440 Red; 5640 Blue; 5940 Black

Dasco: DR-74; DR-84

Great Ribbon: SDR; GPR

ICS: ICS-CC-2000; ICS-CC-4099.1

Iimak: SH-36; SP-330; PrimeMark

Intermec: 051864-3; 053258-2; 054048-4; 054195-2

Japan Pulp and Paper: JP Resin 1; JP Resin 2 Blue; JP Resin 2 Red; JP Resin 2 Green

Kurz: K501

Markem: 716 (suitable for indoor use only)

Mid City Columbia: CGL-80; CGL-80HE

NCR: Matrix Resin; Matrix (suitable for indoor use only; PaceSetter; Promark II; Ultra V

Pelikan: T016

Ricoh: B110A; B110C; B110CS

Sato: Premier 1

Sony: 4050; 4051; 4070; 4072; 4075; 4085; 5070; Signature Series Resin; Signature Series Wax

UBI: HRO3; HRO4

Zebra: 5095; 5097; 5099; 5100; 5175; 5555

Laser Toner Printing

UL recognized with the following printers and toners.

Toner and Printer/UL Recognized Components

Hitachi HMT 446 toner kit for producing finished printed labels with UL listed Synergystex CT-1000 laser printer

## 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

UL Recognized, File PGJ18.MH16411, Printing Materials Certified for Canada - Component, CSA-C22.2 No. 0.15

CSA Group Certified, File 99316, Class 7922, Adhesive-Type Labels - Label Stock, CSA-C22.2 No. 0.15-01

CSA Group Certified, File 99316, Class 7924, Adhesive-Type Labels - Electronic Printing Technologies, CSA-C22.2 No. 0.15-01

## 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=7818](https://www.3m.com/3M/en_US/company-us/SDS-search/results/?gsaAction=msdsSRA&msdsLocale=en_US&co=ptn&q=7818)

**Family Group**

	7815	7815FL	7818
Facestock	White Polyester Matte TT TC	White Polyester Matte TT TC	Silver Polyester Matte TT TC
Facestock Thickness (mm)	0.058	0.058	0.08
Adhesive	310 Acrylic	310 Acrylic	310 Acrylic
Adhesive Thickness (mm)	0.02	0.02	0.02
Liner	55# Densified kraft	Polyester	55# Densified kraft
Liner Thickness (mm)	0.081	0.038	0.081

**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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