



Aluminium Foil Sheet Label Stock 7940

Product Data Sheet

Updated : July 2000
Supersedes : July 1995

Product Description Aluminium Foil Sheet Label Stock 7940 is designed to meet a wide range of difficult nameplate application requirements

Physical Properties
Not for specification purposes

Facestock	50 micron (2.0 thou) Matte Silver Aluminium Foil
Adhesive	42.5 micron (1.7 thou) #320 "Hi-Tenacity" Acrylic
Liner	167.5 micron (6.7 thou) 146glm ² (90#) "Lay-Flat" Polycoated Kraft
Shelf Life	12 months from date of manufacture by 3M if stored at room temperature condition in cool, dry and sun protected room.

Features:

- Ink receptive vinyl top-coating.
- Full hard alloy aluminium foil facestock.
- Excellent adhesion to a wide range of surfaces: 7940 is particularly suitable for low surface energy plastics.
- 146glm² (90#) Polycoated Kraft Liner screen and offset printing.
- UL recognised (File MH-11410).

Applications

- Inexpensive metal nameplate alternative for the appliance, electronics, automotive, and aircraft industries.
- Durable OEM decals requiring high temperature resistance of -40°C(-40°F) to 177°C (350°F).
- Serialised rating plates where extremely high bond or long term stability is needed.
- Embossed seals.

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90° Peel (modified) 305mm/min 1" wide sample to various surfaces at room temperature.		
	10 min Dwell N/10mm	72 hour Dwell N/10mm
Stainless Steel	7.0	8.2
ABS	6.9	9.4
Polypropylene	6.1	6.6

Liner Release	180° removal, 90"/mm speed 1" wide sample : 10-20 Gram/25mm width
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Environmental Performance

The properties defined are based on the attachment of 50mm x 50mm unprinted samples to aluminium weathering panels.

Temperature Resistance	Only slight yellowing of topcoating after three days at 150°C (300°F). Adhesive bond secure
Humidity Resistance	No change after 3 days at 32 degrees C (90°F) and 90% relative humidity.
Water Resistance	No change after three day immersion at room temperature.
Motor Oil Resistance	No change after four hour immersion in 10W30 motor oil at room temperature.
Weak Acid Resistance	No change after four hour immersion in pH 4 (weak acid) solution at room temperature.
Weak Base Resistance	No change after four hour immersion in pH 10 (weak base) solution at room temperature.
IPA Resistance	No change after four hour immersion in isopropyl alcohol at room temperature.

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Processing

Printing:

Screen printing with conventional or UV inks. Dot matrix impact printing with wet-ink/fabric ribbon frame.

Mid City Columbia	CGL-79
O.S. Eaton Corp.	Black 172B
Herbert DeHinton	Ranger 288

Fabric ribbons are preferred over film ribbons. However, film ribbons have successfully been used on Foil Label Stocks with the addition of a matte clear coat in the area to be printed. An evaluation of the compatibility of the ribbon with the selected clear coat is highly recommended.

Die-Cutting:

Flat bed, matched metal dies, steel rule.

Special Considerations

While the aluminium foil has excellent abrasion resistance, overlaminating films will enhance this resistance.

For maximum bond strength, substrate should be thoroughly cleaned and dried. Typical cleaning solutions are heptane or isopropyl alcohol. Consult manufacturer's Material Safety Data Sheet for proper handling and storage instructions.

For best bonding conditions, applications surface temperature should be at room temperature or higher. Low surface temperatures, below 10 degrees C (50 degrees F), cause the adhesive to become firm and to not flow out and develop intimate adhesive-surface contact.

Higher initial bonds are achieved through increase rub down pressure. Use a firm rubber roller with maximum hand pressure for best results.

Foil nameplates should be as flat as possible before application. Any curl in the plate prior 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°degrees allowing the nameplate to project in a flat plane.

Values presented have been determined by standard test methods and are average values not to be used for specification purposes. Our recommendations on the use of our products are based on tests believed to be reliable but we would ask that you conduct your own tests to determine their suitability for your applications. This is because 3M cannot accept any responsibility or liability direct or consequential for loss or damage caused as a result of our recommendations.

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