



Graphics Solutions

Product: Avery Dennison® V-4000 Premium Reflective Permanent StaFlat™

Category: Display & Visual - Solvent, Latex, Eco Solvent, UV Inkjet

Country of Origin: USA

Technical specifications:

Features

- Glass bead retro reflective film provides excellent night time visibility
- High gloss for superior appearance
- Available in six colours White, Black, Yellow, Blue, Red and Orange
- Excellent conformability to moderate 3D shapes and rivets for fleet applications
- Long term durability and outdoor performance
- Excellent dimensional stability during use
- Good UV, temperature, humidity and salt-spray resistance
- Meets ASTM D4956-13 Standard Specification for Retro reflective Sheeting for Traffic Control

Conversion

- | | |
|---|--|
| <input type="checkbox"/> Flat bed cutters | <input type="checkbox"/> Cold overlaminating |
| <input checked="" type="checkbox"/> Friction fed cutters | <input checked="" type="checkbox"/> Latex inkjet^ |
| <input checked="" type="checkbox"/> Die cutting | <input checked="" type="checkbox"/> Eco Solvent Inkjet^ |
| <input checked="" type="checkbox"/> Thermal transfer | <input checked="" type="checkbox"/> Solvent inkjet^ |
| <input checked="" type="checkbox"/> Screen printing* | <input checked="" type="checkbox"/> UV Cured inkjet^ |

* For flat surfaces only, except for qualified flexible inks

^White film only for digital printing

Application

- Flat, simple and moderate compound curves and 3D shapes
- Avery Dennison recommends a maximum total ink limit of 270% to ensure optimal performance
- Dry application only. Do not use water and detergent or a commercial application fluid to position the graphic
- Refer to Instructional Bulletins 1.14, 1.15, 1.16, 1.17, 4.14 and 5.04 for further instructions

Uses

Avery Dennison V-4000 Premium Reflective Permanent StaFlat™ is ideal for a wide range of fleet, emergency service vehicles and general signage applications where engineer grade reflectivity, long term durability and good conformability with a high gloss finish are required.

Description



Film: 143 micron high gloss retro reflective cast vinyl



Adhesive: Permanent clear acrylic



Liner: Two side PE coated StaFlat™ paper, 145g/m2



Outdoor life: Up to 7 years (Vertical exposure only)

Common Applications

- Emergency vehicle safety markings
- High visibility fleet branding
- Mining and industrial safety signage
- General safety signage
- Architectural and way finding

General

| | | |
|---|---|---------------------------|
| Calliper, face film | ISO 534 | 143 micron |
| Calliper, face film & adhesive | ISO 534 | 179 micron |
| Dimensional stability | | 0.4 mm max |
| Tensile strength | DIN 53455 | 1.25-1.6kg/cm |
| Elongation | DIN 53455 | 70% min |
| Gloss | Hunter Gloss @ 60° | 90% |
| Reflectivity | Meets ASTM D4956-13 Specification for Retro reflective Sheeting for Traffic Control Class 3 (70 cpl minimum reflectivity for white) | |
| Typical Coefficient of Retro-Reflectivity | White | 100 |
| | Yellow | 75 |
| | Orange | 25 |
| | Black | 16 |
| | Red | 15 |
| | Blue | 6 |
| Adhesion, 15 mins | FINAT FTM-1, Stainless steel | 604 N/m |
| Adhesion, 24 hr | FINAT FTM-1, Stainless steel | 665 N/m |
| Adhesion, 1 week | FINAT FTM-1, Stainless steel | 802 N/m |
| Flammability | | Self extinguishing |
| Shelf life | Stored at 22° C/50-55 % RH | 2 years |
| Expected Durability ** | Vertical exposure only | Up to 7 years (unprinted) |

Thermal

| | | |
|-------------------------|---|------------------|
| Application temperature | | Minimum: + 10°C |
| Chemical resistance | Resistant to most mild acids, alkalis, and salt solutions | |
| Temperature range | | - 40°C to + 80°C |

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 eventually cause deterioration.

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.

**Expected 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 as defined in the appropriate ICS Performance Guarantee Bulletin, is the maximum period of time Avery Dennison will warrant the finished products performance in accordance with ICS Performance Guarantee Terms and Conditions 1.0, provided that the film is properly stored, converted and installed in accordance with Avery Dennison guidelines.

*Compatible with most printer and ink combinations. Test prior to use.