

# AURA<sup>®</sup> 104 Engineer Grade (High UV)

Product Code: 0104

Product Data Bulletin

## Product Overview

Aura Optical Systems' AURA<sup>®</sup> 104 Engineer Grade (High UV) sheeting is an enclosed lens retroreflective sheeting intended for use on permanent traffic signs requiring durability of up to 7-years. The product is formulated with a special blend of UV-light absorbers and stabilizers for superior outdoor durability. It is supplied with a permanent pressure-sensitive adhesive and easy-release paper liner. It exhibits a very good bond to the most common substrates including aluminum and painted steel and can be printed with many different ink systems. Meets the requirements of various industry specifications, including ASTM D-4956 Type 1, EN 12899-1 Class 1, and others.

## Physical Characteristics & Properties

Durability	Up to 7-years, when properly converted and installed in vertical position
Retroreflective Elements	Glass beads (Enclosed lens)
Film Thickness	150µm (6 mils) (excluding release liner)
Face Film	Acrylic
Adhesive	50µm (2 mils) Permanent pressure-sensitive adhesive
Release Liner	Poly-coated paper liner
Application Surface	Flat surfaces only such as aluminum. Not recommended for unpainted stainless steel.
Application Temperature	15°C (60°F) minimum

## Color Availability

Product Code	Color
0104-00	White
0104-01	Yellow
0104-02	Red
0104-05	Blue
0104-07	Green
0104-09	Brown

Other colors available upon request.

## Retroreflection

Minimum Coefficient of Retroreflection (cd/lx/m<sup>2</sup>)

Color	Observation Angle	Entrance Angle		
		-4° / 5°	30°	40°
White	0.2°	70	30	10
	0.33°	50	24	9
	0.5°	30	15	5
	2.0°	5	2.5	1.5
Yellow	0.2°	50	22	7
	0.33°	35	16	6
	0.5°	25	13	3.5
	2.0°	3	1.5	1
Red	0.2°	15	6	2
	0.33°	10	4	1.8
	0.5°	7.5	3.0	1.0
	2.0°	0.8	0.4	0.3
Blue	0.2°	4	1.7	0.5
	0.33°	2	1	0.4
	0.5°	2.0	0.8	0.3
	2.0°	0.2	0.1	--
Green	0.2°	9	3.5	1.5
	0.33°	7	3	1.2
	0.5°	4.5	2.2	0.7
	2.0°	0.6	0.3	0.2

## Application & Conversion

AURA<sup>®</sup> 104 Engineer Grade (High UV) can be screen printed with a wide variety of UV-ink, solvent-based, and other screen inks. Acrylic-based or vinyl-based solvent inks are most suitable. Compatibility and adhesion characteristics of an ink should always be tested through a test print.

Sheeting should be conditioned above 15°C (60°F) for at least 24-hours prior to application.

Application should occur using a squeeze roll applicator or by hand using a firm rubber roller or plastic squeegee.

AURA<sup>®</sup> 104 Engineer Grade can be computer sign cut using a variety of different industry plotters.



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## Daytime Color

The color of the sheeting shall fall within the four pairs of chromaticity coordinates (CIE 1931 Standard Colorimetric System) when measured with Standard Illuminant D65 using a 0/45 (45/0) geometry instrument.

Color	1		2		3		4		Cap Y%	
	x	y	x	y	X	Y	x	y	Min	Max
White	.303	.300	.368	.366	.340	.393	.274	.329	27	--
Yellow	.498	.412	.557	.442	.479	.520	.438	.472	15	45
Red	.648	.351	.735	.265	.629	.281	.565	.346	2.5	12
Blue	.140	.035	.244	.210	.190	.255	.065	.216	1.0	10
Green	.026	.399	.166	.364	.286	.446	.207	.771	3.0	9.0

## Watermark

Aura Optical Systems' AURA® 104 Engineer Grade (High UV) can be supplied with a watermark or security marking as required to meet various government specifications. Minimum volume requirements may apply.

## Roll Sizes

Available in 45.7 meter (50 yard) rolls in different widths up to 1240mm (48 inches).

## Storage


Store in a cool, dry area. Use within 1-year of receipt of the product. Store rolls in original shipping carton or suspend horizontally from a rod through the core.

## Warranty Information

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