SECTION 10 71 13

EXTERIOR SUN CONTROL DEVICES

Display hidden notes to specifier. (Don't know how? [Click Here](https://www.arcat.com/sd/display_hidden_notes.shtml))

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\*\* NOTE TO SPECIFIER \*\* The Airolite Co.; louvers, grilles, screens, vents and sunscreens.
This section is based on the products of The Airolite Co., which is located at:
P.O. Box 410
Schofield, WI 54476
Phone: 715-841-8759
Fax: 715-841-8773
Email: info@airolite.com
Web Site: www.airolite.com
While the Airolite name has been synonymous with high quality architectural louvers since 1920, today architects, builders and building owners also associate Airolite with custom grilles, sunscreens and sun controls. In fact, many of the nation's most prominent commercial buildings coast-to-coast feature Airolite's all-welded louvers and other innovative architectural products.

1. GENERAL
	1. SECTION INCLUDES
		1. Sun Control Devices:

\*\* NOTE TO SPECIFIER \*\* Delete items below not required for project.

* + - 1. Airfoil blade design.
			2. Rectangular tube blade design.
	1. RELATED SECTIONS

\*\* NOTE TO SPECIFIER \*\* Delete any sections below not relevant to this project; add others as required.

* + 1. Section 05 50 00 - Metal Fabrications.
		2. Section 08 44 13 - Glazed Aluminum Curtain Walls.
	1. REFERENCES

\*\* NOTE TO SPECIFIER \*\* Delete references from the list below that are not actually required by the text of the edited section.

* + 1. AAMA 2603 - High Performance Organic Coatings on Architectural Extrusions and Panels.
		2. AAMA 2605 - High Performance Organic Coatings on Architectural Extrusions and Panels.
		3. ASTM B209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate.
		4. ASTM B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.
		5. ASTM D822 - Standard Practice for Filtered Open-Flame Carbon-Arc Exposures of Paint and Related Coatings.
		6. ASTM D4214 - Standard Test Methods for Evaluating the Degree of Chalking of Exterior Paint Films.
		7. ASTM D2244 - Standard Test Method for Calculation of Color Differences From Instrumentally Measured Color Coordinates.
	1. SUBMITTALS
		1. Submit under provisions of Section 01 30 00 - Administrative Requirements.
		2. Product Data: Manufacturer's data sheets for each product and assembly specified.
			1. Preparation instructions and recommendations.
			2. Storage and handling requirements and recommendations.
			3. Cleaning methods.
		3. Shop Drawings: Submit documentation that illustrates sections and details showing profiles, spacing of components, frames and anchors.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Qualification Data: For firms and persons specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.

\*\* NOTE TO SPECIFIER \*\* Delete selection samples if colors have already been selected.

* + 1. Selection Samples: Two complete color charts showing the full range of colors available for units with factory-applied color finishes.
		2. Samples for Verification: For each finish specified, two samples representing actual finishes specified. Where finishes involve normal color and texture variations.
	1. QUALITY ASSURANCE
		1. Sunshade systems shall be manufactured by a firm with a minimum of 5 years of experience in the design, engineering and fabrication of similar systems.

\*\* NOTE TO SPECIFIER \*\* Retain paragraph below if services of a qualified engineer are required in "Submittals" Article.

* + 1. Professional Engineer Qualifications: A professional engineer legally qualified to practice in jurisdiction where Project is located and experienced in providing engineering services of kind indicated. Engineering services are defined as those performed for installations of products that are similar to those indicated for this Project in material, design, and extent.
		2. Source Limitations: Obtain products through one source from a single manufacturer where alike in one or more respects regarding type, design, or factory-applied color finish.

\*\* NOTE TO SPECIFIER \*\* Delete if no welding is required.

* + 1. Welding Standards: Comply with AWS D1.2, "Structural Welding Code - Aluminum."
	1. DELIVERY, STORAGE, AND HANDLING
		1. Deliver, store and handle materials and products in strict compliance with manufacturer's instructions and recommendations and industry standards.
		2. Store products indoors in manufacturer's or fabricator's original containers and packaging, with labels clearly identifying product name and manufacturer. Protect from damage.
	2. SEQUENCING AND SCHEDULING
		1. Field Measurements: Verify openings and adjacent construction by field measurements before fabrication and indicate measurements on Shop Drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
			1. Established Dimensions: Where field measurements cannot be made without delaying the Work, establish dimensions and proceed with fabricating products without field measurements. Coordinate construction to ensure that actual dimensions correspond to established dimensions.
	3. PROJECT CONDITIONS
		1. Maintain environmental conditions (temperature, humidity and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.
		2. Installer shall verify actual measurements/connections by field measurements before fabrication; show recorded measurements on shop drawings. Coordinate field measurements and fabrication schedule with construction progress to avoid construction delays.
	4. WARRANTY
		1. Manufacturer's Warranty: Provide manufacturer's standard limited warranty for sunshade device systems for a period of 1 year from date of installation, no more than 18 months after shipment from manufacturing plant. When notified in writing from the Owner of a manufacturing defect, manufacturer shall promptly correct deficiencies without cost to the Owner.

\*\* NOTE TO SPECIFIER \*\* Warranty is not available for locales within 100 miles of coastal waters. Warranty is not available for some exotic colors. Verify finish warranty with manufacturer. Warranty is available for aluminum substrates only. Delete if not required.

* + 1. Warranty: Provide manufacturer's standard limited warranty for 70% fluoropolymer-based finish on aluminum substrates.

\*\* NOTE TO SPECIFIER \*\* Delete warranty period not required.

* + - 1. Warranty Period: 10 years.
			2. Warranty Period: 20 years.
			3. Finish coating shall not peel, blister, chip, crack or check.
			4. Chalking, fading or erosion of finish when measured by the following tests:
				1. Finish coating shall not chalk in excess of 8 numerical ratings when measured in accordance with ASTM D4214.
				2. Finish coating shall not change color or fade in excess of 5 NBS units as determined by ASTM D2244 and ASTM D822.
				3. Finish coating shall not erode at a rate in excess of .01 mils/year confirmed by Florida test samples.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Warranty: Provide manufacturer's standard limited warranty for baked enamel /acrylic enamel finish on aluminum substrates.
			1. Warranty Period: 1 year.
			2. Finish coating shall not peel, blister, chip, crack or check.
			3. Chalking, fading or erosion of finish when measured by the following tests:
				1. Finish coating shall not chalk in excess of 8 numerical ratings when measured in accordance with ASTM D4214.
				2. Finish coating shall not change color or fade in excess of 5 NBS units as determined by ASTM D2244 and ASTM D822.
				3. Finish coating shall not erode at a rate in excess of .01 mils/year confirmed by Florida test samples.
1. PRODUCTS
	1. MANUFACTURERS
		1. Acceptable Manufacturer: Airolite Co. (The), which is located at: P.O. Box 410; Schofield, WI 54476; Tel: 715-841-8757; Fax: 715-841-8773; Email: [request info (info@airolite.com)](https://admin.arcat.com/users.pl?action=UserEmail&company=Airolite+Co.+(The)&coid=30230&rep=&fax=715-841-8773&message=RE:%20Spec%20Question%20(10705air):%20%20&mf=); Web: <https://www.airolite.com>

\*\* NOTE TO SPECIFIER \*\* Delete one of the following two paragraphs; coordinate with requirements of Division 1 section on product options and substitutions.

* + 1. Substitutions: Not permitted.
		2. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 - Product Requirements.
	1. PERFORMANCE REQUIREMENTS

\*\* NOTE TO SPECIFIER \*\* Confirm with project requirements. Delete if not required.

* + 1. Sun shade supports: Design and furnish all supports required to design load of up to 60 pounds per square foot (2.87 kPa). The design load includes loads derived from wind, snow (including drift), seismic events and the dead load of the sunshade. Sun Control members, blades, outriggers, fascia and anchorages shall be demonstrated to withstand the specified design load.

\*\* NOTE TO SPECIFIER \*\* Confirm code mandated requirements. ASCE values in lieu of code mandated requirements may be used. Delete if not required.

* + 1. Sun shades shall be factory engineered to withstand wind loads, acting upwards and downwards.
			1. Minimum design loads shall be calculated to comply with ASCE - 7, or local requirements of Authority Having Jurisdiction.

\*\* NOTE TO SPECIFIER \*\* Confirm delta- T anticipated. Delete if not required.

* + 1. Sun shades shall be factory engineered to withstand the thermal stress to which the louvers will be subjected.
			1. Base engineering on a surface design temperature change of 180 degrees F (82 degrees C).
		2. Sun shades shall be designed to perform under conditions specified herein or required by site conditions with no permanent damage to or deforming of the louver blades or assembly, noise or metal fatigue caused by louver blade rattle or flutter, or permanent damage to fasteners and anchors.

\*\* NOTE TO SPECIFIER \*\* Maximum section size is 144-inches (3,658 mm) wide by 48-inches (3,048 mm) projection, with standard fascia. Maximum section size may vary depending on optional fascia selected. Delete if not required.

* 1. AIRFOIL BLADE DESIGN
		1. Product: ASC4: 4 inches (102 mm) airfoil blade.
			1. Blade Type: Airfoil.
			2. Blade Material: Extruded Aluminum (Alloy 6063-T5).
			3. Blade Material Thickness: 0.081 inch (2.06 mm).
			4. Blade Width: 4 inches (102 mm).
			5. Outrigger Material: Aluminum Plate (Alloy 6061-T6).
			6. Outrigger Material Thickness: 0.250 inch (6.35 mm).

\*\* NOTE TO SPECIFIER \*\* Delete fascia profile not required.

* + - 1. Fascia: 3 inches (76 mm) Round Tube (standard).
			2. Fascia: Rectangular Tube.
			3. Fascia: Channel.
			4. Fascia: None.

\*\* NOTE TO SPECIFIER \*\* Delete if mounting bracket not required.

* + - 1. Mounting: Extruded Aluminum Tee as indicated.

\*\* NOTE TO SPECIFIER \*\* Delete construction not required.

* + - 1. Construction: Mechanically Fastened (standard).
			2. Construction: Welded.
		1. Product: ASC6: 6 inches (152 mm) airfoil blade.
			1. Blade Type: Airfoil.
			2. Blade Material: Extruded Aluminum (Alloy 6063-T5).
			3. Blade Material Thickness: 0.081 inches (2.06 mm).
			4. Blade Width: 6 inches (152 mm).
			5. Outrigger Material: Aluminum Plate (Alloy 6061-T6).
			6. Outrigger Material Thickness: 0.250 inch (6.35 mm).

\*\* NOTE TO SPECIFIER \*\* Delete fascia profile not required.

* + - 1. Fascia: 4 inches (102 mm) Round Tube (standard).
			2. Fascia: Rectangular Tube.
			3. Fascia: Channel.
			4. Fascia: None.

\*\* NOTE TO SPECIFIER \*\* Delete if mounting bracket not required.

* + - 1. Mounting: Extruded Aluminum Tee as indicated.

\*\* NOTE TO SPECIFIER \*\* Delete construction not required.

* + - 1. Construction: Mechanically Fastened (standard).
			2. Construction: Welded.
		1. Product: ASC8: 8 inches (203 mm) airfoil blade.
			1. Blade Type: Airfoil.
			2. Blade Material: Extruded Aluminum (Alloy 6063-T5).
			3. Blade Material Thickness: 0.081 inch (2.06 mm).
			4. Blade Width: 8 inches (203 mm).
			5. Outrigger Material: Aluminum Plate (Alloy 6061-T6).
			6. Outrigger Material Thickness: 0.250 inch (6.35 mm).

\*\* NOTE TO SPECIFIER \*\* Delete fascia profile not required.

* + - 1. Fascia: 8 inches (203 mm) Rectangular Tube (standard).
			2. Fascia: None.

\*\* NOTE TO SPECIFIER \*\* Delete if mounting bracket not required.

* + - 1. Mounting: Extruded Aluminum Tee as indicated.

\*\* NOTE TO SPECIFIER \*\* Delete construction not required.

* + - 1. Construction: Mechanically Fastened (standard).
			2. Construction: Welded.

\*\* NOTE TO SPECIFIER \*\* Maximum section size is 144-inches (3,658 mm) wide by 48-inches (3,048 mm) projection, with standard fascia. Maximum section size may vary depending on optional fascia selected. Delete if not required.

* 1. RECTANGULAR TUBE BLADE DESIGN
		1. Product: TSC4: 4 inches (102 mm) rectangular tube blade.
			1. Blade Type: Rectangular Tube.
			2. Blade Material: Extruded Aluminum (Alloy 6063-T5).
			3. Blade Material Thickness: 0.125 inch (3.18 mm).
			4. Blade Dimension: 1 x 4 inches (25 x 102 mm).
			5. Outrigger Material: Aluminum Plate (Alloy 6061-T6).
			6. Outrigger Material Thickness: 0.250 inch (6.35 mm).

\*\* NOTE TO SPECIFIER \*\* Delete fascia profile not required.

* + - 1. Fascia: 4 inches (101.6 mm) Round Tube (standard).
			2. Fascia: Rectangular Tube.
			3. Fascia: Channel.

\*\* NOTE TO SPECIFIER \*\* Delete if mounting bracket not required.

* + - 1. Mounting: Extruded Aluminum Tee as indicated.

\*\* NOTE TO SPECIFIER \*\* Delete construction not required.

* + - 1. Construction: Mechanically Fastened (standard).
			2. Construction: Welded.
		1. Product: TSC6: 6 inches (152 mm) rectangular tube blade.
			1. Blade Type: Rectangular Tube.
			2. Blade Material: Extruded Aluminum (Alloy 6063-T5).
			3. Blade Material Thickness: 0.125 inch (3.18 mm).
			4. Blade Dimension: 1 x 6 inches (25 x 152 mm).
			5. Outrigger Material: Aluminum Plate (Alloy 6061-T6).
			6. Outrigger Material Thickness: 0.250 inch (6.35 mm).

\*\* NOTE TO SPECIFIER \*\* Delete fascia profile not required.

* + - 1. Fascia: 6 inches (152 mm) Rectangular Tube (standard).
			2. Fascia: Channel.

\*\* NOTE TO SPECIFIER \*\* Delete if mounting bracket not required.

* + - 1. Mounting: Extruded Aluminum Tee as indicated.

\*\* NOTE TO SPECIFIER \*\* Delete construction not required.

* + - 1. Construction: Mechanically Fastened (standard).
			2. Construction: Welded.
		1. Product: TSC8: 8 inches (203 mm) rectangular tube blade.
			1. Blade Type: Rectangular Tube.
			2. Blade Material: Extruded Aluminum (Alloy 6063-T5).
			3. Blade Material Thickness: 0.125 inch (3.18 mm)
			4. Blade Dimension: 1 x 8 inches (25 x 203 mm).
			5. Outrigger Material: Aluminum Plate (Alloy 6061-T6).
			6. Outrigger Material Thickness: 0.250 inch (6.35 mm).
			7. Fascia: 8 inches (203 mm) Rectangular Tube.

\*\* NOTE TO SPECIFIER \*\* Delete if mounting bracket not required.

* + - 1. Mounting: Extruded Aluminum Tee as indicated.

\*\* NOTE TO SPECIFIER \*\* Delete construction not required.

* + - 1. Construction: Mechanically Fastened (standard).
			2. Construction: Welded.
	1. ALUMINUM FINISHES

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Baked-Enamel Finish: Apply baked enamel complying with paint manufacturer's specifications for cleaning, conversion coating, and painting.
			1. Chemical Finishes: Cleaned with inhibited chemicals and acid-chromate-fluoride-phosphate conversion coating.

\*\* NOTE TO SPECIFIER \*\* Subparagraph below references AAMA standard for pigmented organic coating on extrusions.

* + - 1. Organic Coating: Thermosetting, modified-acrylic enamel primer/topcoat system complying with AAMA 2603.

\*\* NOTE TO SPECIFIER \*\* Retain one color requirement below.

* + - 1. Color: As indicated by manufacturer's color designations.
			2. Color: Match Architect's sample.
			3. Color: As selected by Architect from manufacturer's full range of colors.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. High-Performance Organic Coating Finish:
			1. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.
			2. Chemical Finishes: Cleaned with inhibited chemicals and acid-chromate-fluoride-phosphate conversion coating.

\*\* NOTE TO SPECIFIER \*\* Subparagraph below references AAMA standard for high-performance organic coating on extrusions and panels. Revise if specific products are required.

* + - 1. Fluoropolymer Two-Coat Coating System: Manufacturer's standard two-coat, thermocured system consisting of specially formulated inhibitive primer and fluoropolymer color topcoat containing not less than 70 percent polyvinylidene fluoride resin by weight; complying with AAMA 2605. 1.2 mils (.03 mm) dry film thickness.

\*\* NOTE TO SPECIFIER \*\* Delete subparagraph above or below; if both are required, indicate location of each system on Drawings, in schedules, or by inserts. Retain applicable color requirement for each from choices following subparagraph below.

* + - 1. Fluoropolymer Three-Coat Coating System: Manufacturer's standard three-coat, thermocured system consisting of specially formulated inhibitive primer, fluoropolymer color coat, and clear fluoropolymer topcoat, with both color coat and clear topcoat containing not less than 70 percent polyvinylidene fluoride resin by weight; complying with AAMA 2605. 2.0 mils (.05 mm) dry film thickness.

\*\* NOTE TO SPECIFIER \*\* Retain one color requirement below.

* + - * 1. Color and Gloss: As indicated by manufacturer's color and gloss designations.

\*\* NOTE TO SPECIFIER \*\* Subparagraph below can have varying effect on cost.

* + - * 1. Color and Gloss: Match Architect's sample.
				2. Color and Gloss: As selected by Architect from manufacturer's full range of colors and glosses.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Woodgrain Finish;
			1. Airowood Woodgrain Finish as manufactured by The Airolite Co.
			2. Finish shall comply with AAMA 2604.

\*\* NOTE TO SPECIFIER \*\* Delete wood grain not required.

* + - 1. Wood Grain: AL301 Honey Knotty Pine.
			2. Wood Grain: AL302 Golden Knotty Pine.
			3. Wood Grain: AL303 Dark Oak.
			4. Wood Grain: AL304 Cinnamon Cherry.
			5. Wood Grain: AL305 Natural Cherry.
1. EXECUTION
	1. EXAMINATION
		1. Do not begin installation until substrates have been properly prepared.
		2. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.
	2. PREPARATION
		1. Clean surfaces thoroughly prior to installation.
		2. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
	3. INSTALLATION
		1. Install in accordance with manufacturer's instructions and in proper relationship with adjacent construction.
	4. PROTECTION
		1. Protect installed products until completion of project.
		2. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION