

April, 2017

3M™ Aluminum Foil Label Material 7800

Product Description

3M™ Aluminum Foil Label Materials are durable, thin gauge aluminum designed to meet a wide range of difficult nameplate application requirements. 3M™ Aluminum Foil Label Materials 7800 utilizes 3M™ Adhesive 320 which offers excellent adhesion to a variety of surfaces including high surface energy (HSE) and low surface energy (LSE) plastics.



Product Features

- The liner for 3M label material 7800 is designed for rotary, roll to roll applications.
- UL Recognized (File MH11410) and CSA Accepted (File 099316).

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	
Adhesive Thickness	0.043 mm	1.7 mil
Facestock	Matte Silver Aluminum Foil Vinyl TC	
Facestock Thickness	0.051 mm	2 mil
Adhesive	320 High Tenacity Acrylic	
Liner	60# Densified Kraft	
Liner Thickness	0.084 mm	3.3 mil

Convertability

3M™ High Tenacity Acrylic Adhesive 320 is specifically designed to be compatible with flexographic and thermal transfer technologies. Its aggressive tack properties, while desirable for the end use application, 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	
Minimum Application Temperature	10 °C	50 °F
Service Temperature Range	-40 to 121 °C	-40 to 250 °F

90° Peel Adhesion		Dwell/Cure Time	Substrate
6.3 N/cm	58 oz/in	10 min @ Room Temperature	Stainless Steel
4.3 N/cm	39 oz/in	10 min @ Room Temperature	Polypropylene (PP)
6.9 N/cm	63 oz/in	10 min @ Room Temperature	Glass
7.8 N/cm	71 oz/in	10 min @ Room Temperature	ABS
5.6 N/cm	51 oz/in	10 min @ Room Temperature	Aluminum
7.5 N/cm	69 oz/in	72 hr @ Room Temperature	Stainless Steel
5.8 N/cm	53 oz/in	72 hr @ Room Temperature	Polypropylene (PP)

Table continued on next page

Typical Performance Characteristics (continued)

90° Peel Adhesion		Dwell/Cure Time	Substrate
8.0 N/cm	73 oz/in	72 hr @ Room Temperature	Glass
8.0 N/cm	73 oz/in	72 hr @ Room Temperature	ABS
6.8 N/cm	62 oz/in	72 hr @ Room Temperature	Aluminum

Property: 90° Peel Adhesion
 Method: ASTM D3330

Typical Environmental Performance

Chemical and Environmental Exposure

Liquid	Dwell Time/Exposure	Condition Results
Isopropyl Alcohol @ Room Temperature	4 hours	No change
	Long term (days)	Not recommended
Isopropyl Alcohol @ Room Temperature	3 days	4 mm edge penetration
Engine Oil @ Room Temperature	3 days	No change
Weak Acid (pH4) @ Room Temperature	3 days	No change
Weak Base (pH10) @ Room Temperature	3 days	No change
Water @ Room Temperature	3 days	No change
Acetone, gasoline and mineral spirits	4 hours	1-3 mm edge penetration
	Long term (days)	Not recommended

Humidity Resistance

3 days at 90°F (32°C) and 90% relative humidity: No change

Temperature Resistance

100°F (38°C) for 1 day: No change
 300°F (149°C) for 1 day: Some yellowing of top-coat
 -40°F (-40°C) for 1 day: No change

Handling/Application Information

Application Ideas

- Inexpensive metal nameplate alternative for appliance, electronics, automotive and aircraft industries.
- Durable OEM decals.
- Serialized rating plates where extremely high bond and long term stability are needed.
- Embossed seals.

3M™ Aluminum Foil Label Material 7800

Handling/Application Information (continued)

Application Techniques

- While the aluminum foil has excellent abrasion resistance, the use of overlaminating films can enhance performance.
- Foil nameplates should be as flat as possible before application. Any curl in the plate prior to application will remain in the metal memory and could lead to lifting at the edges. It is desirable to remove the liner from the nameplate by peeling it back at 180° and allowing the nameplate to project in a flat plane.
- For maximum bond strength, surface should be thoroughly clean and dry. A typical cleaning solvent is heptane or isopropyl alcohol. Note: Consult the manufacturer's MSDS for proper handling and storage of solvents. 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 are achieved through increased rubdown pressure.

Printing

All versions of 3M™ Aluminum Foil Label Materials are equipped, print-ready, with a vinyl topcoating. This topcoating is printable with conventional or UV inks using flexographic, letterpress, or screen printing processes. It is also capable of embossing with dot matrix impact printers. Whenever printing for the first time, with a different ink system or on a new machine, we strongly recommend carrying out proofing trials to validate ink adhesion and durability prior to a full production run.

Converting

Die Cutting:

3M™ Aluminum Foil Label Materials 7800 : Rotary

Dispensing:

The liners for 3M™ Aluminum Foil Label Materials are designed for manual or semi-automatic. Be sure to properly test the materials in the particular process to determine suitability. Note that when manually dispensing, pull the liner away from the face to avoid bending the foil face into a permanent shape.

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 two years from date of manufacture.

Industry Specifications

UL Recognized (File MH11410)

CSA Accepted (File 099316)

Family Group

	7800	7800	7940
Adhesive Thickness (mm)	0.043	0.043	0.043
Facestock	Matte Silver Aluminum Foil Vinyl TC	Matte Silver Aluminum Foil Vinyl TC	Matte Silver Aluminum Foil Vinyl TC
Facestock Thickness (mm)	0.051	0.051	0.051
Adhesive	320 High Tenacity Acrylic	320 High Tenacity Acrylic	320 High Tenacity Acrylic
Liner	60# Densified Kraft	60# Densified Kraft	90# Polycd. bleached kraft sheet polyethylene coated on two sides
Liner Thickness (mm)	0.084	0.084	0.17

3M™ Aluminum Foil Label Material 7800

References

1. Safety Data Sheet

Url: https://www.3m.com/3M/en_US/company-us/SDS-search/results/?gsaAction=msdsSRA&msdsLocale=en_US&co=ptn&q=7800

ISO Statement

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

Technical Information

The technical information, recommendations and other statements contained in this document are based upon tests or experience that 3M believes are reliable, but the accuracy or completeness of such information is not guaranteed.

Product Use

Many factors beyond 3M's control and uniquely within user's knowledge and control can affect the use and performance of a 3M product in a particular application. Given the variety of factors that can affect the use and performance of a 3M product, user is solely responsible for evaluating the 3M product and determining whether it is fit for a particular purpose and suitable for user's method of application.

Warranty, Limited Remedy, and Disclaimer

Unless an additional warranty is specifically stated on the applicable 3M product packaging or product literature, 3M warrants that each 3M product meets the applicable 3M product specification at the time 3M ships the product. 3M MAKES NO OTHER WARRANTIES OR CONDITIONS, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OR CONDITION OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY IMPLIED WARRANTY OR CONDITION ARISING OUT OF A COURSE OF DEALING, CUSTOM OR USAGE OF TRADE. If the 3M product does not conform to this warranty, then the sole and exclusive remedy is, at 3M's option, replacement of the 3M product or refund of the purchase price.

Limitation of Liability

Except where prohibited by law, 3M will not be liable for any loss or damage arising from the 3M product, whether direct, indirect, special, incidental or consequential, regardless of the legal theory asserted, including warranty, contract, negligence or strict liability.

