



Paint Protection Film

For the Professional Applicator

Product Bulletin 1-45

September 2002

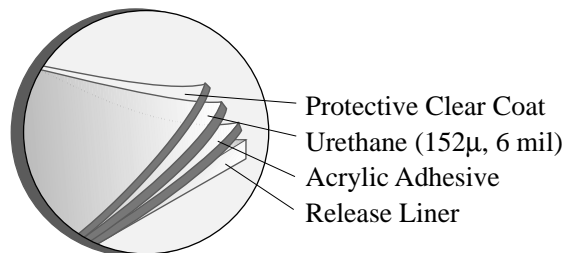
Replaces PB 1-45 dated June 2000
GLOBAL USE

General Description

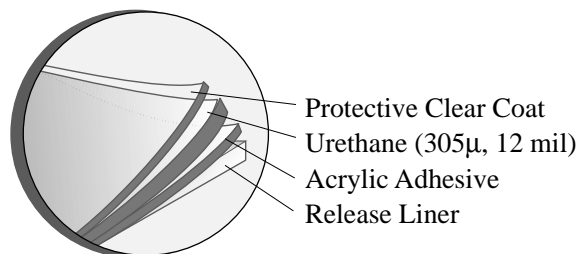
3M™ Paint Protection Films are noted for their overall excellent performance. These rugged, yellowing-resistant urethane films protect against stone chips, bug damage, abrasion and weathering while allowing a vehicle's color brilliance to show through and its design intent to be maintained. Approved by automotive OEMs, these durable films are flexible, conformable and easy to apply. Paint protection films, known as PUL 0612 and PUL 1212 at the OEM level, are available in rolls of varying widths.

Product Construction

PUL 0612



PUL 1212



Shelf Life

It is recommended that temperatures of 13°C - 32°C (55°F - 90°F) and 44% - 55% relative humidity be maintained in the film storage location. Film should be used within one year of purchase.

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Expected Effective Performance Characteristics Performance statements are based upon representative experience from testing throughout the United States; however, actual performance will be determined by substrate selection and preparation, exposure conditions, and maintenance of the marking. When applied, or when processed and applied according to 3M recommended procedures, this product will conform to 3M's specifications for two years following purchase from 3M.

Physical and Chemical Characteristics Values given are typical and are not for use as specifications. If a specification is desired, a custom specification will be prepared. Any requests for a specification should be submitted through your local 3M representative.

Performance Properties These values represent typical data when tested to major OEM urethane specifications and should not be used for product approval.

Performance Test and Conditions	Results	
	PUL 0612	PUL 1212
Tensile MPa (PSI)	12 (1740)	12 (1740)
Elongation	200%	200%
Peel Adhesion		
Initial state — 20 min @ 23°C (73°F) N/m (lb/in)	600 (3.4)	600 (3.4)
Room temperature — 72 hrs @ 23°C (73°F) N/m (lb/in)	700 (4.0)	700 (4.0)
Heat resistance — 168 hrs @ 70°C (158°F) N/m (lb/in)	700 (4.0)	700 (4.0)
Moisture resistance — 168 hrs @ 35°C (95°F)	700 (4.0)	700 (4.0)
100% R.H.- 2 hrs @ 70°C (158°F) N/m (lb/in)		
Thermal cycle	700 (4.0)	700 (4.0)
Environmental Simulation		
Acid resistance	Pass	Pass
Fuel resistance	Pass	Pass
Heat resistance — 168 hrs @ 70°C (158°F)	Pass	Pass
Moisture resistance — 168 hrs. 35°C (95°F)	Pass	Pass
100% R.H. - 2 hrs. @ 70°C (158°F)		
Thermal cycle	Pass	Pass
Solvent resistance*	Pass	Pass
Shrinkage	<.1%	<.1%
Gravelometer (SAE J400)	Pass (No ruptures)	Pass (No ruptures)

*3M™ Paint Protection Film on recreational vehicles may experience occasional staining with Advantage™ Windshield Washer Solvent Concentrate by Micro Blend, LLC.

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Outdoor Deck Weathering

Arizona 45° South Facing (unbacked) - No objectionable gloss loss or change, adhesion loss, film cracking, or crazing. - No additional yellowing.	24 months	Pass (Less than 10% gloss loss and no more than 2.5 De color change)	Pass (Less than 10% gloss loss and no more than 2.5 De color change)
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Florida 5° South Facing (unbacked) - No objectionable gloss loss or change, adhesion loss, film cracking, or crazing. - No additional yellowing.	24 months	Less than (Less than 10% gloss loss and no more than 2.5 De color change)	Less than (Less than 10% gloss loss and no more than 2.5 De color change)
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Product Characteristics	Adhesive	Acrylic PSA
	Liner	White — Bleached paper with release coating (and printed red 3M logo)
	Max service temperature	Film softens above 67°C (150°F)

Application	For detailed information on application of 3M™ Paint Protection Film, see Instruction Bulletin 2-18. For best results, apply the film to a clean substrate at temperatures between 13°C - 32°C (55°F - 90°F).
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