

# 3M™ Exterior Trim Film FPO9101JH

## For Co-extrusion Processes

### Technical Data Sheet



#### General Description:

3M™ Exterior Trim Film FPO9101JH is a polyurethane film with a high gloss metallic appearance designed for heat bonding to TPO via co-extrusion. The functional urethane film layer has excellent resistance to mechanical abrasion and chemical attack as well as to prolonged exposure to accelerated weathering. 3M Exterior Trim Film FPO9101JH meets OEM design requirements for decorative accents on exterior trim components. The product is intended to be supplied as a roll good and applied using a co-extrusion process to dramatically change the appearance of exterior trim plastic pieces such as window seals, belt line and roof ditch moldings. Additionally, exterior trim film can help OEMs move away from traditional chrome plating and galvanized processes used on metal parts which can present hazards to the environment and worker health.

This exterior trim film features a polyurethane film layer over a vapor coated metal layer. It has a PE/PP co-polymer capable of heat bonding to compatible resins such as TPO in cost effective co-extrusion processes, with or without metal reinforcing profiles. The transparent polyester carrier prevents elongation of the film construction at extrusion temperatures in excess of 200°C, and also serves to protect the surface of the low gloss polyurethane film layer during the co-extrusion process. After finishing, the polyester carrier is designed to be easily removed to reveal a low gloss matte finish with high distinction of reflected image.

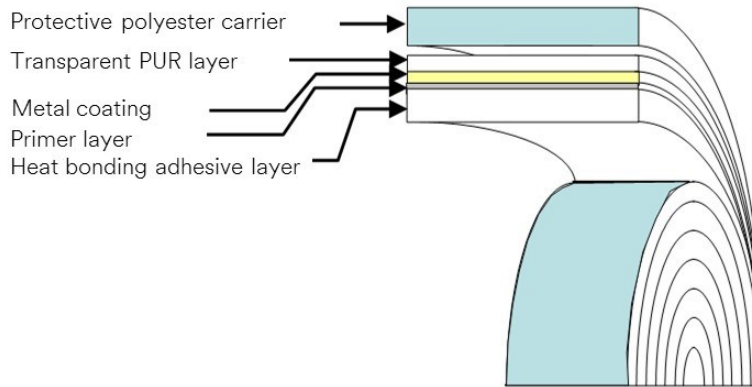
#### Features:

- Effective design tool for brand differentiation and visual impact
- Cost-effective alternative to stamped stainless steel, providing greater design flexibility and weight reduction opportunities
- Allows for matching the finish on parts made from varying substrates
- Holds up to prolonged exterior weathering and tough automotive environments
- Minimizes the use of materials containing Chromium 6

#### Applications:

Belt Line Moldings  
Door Sash Molding  
Daylight Openings (DLO)  
Roof Top Moldings

## Product Construction



## Physical Properties

Characteristics		
Color	High Gloss Chrome	
Surface Appearance	High Gloss	
Film Composition	Thickness	Color
Protective Polyester Carrier	50µm	Transparent
Transparent PUR Layer	30µm	No Color
Metal Vapor Coated Layer	<1.0µm	Silver
Polyurethane Primer Layer	20µm	Transparent
Heat-activated Adhesive Layer	100µm	Transparent
<b>Nominal Overall Caliper</b>	<b>200µm</b>	

## Performance Properties: FPO9101JH heat bonded to TPO

Mechanical & Chemical resistance	Test method & requirement	Result
Chemical resistance: (FAM test fuel (DIN 51604 -1B), Gasoline E10, Diesel, Iso-propanol, Sodium Hydroxide, Sulfuric Acid, Hydrochloric Acid, H <sub>2</sub> O, Tree resin, Bird droppings, Car Wash Detergent, Wax and dewax)	DIN EN ISO 2812-4: drop method A, 10 min at room temp  • no changes	Pass
Car wash / scratch resistance	ISO 20566: 2013 • no changes	Pass
Scratch resistance - Erichsen model 318	> 7N load • no visible marking	Pass
Adhesion & Appearance after ageing	Test method & requirement	Result
Humidity condensation atmosphere (240h at 40°C - 100% RH)	DIN EN ISO 6270-2 • no changes	Pass
Salt spray – 600 hours	DIN EN ISO 9227 • no changes	Pass
High Pressure Cleaning	DIN 55662: Static method with cross cutting • no surface damage • no adhesion loss	Pass Pass
Kalahari Xenon Test: 2 years (Non-Metallic Materials; Weathering in Dry, Hot Climate)	Kalahari / Florida Simulation • gloss loss maximum 15%	Pass/Pass
Florida Xenon Test: 2 years (Non-Metallic Materials; Weathering in Moist, Hot Climate)	• minimal change in E allowed	Pass/Pass

\*Values presented have been determined by standard test methods and are average values not meant to be used for specification purposes.

### Shelf Life

12 months from date of manufacture when stored in original packaging at  $22 \pm 4$  °C and < 60 % RH.

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### Automotive and Aerospace Solutions Division

3M Center  
St. Paul, MN 55144-1000  
Phone 1-800-328-1684  
Web [www.3M.com/autosolutions](http://www.3M.com/autosolutions)

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