

SECTION 10 71 13

EXTERIOR SUN CONTROL LOUVERS

(75E)

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes design and provision of manually operated fully adjustable, aluminum slat, solar control louver system for mounting on EXTERIOR side of skylights, walls and windows.
- B. Scope of work includes Materials and installation of a complete, engineered and manufactured Exterior Sun control system by one single source supplier. Electrical work by the electrical Contractor.

1.2 REFERENCES

- A. American Society for Testing and Materials (ASTM):
 - 1. ASTM B209 - Aluminum and Aluminum-Alloy Sheet and Plate.
 - 2. ASTM B221 - Aluminum-Alloy Extruded Bar, Rod, Wire, Shape, and Tube.

1.3 SUBMITTALS

- A. Product Data: Listing components, operating hardware, and accessories for louver system showing compliance with specified requirements.
- B. Shop Drawings: Showing layout, materials, dimensions, tolerances, method of anchorage, and installation details.
- C. Samples:
 - 1. Finishes for selection by Architect.
 - 2. 6 inches long louver slat sample with specified finish.
- D. Installation, operation, and maintenance instructions.

1.4 QUALITY ASSURANCE

- A. Sole Source Responsibility: Complete sun control louver system including attachment hardware, operating mechanism, shall be provided by single firm to ensure compatibility of components and functional operation.
- B. Manufacturer: Company specializing in design and fabrication of operable sun control louver systems with 20 years minimum successful experience.
- C. Installer: Experienced in installing sun control louver systems of type specified and approved by louver manufacturer for installing system.
- D. Design sun control louver system to meet ___pounds (architect specify) per sq. ft. wind load required.
- E. Installation of electrical operators and controls in accordance with National Electric Code (NEC) requirements and local building codes by others. All motors to be 12 volt or 110 volt.

- F. Mockups: (optional) Build mockups to demonstrate aesthetic effects and set quality standards for fabrication and installation.
 - 1. Build mockup of size to fit mockup representative of this application as specified in Section 08911 "Structural-Sealant-Glazed Curtain Walls." Or 08900, Structural skylights.

1.5 WARRANTIES

- A. Provide under provisions of Section 01700 "Project Closeout:"
 - 1. 5 years manufacturer's warranty to cover sun control louver system against manufacturing defects.
 - 2. 1 year installer's warranty to cover defects in installation of system.
 - 3. 2 years for electrical motors

1.6 SUN CONTROL LOUVER SYSTEM

ACCEPTABLE MANUFACTURERS

- A. Only the products provided by one of the following manufacturers are acceptable:
 - 1. Skyshield International, Inc., Distributor: Savannah Trims, Inc. 888-640-0850
- 1.7 Substitute manufacturers may be acceptable, at the sole discretion of the Architect. Only equal products will be considered. Substitutions must be submitted for architects review, for receipt by the Architect, a minimum of 21 days prior to the bidding date, and submittals must include all test data, product samples and literature necessary for the Architect to make a fully informed decision. Approval is at the sole discretion of the Architect.
 - A. Basis-of-Design Product: Skyshield 75E as manufactured by Savannah Trims, Inc.
 - B. Size, configuration, and layout: Horizontal installation as indicated on Drawings.
 - C. Rack assembly:
 - 1. Support arms: T shaped, 3/4 inch thick, aluminum extrusions complying with ASTM B221, 6063-T5 alloy and temper, with 1 inch nominal height by length required to span opening. Provide arms with grooves to receive louver slats. (Optional Heavy-Duty supports available)
 - 2. Slat holders: Carbon impregnated, nylon holder to receive aluminum slats with nylon pivot fastened into support arm groove.
 - 3. Drive shaft: 7/8 inch OD Hexagonal aluminum tube connected to slat holders. Rotating drive shaft tilts louver slats.
 - D. Auxiliary support framing: Where required by Project conditions design and provide aluminum channels and angles as louver system support framing.
 - E. Support brackets: Provide brackets for anchoring louver rack assembly to support framing.
 - 1. Type: Aluminum fabrications of type, size, and spacing to accommodate louver system and Project conditions. Threaded rod design shall allow height adjustment. Brackets to be adjustable laterally and transversely to align rack support arms.
 - 2. Provide brackets with appropriate fasteners for attachment to support framing.
 - 3. Space brackets as required to suspend rack support arms without sagging.
 - a. Maximum arm spacing: **48 inches**
 - b. Maximum arm overhang: **6 inches**
 - F. Louver slats: Fabricate from 0.008 inch minimum spring tempered magnesium aluminum alloy complying with ASTM B209.
 - 1. **Nominal slat width: 3 inches.**
 - 2. All louvers must open to 95 Degrees.

- G. Finish:
 - 1. Louver slats and rack support arms: paint finish with color as selected by Architect from manufacturer's full range.
 - 2. Brackets and other attachment components: Mill finish aluminum.
- H. Fabrication: Preassemble louver system at factory. Minimize requirements for field splicing and assembly. Disassemble units as required for shipping and handling. Label units for reassembly and installation at site.

1.8 MANUAL OPERATOR

- A. Provide manual operators for sun control louver system. Operator to permit variable shading angles plus fully opened and closed positions.
- B. Gear box: 5 to 1 ratio gear with steel or brass parts.
- C. Provide detachable rod and handle for inserting into gear box
- D. Operate as designed by Architect in consultation with SkyShield/Savannah Trims.

2.4 ELECTRICAL OPERATOR: Operate as designed by Architect in consultation with SkyShield.

2.5 OPTIONAL EQUIPMENT such as solar controls, time controls and Wind Monitor Equipment are available (Architect to consult Savannah Trims for application and details of performance).

PART 2 - EXECUTION

2.1 PREPARATION

- A. General Contractor to field verify dimensions prior to commencing fabrication.
- B. Electrical work, wire, wiring and conduit not part of this specification.
- C. G.C. to review site conditions and verify that support elements are properly sized, prepared, and ready to receive louver system. before ordering the start of installation

2.2 INSTALLATION

- A. Install in accordance with manufacturer's instructions and approved shop drawings. General Contractor shall coordinate with installation of windows, and electrical work
- B. Accurately space and securely attach brackets to support structure. Connect louver rack assembly arms to brackets.
- C. Adjust threaded bracket suspension rods to ensure louvers are horizontal and rack assembly arms are correctly spaced and aligned.
- D. Closely fit joints of exposed connections. Ensure that exposed to view connections are uniform and neat.

2.3 TESTING, ADJUSTING, AND DEMONSTRATING

- A. After installation, test louver operation. Cycle louvers open and close a minimum of five times. Verify opening and closing operation and that movement limits are accurately and uniformly set. Verify louvers do not bind.
- B. Verify that control mechanisms function properly.
- C. Correct deficiencies, adjust system for smooth operation, and retest.
- D. Demonstrate operation and maintenance of sun control louver system to Owner's representative.

2.4 CLEANING: Final cleaning by general contractor.

END OF SECTION