

AURA[®] 117 License Plate Grade (Embossable)

Product Code: 0117

Product Data Bulletin

Product Overview

Aura Optical Systems' AURA[®] 117 Embossable License Plate Grade sheeting is an all-weather, enclosed lens retroreflective sheeting designed for the production of reflective numbers plates. Plates can be embossed and then roll coated or screen printed to manufacture durable license plates. The product is supplied with a permanent pressure-sensitive adhesive and easy-release paper liner. License plates produced with AURA[®] 117 sheeting will perform both day and night and will retain retroreflectivity when wet.

Physical Characteristics & Properties

Durability	Up to 4-years when properly converted and installed vertically
Retroreflective Elements	Glass beads (Enclosed lens)
Film Thickness	Approximately 140µm (5.75 mils) (excluding release liner)
Face Film	Cast PVC Film
Adhesive	50µm (2 mils) Permanent pressure-sensitive adhesive
Release Liner	Poly-coated paper liner
Application Surface	Chemically treated or conversion coated aluminum
Application Temperature	18°C (65°F) minimum
Embossing Temperature	20°C (70°F) minimum
Embossing Depth	2mm (0.080 inches) maximum
In Use Temperature Range	-25° to 65°C (-13° to 150°F)

Watermark

AURA[®] 117 sheeting can be supplied with a watermark or security marking as required to meet various government specifications. Minimum volume requirements may apply.

Retroreflection

Minimum Coefficient of Retroreflection (cd/lx/m²)

Color	Observation Angle	Entrance Angle	
		-4°	30°
White	0.2°	50	25
Yellow	0.2°	25	12

Color Availability

Product Code	Color
0117-00	White
0117-01	Yellow

Other colors available upon request.

Application & Conversion

AURA[®] 117 sheeting should be conditioned above 18°C (65°F) for at least 24-hours prior to application. Sheeting should be applied to clean flat coil or sheet stock aluminum using a squeeze roll applicator. Tension of the sheeting during lamination should be maintained at a minimum to avoid over-stretching the material. The sheeting may not perform properly when stretch exceeds 2%. Allow a minimum dwell time of 48 hours to ensure a complete adhesive bond to the aluminum substrate prior to embossing or debossing.

The minimum embossing temperature is 20°C (70°F). Laminated blanks should be conditioned at these temperatures prior to embossing or debossing. AURA[®] 117 sheeting can be embossed to a maximum depth of 2mm (0.080 inches) under typical license plate embossing configurations. Embossed characters should be designed to avoid excessively steep slopes along the edges of embossed areas. The converter should always pre-test Aura Optical Systems products with their specific embossing configuration prior to full production.

AURA[®] 117 sheeting can be roll coated or screen printed with a variety of solvent-based inks. To maximize contrast between alphanumeric characters and the white or yellow sheeting background, dark and opaque inks should be utilized.



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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

Roll Sizes

Aura Optical System license plate products are available in 300 meter (330 yard) rolls in widths up to 305mm (12 inches). The products are also available in 45.7 meter (50 yard) rolls in 1220mm widths.

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

The information, technical data, and statements made herein are believed to be reliable, but the accuracy or completeness thereof is not guaranteed and should not be construed as a warranty or representation for which Aura Optical Systems assumes legal responsibility. All Aura Optical Systems products are sold with the understanding that the Purchaser has independently determined the suitability of such products for its purposes.

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