

GUIDE SPECIFICATIONS
EXTERIOR SUN CONTROL SPECIALTIES - MOTORIZED HORIZONTAL LOUVER SYSTEM

Division 10 - Specialties
Section 10.000 □ Motorized horizontal louver system

1.0 GENERAL

1.1 RELATED SECTIONS:

- 1.1.1 Section 0□ .. Structural steel
- 1.1.2 Section 08920 Glazed aluminum curtain wall
- 1.1.3 Section 0□ .. Aluminum cladding

Products supplied by this section and installed by other trades:

Specifier co-ordinate this work with designated trades in other sections of these project specifications.

- 1.1.4 Motorized aluminum horizontal louver system installed to the window wall as indicated on the architectural drawings.
- 1.1.5 Steel or aluminum attachment brackets for fixed horizontal louver system

1.2 SUMMARY:

- 1.2.1 Provide exterior motorized aluminum horizontal louver system with related specified hardware to complete the installation to the following locations:
Specifier provide the scope of the work
- 1.2.2 Motorized horizontal louver system shall be mounted to brackets protruding from the window wall / facade as indicated on the architectural drawings
- 1.2.3 Aluminum cladding supplied and installed by other trades shall be coordinated with this trade to ensure smooth integration of the specified system

1.3 QUALITY ASSURANCE:

- 1.3.1 All bidders submitting bids on the work of this section shall meet or exceed the quality of materials, components and assemblies herein. Bidders who do not comply with these specifications shall refrain from submitting a bid
- 1.3.2 Alternate bids, alternate products shall be submitted to the Design Consultant ten (10) days prior to tender closing. Alternate bids can only be submitted as an alternate to the specified base bid product
- 1.3.3 Manufacturer shall have a minimum of fifteen (15) years experience in the manufacture of the specified shading system. All work specified under this section shall be supplied by one subcontractor
- 1.3.4 Conform to applicable Building Codes, relevant local codes and all other standards noted
Specifier provide details of any specific codes to be met
- 1.3.5 Install one complete sample with accessories on site. Review the installation before proceeding with the remainder of the work. Adjust sample installation, as required, to gain acceptance. Accepted work may form part of the final installation

1.4 SUBMITTALS AND TEST REPORTS:

- 1.4.1 Submit fully detailed drawings prepared in AutoCAD 2002 version format showing all components, finishes and other construction conditions, installation, controls and all applicable dimensions according to Section 01300 □ Submittals
- 1.4.2 Submit structural calculations for local approval, taking account of maximum potential wind and snow loads
- 1.4.3 Submit duplicate samples of the key components of the specified motorized horizontal louver system with the specified finish. Minimum size 40□ (1000mm) for review
- 1.4.4 Submit duplicate samples of the specified brackets and attachment methods

- 1.4.5 Submit duplicate copies of maintenance instructions including the name, address and other contact details of local service company
- 1.4.6 Horizontal louver motors all electronic control equipment supplied by this section shall comply with UR/CSA and UL/ULC standards. Copies of compliance are available upon request

1.5 INSPECTION / PREPARATION

- 1.5.1 Verify that the structure necessary to carry the motorized horizontal louver system is a proper installation and secure
- 1.5.2 Notify general contractor in writing of any deficiencies in the work of other trades that would affect the fixed horizontal louver system
- 1.5.3 Make accurate measurements at the site before fabrication.. Check layout of glazing framing sections, spans and loading capabilities

1.6 DELIVERY, STORAGE AND HANDLING:

- 1.6.1 Do not deliver to site until areas to receive the motorized horizontal louver system are completely finished
- 1.6.2 Deliver materials in original protective wrappers or containers, with manufacturer's labels and sealed intact
- 1.6.3 Handle and store materials in accordance with the manufacturer's recommendations, protecting materials and finishes from damage or soiling

1.7 WARRANTY:

- 1.7.1 Provide a limited manufacturer's warranty from date of Substantial Completion covering the following periods:

Aluminum components and steel hardware	Two (2) years
Electric motor	Two (2) years
Electronic control equipment	Five (5) years
Aluminum and steel finishes	Ten (10) years
- 1.7.2 Provide a limited installation warranty from date of Substantial Completion of one (1) year

2.0 PRODUCTS

2.1 MANUFACTURER:

- 2.1.1 Arc Structures, Inc.
1, 115 28 Street SE
Calgary, Alberta,
Canada T2A 5K4
Tel: 403 204 8699
Fax: 403 204 8676
e-mail: sales@arcstructures.com
Web: www.arcstructures.com

2.2 SYSTEM:

- 2.2.1 System to comprise:
Specifier select appropriate option
 1. Motorized horizontal louvers attaching directly to the window wall, **or**
 2. Motorized horizontal louvers attaching to a secondary steel structure

2.3 MATERIALS:

2.3.1 Aluminum and steel hardware and brackets:

Specifier: Dependent upon the system selected above, certain items in the section will need to be deleted

Mounting brackets:

Specifier select appropriate option

1. System to be attached to steel or aluminum plates projecting from the window wall, supplied by the window wall manufacturer, **or**
2. System to be attached to mounting brackets to be supplied by the manufacturer of the motorized horizontal louver system. Brackets to fix to:

Specifier select the appropriate option

- a. Projecting studs supplied by the window wall manufacturer
 - b. Nosing of the window wall mullions
 - c. Brick or block work, using resin anchors or similar
 - d. Studs (provided by the structural steel contractor) projecting through the cladding
 - e. Steel work behind the cladding using engineered steel or aluminum spacers to take up the distance between the steel structure and the cladding, **or**
3. System to be attached to vertical steel posts supplied by the structural steel contractor, **or**
 4. System to be attached to vertical steel posts supplied by the manufacturer of the motorized horizontal louver system

Mounting brackets and / or vertical steel posts shall be manufactured from engineered wall thickness to support the full weight of the system and applied wind and snow loads including the safety ratio as determined by the local building and construction codes.

Mounting assembly will be equipped with attachment provision for cladding integration, as appropriate. Method of attaching to the structure to be coordinated with the structural steel contractor or the window wall contractor as appropriate.

Catwalk system **(optional)**:

Manufacturer of motorized horizontal louver system to supply catwalk system to attach to the vertical steel posts as shown on the architectural drawings

Specifier: provide details of specific requirements

Louvers:

Specifier select appropriate option:

System to incorporate extruded aluminum aerofoil louvers.

- a. The extruded aluminum aerofoil louver shall be x wide and x thick in the center. *Specifier to insert dimensions*. The aerofoil louver shall be elliptically shaped and shall be supplied as a single piece extrusion. Multiple extrusions mechanically attached together to form the complete elliptical profile shall not be acceptable
- b. The aerofoil fin shall be supplied with aluminum end plates to fit precisely over the extruded profile to prevent infiltration of weather elements and insects. The end caps shall be mechanically attached to the aluminum extrusion

or

System shall incorporate single skin fabricated louvers.

- a. The louvers shall be x wide. *Specifier insert dimension*
- b. The louvers shall comprise the following components:
 - Extruded aluminum leading edges
 - Sheet aluminum skin \square solid or perforated. *Specifier select. If perforated, also specify the required perforation pattern*
 - Aluminum screw attached, manufactured end caps to fit precisely to the profile of the fabricated louver
 - Central aluminum tubular spine to achieve the required span taking account of applied wind and snow loads **(optional)**

or

System shall incorporate double skin fabricated louvers.

- a. The louvers shall be x wide and x thick in the center. *Specifier insert dimensions*

- b. The louver shall comprise the following components:
 - Extruded aluminum leading edges
 - Sheet aluminum skins
 - Aluminum screw attached, manufactured end caps to fit precisely to the profile of the fabricated louver
 - Internal aluminum tubular spine to achieve the required span taking account of applied wind and snow loads (optional)

Electric motors:

- a. System to be operated by means of linear actuators
- b. Number and size / output torque of linear actuators to be determined by reference to the specific project requirements
- c. Linear actuators to be rated for external use
- d. Linear actuators to be supplied with appropriate mounting brackets for fixing back to the structure
- e. Each linear actuator to connect to an aluminum or steel operating strip which in turn connect the louvers in a single bank together
- f. Operating strips to be manufactured from material with engineered dimensions to sufficient to support the applied loads

2.3.2 Material quality and coatings:

- g. All extruded aluminum components shall be extruded from 6063-T6 quality aluminum
- h. All aluminum components shall have the following finish: *Specifier select appropriate option*
 - Two (2) coat fluoropolymer finish to a standard non-metallic color, or
 - Three (3) coat fluoropolymer finish to a standard metallic color, or
 - Polyester powder coated finish to a standard color, or
 - Clear anodized finish according to AA-M12C22A31
- c. Steel components shall be manufactured from mild steel Fe230G while any stainless steel components shall be manufactured from Stainless 18-8
- d. Steel components shall be hot dip galvanized or zinc plated

3.0 BASIC CONTROL FUNCTIONS AND OPTIONS

Specifier please select a control system from the following list of options

4.0 EXECUTION

4.1 FABRICATION:

- 4.1.1 Motorized horizontal louver system components manufactured and assembled allowing for custom installation techniques to suit project requirements
- 4.1.2 Finished assemblies shall be square, true to size and free from twist or other defects that could affect their strength or appearance. Factory applied finish should be uniform, smooth and without blemishes

4.2 INSTALLATION:

- 4.2.1 Install work using skilled tradesman and install in strict accordance with manufacturer's recommendations.
- 4.2.2 All items installed, plumbed, squared and rigidly anchored maintaining uniform clearances and accurate alignment measurements
- 4.2.3 The motorized horizontal louver system shall be pre-measured and manufactured off-site

4.4 ADJUSTING AND CLEANING:

- 4.3.1 Adjust components as required to ensure trouble free performance

- 4.3.2 Prior to Substantial Completion clean down once the motorized horizontal louver system
- 4.3.3 Replace work which cannot be satisfactorily repaired, adjusted or cleaned.

END