

# Avery Dennison® HV1100 High Visibility Series

Permanent Staflat™

(formerly: A3, NV200 series StaFlat )

Revision: 4 Dated: 01/06/16

## Uses:

Avery Dennison® HV 1100 Reflective intermediate utility grade products are value priced enclosed lens retro-reflective films which provide improved day/night visibility for applications which do not have specified reflectivity minimums. Avery Dennison HV 1100 Reflective films have been primarily designed for use in non-engineer grade computer cut signage and markings where day/night visibility is required.



**Face:** 4.5 mil (113 microns) high gloss urethane



**Adhesive:** Permanent Clear Acrylic



**Liner:** 90# StaFlat™



**Durability:** Up to 3 years

**Application Surfaces:**

Flat

## Features:

- Dimensionally stable liner for easy converting
- High gloss finish
- Excellent conversion on CAD plotters
- Easy cutting & weeding
- Good dimensional stability
- Good UV, temperature, humidity, and salt-spray resistance
- Economical retro-reflective
- Day & Night visibility

## Conversion:

- Flat Bed Sign-Cut
- Drum Roller Sign-Cut
- Steel Rule Die-Cutting
- Screen Printing

## Common Applications:

- Trucks
- Trailers
- Cars & Vans
- Architectural Signage
- Directional Signage
- Trains & light rail
- Buses
- Outdoor advertising

## Product Data Sheet

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Solutions

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Revision: 4 Dated: 01/06/16

### Physical Characteristics:

| Property                     | Typical Values   |
|------------------------------|--|
| Caliper, face                | 4.5 mil (113 microns)  |
| Caliper, adhesive            | 1.0mil (25 µm)   |
| Dimensional stability        | Less than 0.03 in. (0.76 mm) shrinkage. (1000 hours Atlas Twin Arc Weatherometer, EH)  |
| Tensile at Yield             | 4.0 -8.0 lb/in (0.7 – 1.5 kg/cm)   |
| Elongation                   | 70% min.   |
| Gloss                        | 90% ± 10   |
| Adhesion: 15 min.            | 3.5 lbs/in (612 N/m)   |
| 24 hr.                       | 4.5 lbs/in (787 N/m)   |
| Flammability                 | Self Extinguishing   |
| Shelf-Life                   | 2 years from date of manufacture when stored at the following temperatures and humidity conditions 68°-77° F (20° - 25° C) and 50±5% R. H. |
| Durability                   | Vertical Exposure Up to 3 years (Some color fade may occur in severe environmental areas. Reference IB #1.30 for durability guidelines.)   |
| Min. Application Temperature | 40° F (4°C)  |
| Service Temperature          | -40° to 180 °F (-40° to 82° C) (Reasonable range of temperatures which would be expected under normal environmental conditions).           |
| Chemical resistance          | Resistant to most mild acids, alkalis, and salt solutions.   |

Data represents average values where applicable, and is not intended for specification purposes.

#### Warranty:

This Warranty applies to the Product listed in this Data Sheet. All statements, technical information (including physical and chemical characteristics) 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 subject to the Purchaser's assent and agreement that Purchaser is responsible for, and has independently determined, the suitability of such products for its purposes or its customer's purposes. Avery Dennison graphics products are warranted to be free from defects in material and workmanship for two years from the date of manufacture. When the product is properly applied, the warranty period is as stated in the product's specific Product Data Sheet in effect at the time of shipment to Avery Dennison's customer.

Such time periods are subject in either case to the proper storing and application of said product, and the failure to properly store or apply the product, including without limitation the failure to follow any applicable Instructional Bulletin, negates any warranty. 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 exclusively to: (a) repair or replacement of defective product without charge at Avery Dennison's plant or at the location of the product (at Avery Dennison's election), or (b) in the event repair or replacement are not commercially practical, a credit amount up to the price of the product taking into account the defect in the product in Avery Dennison's sole discretion.

THE WARRANTY EXPRESSLY SET FORTH ABOVE IS IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR USE AND/OR NON-INFRINGEMENT. SELLER 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.

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### Limitation of End Uses:

Certain applications are not recommended or warranted by Avery Dennison. Unsuitable applications include:

- Stainless Steel
- Wood (painted or unpainted)
- Urethane substrates
- Walls
- Compound curves
- Corrugations
- Flexible substrates
- Low surface energy substrates (i.e. Tedlar™ coatings)
- Unclean or textured surfaces
- Wet method of application not recommended on HV Reflective Series reflective films. Use of wet method of application invalidates standard warranty on this product
- Long term exposure to temperatures over 140 °F
- Non-Vertical applications (durability is for vertical exposure ONLY, defined as ±10° from vertical)

### Colors Cross Reference:

| HV1100 Series Name                | Item #'s | Vertical Durability Zone 1 Years |
|-----------------------------------|----------|----------------------------------|
| <i>HV1100-101-R White Perm SF</i> | 3801R    | 3                                |
| <i>HV1100-440-R Red Perm SF</i>   | 3816R    | 3                                |

| HV1100 Series Name               | Item #'s | Vertical Durability Zone 1 Years |
|----------------------------------|----------|----------------------------------|
| <i>HV1100-688-R Blue Perm SF</i> | 3822R    | 3                                |

### Discontinued Colors as of 01/01/16:

| HV1100 Series Name                 | Item #'s | Vertical Durability Zone 1 Years |
|------------------------------------|----------|----------------------------------|
| <i>HV1100-235-R Yellow Perm SF</i> | 3812R    |                                  |
| <i>HV1100-360-R Orange Perm SF</i> | 3815R    |                                  |

| HV1100 Series Name                   | Item #'s | Vertical Durability Zone 1 Years |
|--------------------------------------|----------|----------------------------------|
| <i>HV1100-450-R Dark Red Perm SF</i> | 3818R    | 3                                |
| <i>HV1100-778-R Green Perm SF</i>    | 3824R    | 3                                |

### Minimum Coefficient of Retro-Reflectivity:

| Color  | Coefficient of Retro-Reflectivity | Color    | Coefficient of Retro-Reflectivity |
|--------|-----------------------------------|----------|-----------------------------------|
| White  | 50                                | Dark Red | 10                                |
| Yellow | 25                                | Blue     | 4                                 |
| Orange | 13                                | Green    | 5                                 |
| Red    | 14                                |          |                                   |

(Tested per ASTM E810 at -4° EA/0.2° OA)

Revisions are italicized

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