Avery Dennison Omni-Brite™ S-9000 Series Flexible Vinyl Sheeting
For Safety Apparel Applications
Complies with ANSI / ISEA 107-2004 and EN471
Revised: September 12, 2005

Description:
Avery Dennison Omni-Brite™ S-9000 Series 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-9000 Series 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-9000 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

White	S-9000
Fluorescent Yellow-Green	S-9013

Coefficient of Retroreflection (cd/lx/m^2)

(Tested per EN471 and ANSI/ISEA 107-2004, Section 7.1, $\varepsilon_1 = 0$ º and $\varepsilon_2 = 90$ º)

Avery Dennison Omni-Brite™ S-9000 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 are presented for both White and Fluorescent Yellow-Green after Omni-Brite™ S-9000 Series has been converted into a safety garment.

Typical Values of S-9013 Fluorescent Yellow-Green after Conversion

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

Observation Angle	**Entrance Angle**			
	5º	**20º**	**30º**	**40º**
0.2º (12')	725	600	380	190
0.33º (20')	380	340	250	150
1º (1º)	70	65	57	31
1.5º (1º30')	23	21	15	10

Typical Values of S-9000 White after Conversion

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

Observation Angle	**Entrance Angle**			
	5º	**20º**	**30º**	**40º**
0.2º (12')	530	330	215	70
0.33º (20')	510	300	200	60
1º (1º)	65	40	30	15
1.5º (1º30')	22	15	12	6

Color Specification:

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

Color	**Chromaticity Coordinates**		**Minimum Luminance Factor β Min**	
	x	**y**	**Min**	**Max**
Fluorescent Yellow-Green	0.387 0.356 0.398 0.460	0.610 0.494 0.452 0.540	0.70	-
White	0.303 0.368 0.340 0.274	0.300 0.366 0.393 0.329	27	-

Conversion:
Avery Dennison Omni-Brite S-9000™ 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-9000 Series 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'

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