

3M™ Exterior Trim Film FPB9101JH

For Injection Molding Processes

Technical Data Sheet



General Description:

3M™ Exterior Trim Film FPB9101JH is a polyurethane film with a high gloss metallic appearance designed for injection molding processes. 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 FPB9101JH 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 an injection molding 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 chrome film features a polyurethane film layer over a vapor coated metal layer equipped with an ABS polymer capable of heat bonding to compatible resins such as ABS and ABS-PC in cost effective injection molding processes, with or without previous thermoforming. The transparent polyester carrier serves to protect the surface of the high gloss polyurethane film layer during transportation. The polyester carrier is designed to be easily removed to reveal a high gloss chrome finish with a high distinction of reflected image during the injection molding process.

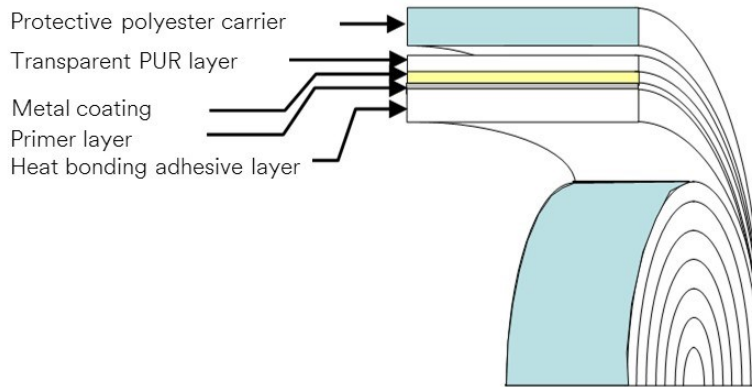
Features:

- 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 use of materials using 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	100µm	Transparent
Transparent PUR Layer	30µm	No Color
Metal Vapor Coated Layer	<1.0µm	Silver
Polyurethane Primer Layer	20µm	Transparent
Heat-activated Adhesive Layer	360µm	Transparent
Nominal Overall Caliper	510µm	

Performance Properties: FPB9101JH 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, H2O, 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 ± 4 °C and < 60 % RH.

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