

AURA[®] 118 License Plate Grade (Embossable)

Product Code: 0118

Product Data Bulletin

Product Overview

Aura Optical Systems' AURA[®] 118 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[®] 118 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 175µm (7.0mils) (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[®] 118 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° | 70 | 30 |
| Yellow | 0.2° | 50 | 22 |

Color Availability

| | |
|--------------|--------|
| Product Code | Color |
| 0118-00 | White |
| 0118-01 | Yellow |

Other colors available upon request.

Application & Conversion

AURA[®] 118 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[®] 118 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[®] 118 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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