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Avery Dennison® V2000 Engineering Grade Beaded Reflective

Permanent StaFlat

Revision: 1 Dated: 10/31/18

Uses:

Avery Dennison V2000 beaded Engineering Grade Retroreflective offers exceptional value for architectural, transportation, and general signage applications V2000 meets ASTM D4956 Type 1.

Face: 5.5 - 6.5 mil (140 - 165 micron) Acrylic with Glass Microspheres

Adhesive: Permanent Clear Acrylic

Liner: 90#

Application Surfaces: Flat, Simple Curves

Notes:
- not recommended for unpainted stainless steel
- Wet method of application is not recommended

Features:

- Superior day/night color consistency
- Chemical resistant
- Good UV, temperature, humidity and salt-spray resistance
- Brilliantly bright, day and night
- Excellent conversion on CAD plotters
- Permanent adhesive

Conversion:

- Screen Printing
- Flat bed sign-cut
- Drum roller sign-cut
- Steel rule sign-cut

Common Applications:

- Indoor Signage (Wayfinding)
- Outdoor Signage
- Striping

Product Data Sheet

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Physical Characteristics:

Property	Measurement	Typical Value
Caliper, face		4.0 - 5.0 mil (102 - 127 µm)
Caliper, adhesive		1.3 mil (33 µm)
Gloss	Hunter Gloss @ 60 degrees	82 GU
Adhesion SS:	15 min 24 hr 1 week	3.5 lbs/in (604 N/m) 3.8 lbs/in (665 N/m) 4.6 lbs/in (802 N/m)
Flammability	FMVSS302	Self Extinguishing
Shelf-Life		2 years from the 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*
Min. Application Temperature		65° F (18° C)
Service Temperature		-10° to 150°F (-23° to 65° C) (Reasonable range of temperatures which would be expected under normal environmental conditions).
Chemical resistance		Resistant to most mild acids, alkalis, and salt solutions
Optical Properties	Reflective Intensity	The V2000 meets the ASTM D4956 Type 1

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

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or additional to this Agreement.

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⚠WARNING

Failure to install the film in full compliance with Avery Dennison's installation instructions may result in personal injury or property damage. Read and follow all instructions when installing the film.

Colors & Expected Durability

Vertical Durability for Zone 1 vertical applications is noted in the chart below. Color samples are available from samples.graphics@averydennison.com, or through your sales or customer service contact. Reference Instructional Bulletin 1.30 for zones by geographic location.

NOTE: Some color fade may occur in severe environmental areas. Reference IB 1.30 for durability guidelines.

V2000 Series Name	Vertical Durability Zone 1 Years
V2000-101-R White Perm SF	3
V2000-450-R Red Perm SF	3
V2000-750-R Green Perm SF	3

V2000 Series Name	Vertical Durability Zone 1 Years
V2000-250-R Yellow Perm SF	3
V2000-650-R Blue Perm SF	3
	3

Typical Coefficient of Retro-Reflectivity:

COMMENTS: (based on averages of production runs, NOT for specification purposes)
Min. coefficients of retroreflection (RA) 1 per ASTM D49562 Type I

Table A.

Observation Angle	Color	Entrance Angle	
		- 4°	+ 30°
0.2°	White	70	30
	Yellow	50	22
	Blue	4	1.7
	Green	9	3.5
	Red	14	6
0.5°	White	30	15
	Yellow	25	13
	Blue	2.0	0.8
	Green	4.5	2.2
	Red	7.5	3.0

Related Documents:

The following Avery Dennison literature will provide complete information to the user for proper application, storage, and other requirements and is available upon request from your Avery Dennison representative or from the Avery Dennison website (www.graphics.averydennison.com).

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Document Title	Reference Number
Substrate Cleaning and Preparation	Instructional Bulletin #1.10
Storage, Maintenance, and Cleaning of PVC Films	Instructional Bulletin #1.20
Warranty of Avery Dennison Films	Instructional Bulletin #1.30
Cleaning and Maintenance of Vehicle Wraps	Instructional Bulletin #1.50
Converting Tips for Sign Films	Instructional Bulletin #2.10
Ink recommendations for Cast, Reflective, Calendered, and Specialty Products	Instructional Bulletin #3.00
Removal Instructions	Instructional Bulletin #4.10
Thermal Transfer Printing, Converting, Operating, and Product Instructions	Instructional Bulletin #5.10
Reflective Films on Stainless Steel IB 6.11	Instructional Bulletin #6.11

Revisions are italicized

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