

# PPF Ultima Plus

## Paint Protection Film

Revision 0

### Introduction

Avery Dennison® PPF Ultima Plus - Paint Protection Film is designed as an optically-clear film, ideal for superior protection of OEM painted surfaces from stone chips, road debris, insect stains and weathering. Used as a protective film in automotive, RV, marine<sup>1</sup> and architectural markets.

### Common Applications

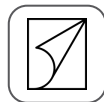
- Motor vehicle surfaces
- Marine craft surfaces<sup>1</sup>
- Architectural surfaces

<sup>1</sup> Please contact Avery Dennison for application guide or suggestion



#### Face Film + Adhesive

8.5mil (212 micron) gloss clear top-coated thermoplastic polyurethane (TPU) film



#### Backing

Polyester (PET) liner



#### Adhesive

Permanent, acrylic based



#### Outdoor life\*\*

Up to 10 years

### Features

- Top-coated high gloss finish with stain resistance
- Heat activated self-healing top coat provides excellent scratch resistance
- Highly conformable thermoplastic polyurethane (TPU) film
- Superior protection of OEM painted surfaces from stone chips, road debris, insect stains and weathering
- Exceptional optical clarity providing invisible protection
- Outstanding durability and outdoor life
- Excellent UV, temperature, humidity, chemical and salt-spray resistance
- Excellent adhesion to new generation of automotive clear coats
- Protective PET top sheet helps maintain gloss and surface uniformity during transport\*

### Conversion

- Flatbed cutters
- Friction fed cutters
- Die cutting
- Hand cutting

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Product Data Sheet

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### Application

- Wet application recommended. Soap Solution: Combine 100% distilled water with 2 ml of soap per litre of water.
- For installation tips and guides please refer to Avery Dennison® Instructional Bulletins:
  - 1.01 Substrate Cleaning and Preparation
  - 1.15 Application Instructions for SPF Supreme Protection Film

\*Note: Always remove the protective PET top sheet immediately after cutting material from the roll or before converting using a plotter or flatbed cutter. Always store unused material on the roll and tightly wound and secure.

## General

|                                |                                |                              |
|--------------------------------|--------------------------------|------------------------------|
| Calliper, face film + adhesive | ISO 534                        | 8.5mil ±1.0 (212 micron ±15) |
| Gloss 60°                      | ISO 2813                       | >90 GU                       |
| Dimensional stability          | FINAT, FTM-14                  | <0.1%                        |
| Tensile strength               | ISO 527                        | >20 MPa                      |
| Elongation                     | ISO 527                        | >300%                        |
| Adhesion, initial              | FINAT FTM-1, Stainless steel   | >550 N/m                     |
| Adhesion, ultimate             | FINAT FTM-1, Stainless steel   | >650 N/m                     |
| Shelf life                     | Stored at 22-25°C / 50-60 % RH | 1 year                       |
| Expected Durability**          | ASEAN Zone 2                   | Outdoor: 10 years            |

## Thermal

|                         |             |
|-------------------------|-------------|
| Application temperature | 15°C - 30°C |
|-------------------------|-------------|

## Chemical

|                            |           |
|----------------------------|-----------|
| Gasoline, 30 min           | No effect |
| Car Wash solution, 30 min  | No effect |
| Antifreeze, 30 min         | No effect |
| Diesel, 30 min             | No effect |
| Heptane, 30 min            | No effect |
| 10% Sulphuric acid, 30 min | No effect |
| Isopropyl alcohol, 30 min  | No effect |

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#### Important

Information on physical characteristics is based upon tests we believe to be reliable. The values listed herein are typical values and are not for use in specifications.

They are intended only as a source of information and are given without guarantee and do not constitute a warranty. Purchasers should independently determine, prior to use, the suitability of any material for their specific use.

All technical data is subject to change without prior notice.

#### Warranty

Avery Dennison® materials are manufactured under careful quality control and are warranted to be free from defect in material and workmanship. Any material shown to our satisfaction to be defective at the time of sale will be replaced without charge. Our aggregate liability to the purchaser shall in no circumstances exceed the cost of the defective materials supplied. No salesman, representative or agent is authorised to give guarantee, warranty, or make any representation contrary to the foregoing. All Avery Dennison® materials are sold subject to the above conditions, being part of our standard conditions of sale, a copy of which is available on request.

#### \*\*Warranted Period Definitions

The warranted period is the maximum period of time Avery Dennison® will warrant the finished products performance in accordance with the Supreme™ PPF Warranty Terms and Conditions, provided that the film is properly stored, converted and installed in accordance with Avery Dennison® guidelines. Warranty is based on outdoor exposure conditions in Zones 1, 2 and 3, unless otherwise stated, and applied to recommended substrates. For details on warranted period please see Supreme™ PPF Warranty Bulletin.

## Testing Methods

#### Dimensional stability:

Is measured on a 150 x 150 mm aluminium panel to which a specimen has been applied; 72 hours after application the panel is exposed for 48 hours to + 70°C, after which the shrinkage is measured.

#### Adhesion:

(FTM-1, FINAT) is measured by peeling a specimen at a 180° angle from a stainless steel or float glass panel, 24 hours after the specimen has been applied under standardised conditions. Initial adhesion is measured 20 minutes after application of the specimen.

#### Flammability:

A specimen applied to aluminium is subjected to the flame of a gas burner for 15 seconds. The film should stop burning within 15 seconds after removal from the flame.

#### Temperature range:

A specimen applied to stainless steel is exposed at high and low temperatures and brought back to room temperature. 1 hour after exposure the specimen is examined for any deterioration. Note: Prolonged exposure to high and low temperatures in the presence of chemicals such as solvents, acids, dyes, etc. may eventually cause deterioration.

#### Chemical Resistance:

All chemical tests are conducted with test panels to which a specimen has been applied. 72 hours after application the panels are immersed in the test fluid for the given test period. 1 hour after removing the panel from the fluid, the specimen is examined for any deterioration.

#### Corrosion Resistance:

A specimen applied to aluminium is exposed to saline mist (5% salt) at 35°C. After exposure, the film is removed and the panel is examined for traces of corrosion.



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