

Avery Dennison® 6600 Prismatic Reflective Film Translucent

Issued: 05/14/2001 Updated 05/20/2010

Uses:

Avery Dennison® 6600 series Reflective sheeting consists of a micro-prismatic translucent face material and has been designed for internally illuminated signs. This product transmits uniformly diffused light to provide an attractive readable sign plus supplies backup protection in case of power failure due to the film's retroreflective properties. 6600 series far exceeds the retroreflective minimums specified in FAA specification AC 150/5345-44E



Face: High Gloss Reflective Film



Adhesive: Permanent Clear Acrylic applied to face or applied to back (RA)



Liner: Clear Polyester Film



Durability: Up to 10 years Vertical exposure ONLY

Application Surfaces:

Flat surfaces only

Features:

- Proven long term durability and outdoor performance
- Exceeds FAA specification AC 150/5345-44E
- High reflective performance
- Varying degrees of light transmission for back lit signage
- Screen Printable

Conversion:

- Thermal Die-Cutting
- Flat Bed Sign-Cut
- Drum Roller Sign-Cut
- Steel Rule Die-Cutting
- Thermal Transfer

- Screen Printing
- Cold Overlaminating
- Water based inkjet

- Solvent based inkjet
- Mild/Eco Solvent inkjet
- UV inkjet

Common Applications:(vertical only)

- Indoor Signage
- Outdoor Signage

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Physical Characteristics:

Property		Value
Typical Caliper	film	9 – 10 mils (229 to 254 µm)
Shelf-Life		1 year when stored at the following conditions; 68°-77°F (20°-25°C) and 50% ± 5% R.H.
Durability	Vertical Exposure Only	Typical 10 years or longer (Some color fade may occur in severe environmental areas. Reference IB #1.30 for durability guidelines.
Optical Properties		Exceeds FAA AC 150/5345-44F (cites ASTM D-4956 type I values – 6600 Series exceeds ASTM D-4956 type IV)
Min. Application Temperature		50° F (10° C) when applied using a squeeze roll applicator or squeegee
Service Temperature		-10° to +160°F (-40° to +82°C)
Recommended Screen Print Inks		Avery Dennison 4930 series
Application Surface*		Flat surfaces only, Plexiglas recommended

Important:

Information on physical and chemical characteristics are based on tests believed to be reliable. The values are intended only as a source of information. This information is given without guaranty and do not constitute a warranty. The purchaser should independently determine, prior to use, the suitability of any material for their specific purpose. (Data represents average values where applicable, and is not intended for specification purposes)

Warranty:

All statements, technical information and recommendations about Avery Dennison products are based upon tests believed to be reliable but do not constitute a guarantee or warranty. All Avery Dennison products are sold with the understanding that Purchaser has independently determined the suitability of such products for its purposes. Avery Dennison products are warranted to be free from defects in material and workmanship for either one year (or the period stated on the specific product information literature in effect at time of delivery, if longer) from date of shipment if said product is properly stored and applied. It is expressly agreed and understood that Avery Dennison's sole obligation and Purchaser's exclusive remedy under this warranty, under any other warranty, express or implied, or otherwise, shall be limited to repair or replacement of defective product without charge at Avery Dennison's plant or at the location of product (at Avery Dennison's election), or in the event replacement or repairs is not commercially practical, to Avery Dennison's issuing Purchaser a credit reasonable in light of the defect in the product.

Avery Dennison's liability for defective products shall not exceed the purchase price paid therefore by Purchaser and in no event shall Avery Dennison be responsible for any incidental or consequential damages whether foreseeable or not, caused by defects in such product, whether such damage occurs or is discovered before or after replacement or credit, and whether or not such damage is caused by Avery Dennison's negligence.

NO EXPRESS WARRANTIES AND NO IMPLIED WARRANTIES, WHETHER OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR USE, OR OTHERWISE (EXCEPT AS TO TITLE), OTHER THAN THOSE EXPRESSLY SET FORTH ABOVE WHICH ARE MADE EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, SHALL APPLY TO PRODUCTS SOLD BY AVERY DENNISON. AVERY DENNISON SPECIFICALLY DISCLAIMS AND EXCLUDES ALL OTHER SUCH WARRANTIES. NO WAIVER, ALTERATION, ADDITION OR MODIFICATION OF THE FOREGOING CONDITIONS SHALL BE VALID UNLESS MADE IN WRITING AND MANUALLY SIGNED BY AN OFFICER OF AVERY DENNISON.

Products Available: Product Data Sheet

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Graphics & Reflective Products Division
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Product	Translucency Level (%Opacity)*	Adhesive	Color
6620	Medium	Front	White
6630	High	Front	White
6630	High	RA - Rear	White
6621	Medium	Front	Yellow
6631	High	Front	Yellow
6631	High	RA - Rear	Yellow

*Translucency level is determined by the design of the light box and the intensity of the light source used in addition to the 6600 series product used.

Minimum Reflectivity:

ASTM D-4956 type IV

Observation Angle	Entrance Angle	White	Yellow
0.1° ¹	-4°	400	270
	30°	180	120
0.2°	-4°	250	170
	30°	150	100
0.5°	-4°	135	100
	30	65	45

¹ Note: 0.1° Observation angle is a "Supplemental Requirement" in ASTM D-4956. It represents long highway viewing distances of about 275 meters (900 ft.) and greater. These values are **not** the requirement of AC 150/5345-44E but are given here as a supplemental reference for typical product performance.

Minimum Reflectivity Values per FAA AC 150/5345-44F:

Observation Angle	Entrance Angle	White	Yellow
0.2°	-4°	70	50
	30°	30	22
0.5°	-4°	30	25
	30	15	13

Defects Coverage:

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- **Manufacturing & Workmanship Defects.** A failure of the Product to materially conform to the written specifications for the Product as described in the applicable Avery Dennison Product Data Sheet.
- **Printing and Ink Defects.** Artifacts or misprints that occur when printing on specified Avery Dennison Product using ICS Qualified Processing Materials, due solely to a defect in the Product in manufacturing or workmanship.
- **Cutting Defects.** A failure of clean cutting and weeding characteristics when cut as recommended in the applicable Avery Dennison Product Data Sheet and Instructional Bulletins, due solely to a defect in the Product in manufacturing or workmanship.
- **Finished Graphic Appearance Defects.** Defects, not including those attributed to the ink, such as excessive fading, discoloration, cracking, crazing, blistering, gloss changes, excessive dimensional change or loss of adhesion or reflectivity that makes the graphic visually unsuitable for its intended purpose when viewed with the intended lighting, angle and distance for such a graphic, as determined by customary industry standards.

Warranty Limitations:

This product is covered under the Avery ICS Warranty Program for fleet applications. Certification may be required. Please contact your Avery sales representative for details. The Product must be properly stored and applied within the shelf-life as stated in the applicable Avery Dennison Product Data Sheet. All ICS Qualified Processing Materials must be properly stored and applied in accordance with OEM instructions.

- **Unintended Use.** This warranty only applies to Product that is used by professional converters for the defined end uses and in the combinations described in the applicable Avery Dennison Product Data Sheets, Instructional Bulletins and ICS Performance Guarantee Durability Bulletin. For any other use, the user is responsible for determining the suitability of the Product, and for any and all risk or liability associated with that use or application, and the user agrees to indemnify, defend and hold harmless Avery Dennison for any claims, losses, damages, judgments, expenses and/or expenses, including attorneys fees, resulting from such use or application. This warranty is expressly conditioned on the Product being processed by professional converters using only ICS Qualified Processing Materials in accordance with the OEM and Avery Dennison recommended written processing instructions, and being applied to properly prepared surfaces and cleaned and maintained in accordance with recommended OEM and Avery Dennison procedures. It is the converters or other users responsibility to perform incoming raw material quality inspections, to assure proper surface preparation and that approved application procedures are followed, to retain converted samples, and to immediately cease using and notify Avery Dennison and/or its authorized agent or distributor of any Product, ICS Qualified Processing Materials and/or finished graphic discovered to be (or reasonably capable of being discovered to be) defective.
- **Misuse and Force Majeure.** Avery Dennison has no obligations or liability under this warranty with respect to Product that has been altered, modified, damaged, misused, abused, subject to accident, neglected or otherwise mishandled or improperly processed. Product is not warranted against premature failure caused by chemical, environmental or mechanical means such as, but not limited to, vandalism, cleaning solutions, paints, solvents, moisture, temperature, mechanical washing equipment, engine fuel spills, engine exhaust, steam, organic solvents or other spilled chemicals. Damage from fire, structural failure, lightning, and other force majeure events are not covered by this warranty.
- **Weathering Effects.** Some degradation of materials and graphics over time is considered normal wear. Slight color fading, chalking, edge lifting, "tenting" around rivets, or slight or gradual reduction in gloss (for cast and calendared films) or reflectivity (for retro-reflective films), and other natural weathering, environmental or other conditions or damage caused by tornadoes, hurricanes, wind or other acts of God, do not constitute a breach of warranty.
- **Printing, Curing and Ink Defects.** Ink contaminations, failures or other defects, or other failures due to improper printing conditions or settings including, but not limited to, unsuitable color calibration, incorrect ICC color profile or incompatible printing, do not constitute a breach of warranty. Product failure caused by ink over-saturation, excessive or under curing, or other treatment or processing errors are not warranted.
- **Adhesion to Application Surfaces.** This warranty does not cover the Product if the application surface is not properly prepared; nor does the warranty cover the Product or damage to the substrate because the layers of the substrate separate due to a lower bond between those layers than the bond between the Product and the top layer of the substrate, or surfaces which subsequently crack, peel, outgas, or become damaged beneath the Product.
- **Glass Breakage.** This warranty does not cover glass breakage. Glass is prone to break under the stresses caused by temperature changes across the surface, which could be amplified by the application of vinyl film.

Definitions:

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- **“Adhesion”** (FTM-1, FINAT) is measured by peeling a specimen at a 180° angle from a stainless steel panel, 24 hours after the specimen has been applied under standardized conditions. Initial adhesion is measured 15 minutes after application of the specimen.
- **“Flammability”** A specimen applied to aluminum 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.
- **“Outdoor Durability”** means that the Product in a finished graphic situated outdoors, subject to the limitations herein and Avery Dennison Product Data Sheets and Instructional Bulletins, and applied to recommended surfaces, will not deteriorate excessively such that the finished graphic is ineffective for its advertising or identification purpose(s) when viewed under normal conditions from the intended viewing distance, due solely to a defect in the Product in manufacturing or workmanship. Outdoor Durability is based on normal middle European and central North American outdoor exposure conditions and application to recommended surfaces. Actual performance life will depend on a variety of factors, including but not limited to substrate preparation, exposure conditions and maintenance of the Product and finished graphic. In case of finished graphics in areas of high temperatures or humidity, in industrially polluted areas or other areas with air laden particulate matter, and/or in high altitudes, Outdoor Durability will be reduced and the warranty period will be decreased accordingly. Avery Dennison [Instructional Bulletin #1.30](#) Durability of Avery® Graphics Films sets forth the durability period in the regional service area of your graphics.
- **“Indoor Durability”** means that the Product in a finished graphic situated within the interior of a building without direct exposure to sunlight and applied to recommended surfaces, will not deteriorate excessively such that the finished graphic is ineffective for its advertising or identification purpose(s) when viewed under normal conditions from the intended viewing distance, due solely to a defect in the Product in manufacturing or workmanship. The warranty does not extend to the use of the Product or finished graphic as wood or fabric replacement films or safety and security window films.
- **“Vertical Exposure”** means that the face of the finished graphic is ±10° from vertical. Please consult the Avery Dennison [Instructional Bulletin #1.30](#) Durability of Avery® Graphics Films for full details.
- **“Non-Vertical Exposure”** means that the face of the finished graphic is greater than 10° from vertical and greater than 5° from horizontal. Reflective films are not warranted for this exposure.
- **“Horizontal Exposure”** means the face of the finished graphic is 85° to 90° from vertical. Reflective films are not warranted for this exposure.
- **“Flat surfaces”** means a two dimensional flat surface without protruding objects.

Revisions are italicized

Avery Dennison is a registered trademark of Avery Dennison Corp.

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