

PRODUCT DATA SHEET

Avery Dennison® V-4000 Retro-Reflective Films

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Introduction

Avery Dennison® V-4000 is a high-quality beaded retro-reflective cast film, tailored for long-term commercial and emergency fleet applications. It has excellent cutting and weeding performances as well as printing on screen presses. Digital printability is possible with the white version. A high level of reflectivity makes this a very versatile product that offers exceptional value for vehicle, architectural, and general signage applications requiring conformability and extended durability.

Conversion

Avery Dennison® V-4000 Reflective films can be screen printed and converted using a wide variety of conversion techniques including steel rule die-cutting, thermal die-cutting, flatbed sign-cut or drum roller sign-cut. Good signcutting properties shown on the perm-version; sign cutting possible on LTR-version. For V-4000 with Easy Apply™ RS we recommend flat transport of converted material. V-4000 white can be inkjet printed (Latex, Mild/Eco solvent or UV) as well. Always test suitability of V-4000 prior to use. The digitally printed films are recommended to be protected using an overlamine (see Technical Bulletin 5.3).

Colours: Avery Dennison® V-4000 retro-reflective is available in White, Yellow, Red, Orange, Blue and Black as standard colours plus the option to customize colour matching.

	White	Yellow	Red	Blue	Orange	Black
Reference	V-4000-101	V-4000-235	V 4000-440	V-4000-688	V-4000-360	V-4000-190
Coeff of Retro-Reflection*	94,4	65,7	14	4	24,5	9,8

* Cd/Lx/m² at an entrance angle of 5° and observation angle of 0.2°.

Recommendations

Application on flat surfaces and moderate curves with or without rivets. Not recommended for unpainted stainless steel. Wet method application is not recommended. The use of wet application invalidates the standard warranty.

Features

- » Outstanding digital printability across all platforms (V-4000 White only)
- » Excellent printing results on screen presses
- » Meets ASTM® D4956, Type 1 reflectivity levels
- » Flexible cast vinyl
- » High dimensional stability
- » Extensive colour range
- » Colour matching option
- » Possible to sign-cut



Face Film

High gloss, cast retro-reflective vinyl film with enclosed lens



Adhesive

Permanent, pressure sensitive, Clear Acrylic (Perm-version) or Long Term Removable Acrylic (LTR-version)



Backing

90# StaFlat

or 90# StaFlat, Poly-Coated with Easy Apply™ RS technology



Durability

7 years



Shelf Life

1 year from date of purchase

- » Unique patented Easy Apply™ RS adhesive technology helps prevent wrinkles and bubbles during application, also providing repositionability and slideability
- » Excellent long term removability (LTR-version)

Physical Characteristics

Product	Test method ¹	Results	
		V-4000 Permanent	V-4000 EARS/LTR
Caliper, facefilm (micron)	ISO 534	179	237
Dimensional stability (mm max.)	FINAT FTM 14	0,8	0,8
Shelf life (years)	Stored at 22° C/50-55 % RH	1 year from date of purchase	1 year from date of purchase
Durability ² (years)	Vertical exposure	7	7
Adhesive			
Adhesion, 15 min. (N/m)	FINAT FTM-1, aluminium	680	376
	stainless steel	600	270
	Painted Aluminium	495	179

Temperature range

Application temperature (Minimum: °C)	+10	+10
Service temperature (°C to +°C)	-40 to +80	-40 to +80

Chemical properties³

Solvent resistance	Applied to aluminium		
Kerosene and Turpentine	10 minutes	No effect	No effect
Toluene, Xylene and Methyl alcohol	1 minute	No effect	No effect

Important

Information on physical and chemical characteristics and values in this document are based upon tests we believe to be reliable and do not constitute a warranty. 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 this material to their specific use.

All technical data are subject to change. In case of any ambiguities or differences between the English and foreign versions of this document, the English version shall be prevailing and leading.

1) Test methods: More information about our test methods can be found on our website.

2) Durability: The durability is based on middle European exposure conditions. Actual performance life will depend on substrate preparation, exposure conditions and maintenance of the marking. For instance, in the case of signs facing south; in areas of long high temperature exposure such as southern European countries; in industrially polluted areas or high altitudes, exterior performance will be decreased.

3) Prolonged immersion in gasoline and similar fluids is not recommended.

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