

TECHNICAL DATA SHEET

ClearMatt® Architectural Class I

Finish Description: ClearMatt® Architectural Class I is a product developed by Lorin Industries and designed for exterior use to support multiple applications. ClearMatt® Architectural Class I finish meets the American Architectural Manufacturers Association (AAMA) standard for high performance anodic finishes used primarily for exterior applications receiving periodic cleaning and maintenance such as façades. If the designer is looking for an anodized aluminum product with natural metallic beauty and formable for many exterior applications, then Lorin's ClearMatt® Architectural Class I is the material of choice.

Reference Part Number (s)

0605-750-024 0605-750-020
0605-750-021 0605-750-025

Industry Designations

Aluminum Association

AA-M12-C23-A41

Mil A-8625F Classification

Type II Sulfuric Anodize

Industry Standards

AAMA 611-12

Voluntary specification for anodized architectural aluminum

ISO 9001: 2008

Quality management system

Mil A-8625F Anodizing Standard

Anodic coatings for aluminum and aluminum alloys

Aluminum Properties

Alloy: 5005

Temper: H34

Finish: Mill Finish

Mechanical Properties

UTS: 20-26 ksi [138-179 MPa]

YTS: 15 min [103 MPa]

Elongation: 4% - 5% min

T Bend: Recommended 1t - 2t, min

Chemical Properties

Si: 0.30 %

Fe: 0.7 %

Cu: 0.20 %

Mn: 0.20 %

Mg: 0.50—1.1 %

Cr: 0.10 %

Zn: 0.25 %

Other: 0.15 %

Al: Remainder

Stock Gauge Availability ¹

0.032" (0.8 mm)

0.040" (1.0 mm)

0.050" (1.3 mm)

0.063" (1.6 mm)

0.080" (2.0 mm)

Stock Width Availability ²

48.0" (1219 mm)

Anodize Film Thickness

Architectural Class I:

0.700 mils [17.8 µm] minimum

Special Note: 1.000 mils [25.0 µm] film thickness can be requested at a premium charge for additional oxide layer protection.

Anodize Finish Properties ³

Optical: Not Applicable

Gloss: Coarse Matte

Color : Natural Aluminum

Color Target: Not Applicable

UV Stable: Yes

Environment: Exterior

Seal: S1, Duplex Seal I

Quality Grade: 2

Other: None

Footnotes: 1 - Other gauges can be custom ordered. 2 - Other widths can be custom ordered. 3 - Panel-to-Panel match quality can be custom ordered.



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Aluminum Secondary Services

- Shearing, Width Capabilities:**
7" (178mm) - 62" (1575 mm)
- Shearing, Length Capabilities:**
Up to 192" (4876 mm)
- Shearing, Loading Gauge:**
Up to 0.080" (2.0 mm)
- Slitting, Width Capabilities:**
0.75" (19 mm) min
- Slitting, Loading Gauge:**
Up to 0.100" (2.5 mm)
- Other Secondary Services:**
Protective peel-able films
International packaging
Perforating and embossing

Maintenance and Cleaning

The anodized aluminum finish can be washed with mild soap and water followed by a clean water rinse. For more information on cleaning anodized aluminum, please refer to the Aluminum Association Publication 92, Care of Aluminum or AAMA 609 & 610-09, Cleaning and maintenance guide for architecturally finished aluminum.

Sustainability and LEED

- Recycled Content, 5005 alloy:**
100% recyclable
Recycled Content, 6.6%
Reclaimed-Virgin Material, 93.4%
2012.04.30 Mill6
- Volatile Organic Compounds:**
The aluminum oxide layer does not contain any VOC's

Availability

The standard lead time for stocked gauges and widths is two weeks for anodizing and one week for any secondary services such as slitting, shearing and applying transparent protective films or paper.

Please check availability of Non-Stocked materials by contacting our sales staff using our toll free number 800.654.1159 or email your request to info@lorin.com. Some raw materials may have extended lead times.

Technical Support

A staff of factory trained personnel are available to offer technical assistance. Please call our toll free number 800.654.1159 or email your question to info@lorin.com.

Product Support Partners

Lorin Industries works very closely with many manufacturers' in multiple markets who specialize in anodized aluminum fabrication. Our support staff can assist you if you are looking for finished components. Please call our toll free number 800.654.1159 or email your request for product and application support to info@lorin.com.

Warranty

A limited 20 year warranty is available upon request. The warranty is issued on a per project basis and can be applied for on line by completing an application for warranty at www.Lorin.com

Anodized Finish Test Data

Characteristic	Test Method	Standard	Test Results
Oxide Layer, Thickness	ASTM B244 - Eddy current method	AAMA 611-12, 18 µm (0.700 mils) min	Nominal Target, 19.1 µm (0.750 mils)
Oxide Layer, Weight	ASTM B137 - Coating Dissolution	AAMA 611-12, 4.18 mg/cm ² (27.0 mg/in ²)	> 4.18 mg/cm ² (27.0 mg/in ²)
Gloss Uniformity	ASTM D523 - 60° Gloss Reflectance	AAMA 611-12, Must meet agreed upon specification	Lorin Gloss E1D, Nominal Target 30
Abrasion Resistance	ASTM D4060 - Taber abrasive wheel	Based on a anodic film thickness, 18 µm (0.700 mils)	10,000 cycles; 40.6mg /wgt loss; 4.1 wear index
Film Hardness	ASTM D3363 - Pencil Hardness	Based on a anodic film thickness, 18 µm (0.700 mils)	9H Hardness
Corrosion Resistance	ASTM B117 - Neutral Salt Spray	AAMA 611-12, 3,000 hours ≤ 15 pits < 1mm, 381 cm ² (150in ²)	Pass, No visible pits
Weathering	SAE J1960 - ATLAS Accelerated testing using an Xenon Arc light source	AAMA 611-12, 10 year Florida Exposure, max Δ Delta E of 5.0	Delta E 1.40; 3,929 hours equivalent to 2.00 years South Florida Sun (20140602)
Craze Resistance	AAMA 611-12 - Thermal Crazing of the oxide layer	AAMA 611-12, oxide layer shall not craze less than 82°C (120°F)	No visible evidence of Thermal Crazing
Chemical Resistance	ASTM D1308 - Effect of Household Chemicals	10% Reagent grade Muriatic Acid, 15 minute exposure at ambient temp	No blisters, No peeling. Subtle stain
Seal Quality	ASTM B680 - Acid Dissolution	AAMA 611-12, max wgt loss shall be 40mg/dm ² (2.6mg/in ²)	< 20mg/dm ² (1.3mg/in ²)
Solar Reflectance	ASTM E1980 - SRI Calculation	Reference Reflectance and Thermal Emissivity	SRI 92

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