

**Avery Dennison Omni-Brite™ S-9013 Fluorescent Yellow-Green Flexible Vinyl Sheeting
For Safety Apparel Applications
Complies with ANSI / ISEA 107-2004 and EN471
Revised: September 6, 2005**

Description:

Avery Dennison Omni-Brite™ S-9013 flexible vinyl sheeting is a multi-layer, micro-prismatic, retroreflective material. This visibility-enhancing material is designed for use on safety apparel. Avery Dennison Omni-Brite™ S-9013 features a unique micro-prismatic technology that increases daytime and nighttime visibility at all relevant angles and rotations. It has excellent flexibility for conformability to the human body. Avery Dennison Omni-Brite™ S-9013 is suitable for conversion into garment safety tape compliant with the ANSI / ISEA 107-2004 American National Standard for High-Visibility Safety Apparel and the European Standard EN471.

Physical Properties:

If material is properly converted, the following results can be expected.

Test Methodology	Performance
Abrasion : using a weight of 9kPa for 5,000 cycles of a woolen fabric per EN 530:1994, method 2	Retains greater than 100 cd/lx/m ² after testing
Flexing : at a temperature of 23°C for 7,500 cycles per ISO 7854:1997, method A	Retains greater than 100 cd/lx/m ² after testing
Folding at Cold Temperatures : expose and fold at (-20+/-1) °C for four hours per ISO 4675:1990	Retains greater than 100 cd/lx/m ² after testing
Temperature Variation : expose to a cycle at 50 +/- 2° C for 12 hours and immediately follow with a cycle at -30 +/- 2° C for 20 hours	Retains greater than 100 cd/lx/m ² after testing
Washing : Washed 50 times in accordance with ISO 6330:2000, method 2A.	Retains greater than 100 cd/lx/m ² after testing
Performance When Wet : expose to rainfall simulation	Retains greater than 100 cd/lx/m ² after testing
Dry Cleaning	Do not dry clean
Typical Film Caliper (w/out backing film)	10 to 12 mils

Colors and Product Codes

Fluorescent Yellow-Green	S-9013
--------------------------	--------

Coefficient of Retroreflection (cd/lx/m²)

(Tested per EN471 and ANSI/ISEA 107-2004, Section 7.1, $\epsilon_1 = 0^\circ$ and $\epsilon_2 = 90^\circ$)

Avery Dennison Omni-Brite™ S-9013 is suitable for conversion into garment safety tape compliant with the ANSI / ISEA 107-2004 American National Standard for High-Visibility Safety Apparel per the table below. Table values apply to Fluorescent Yellow-Green after Omni-Brite™ S-9013 has been converted into a safety garment.

Typical Values after Conversion

Note: Different conversion methods may yield different results. User should test.

Observation Angle	Entrance Angle			
	5°	20°	30°	40°
0.2° (12')	700	560	350	180
0.33° (20')	380	340	235	140
1° (1°)	70	65	50	30
1.5° (1°30')	20	18	15	10

Color Specification:

(Tested per EN471 and ANSI/ISEA 107-2004, Section 7.1)

Color	Chromaticity Coordinates		Minimum Luminance Factor β	
	x	y	Min	Max
Fluorescent Yellow-Green	0.387	0.610	0.70	-
	0.356	0.494		
	0.398	0.452		
	0.460	0.540		

Conversion:

Avery Dennison Omni-Brite S-9013™ can be successfully converted through the use of standard RF (Radio Frequency) welding processing techniques.

Printing:

Due to its vinyl face, Avery Dennison Omni-Brite™ S-9013 is screen printable. To ensure a successful print run, proper surface preparation of the film is necessary. It must be free from any dirt, oils, or other substances. It is recommended that the ink system be tested prior to any jobs processed.

Size configurations Available:

48" X 150'
8.625 X 250'

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.

