Avery Dennison® SPF-XI Paint Protection Film

Features

- Top coated high gloss finish
- Self healing top coat provides excellent scratch resistance
- Premium grade, conformable polyurethane (PU) film
- Superior protection of painted surfaces from stone chips, road debris, insect stains and weathering
- Superior 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*

Description

Film: 165 micron gloss clear top coated aliphatic polyurethane (PU) film

Adhesive: Permanent acrylic

Backing: 76 micron Polyester

Outdoor life: Up to 10 years vertical exposure**

Application surface: Flat, simple curves, and compound curves

Conversion

- ☑ **Flat bed cutters**
- ☑ **Friction fed cutters**
- ☑ **Die cutting**
- ☑ **Hand cutting**
- ☐ Screen printing
- ☐ Cold overlaminating
- ☐ Estat printing
- ☐ Water based inkjet
- ☐ Solvent inkjet
- ☐ Mild solvent inkjet

Common Applications

- Automotive
- Marine
- Recreational Vehicles
- Architectural

Application

- Wet application recommended. Soap Solution: Combine 100% water with 2ml of soap per litre of water.
- For processing tips and reference guides please refer to Avery Dennison Instructional Bulletins:
  - 1.01 Substrate Cleaning and Preparation
  - 1.15 Application Instructions for Avery Dennison SPF-XI Paint 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.

Uses

Avery Dennison SPF-XI 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 and architectural markets.

Physical characteristics

General

Caliper, facefilm	ASTM D1000	165 micron
Caliper, facefilm & adhesive	ASTM D1000	203 micron
Tensile strength	ASTM D882	> 4500 N/m
Elongation	ASTM D882	> 300±50%
Shrinkage[1]		< 0.5%
Gravelometer	ASTM D968[2]	> 300L
Adhesion, 30 min	ASTM D 1000, stainless steel	400 N/m
Adhesion, 24 hour		600 N/m
Adhesion, 1 week, 70°C		600 N/m
Adhesion, 250 hrs, 40°C, 98% RH		500 N/m
Adhesion, 250 hrs, water imersion		500 N/m
Adhesion, waxing / de-waxing		400 N/m
Shelf life	Stored at 22° C/50-55 % RH	1 year
Expected Durability **	Outdoor, Vertical exposure	up to 10 years

Thermal

Application temperature	Minimum: + 10°C
Temperature range	-45°C to +80°C

Chemical

1) Visual inspection after exposure to the following test fluids

Petroleum, 30 min	No significant change
Carwash solution, 1 hour	No significant change
Antifreeze, 1 hour	No significant change
0.5 N/L Hydrochloric Acid, 4 hours	No significant change

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.

****Durability**

The expected durability of Avery Dennison films are defined as the expected performance life of the Avery Dennison graphic film(s) within Zone 1 of the Avery Dennison zone system, in outdoor vertical exposure conditions.

The actual performance life will depend on a variety of factors, including selection and preparation of substrate, angle and direction of exposure, application methods, environmental conditions and cleaning/maintenance of the films. In case of films used in areas of high temperatures or humidity, high altitudes and industrially polluted areas the performance will be further reduced.

****Expected Durability and Warranted Period Definitions**

Expected durability is the expected period of time defined in the product data sheet, the product should, but is not warranted to, perform satisfactorily when applied in vertical exposure conditions as defined in Instructional Bulletin 1.30. The warranted period is the maximum period of time Avery Dennison will warrant the finished products performance in accordance with the SPF-XI Paint Protection Film Warranty Terms and Conditions, provided that the film is properly stored, converted and installed in accordance with Avery Dennison guidelines. For details on warranted period please see SPF-XI Paint Protection Film Warranty.

Test 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

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 35ºC. After exposure, the film is removed and the panel is examined for traces of corrosion.