

PART 1 - GENERAL

1.1 RELATED SECTIONS

- .1 Section 01 33 00 - Submittal Procedures.

1.2 REFERENCES

- .1 The Aluminum Association, Inc.
 - .1 AA DAF-45-2003, Designation system for Aluminum Finishes - 9th Edition.
- .2 American Society for Testing and Materials International (ASTM)
 - .1 ASTM D 1784-11, Standard Specification for Rigid Poly (Vinyl Chloride) (PVC) Compounds and Chlorinated Poly (Vinyl Chloride) (CPVC) Compounds.
- .3 National Fire Protection Association (NFPA)
 - .1 NFPA 701-2010: Standard Methods of Fire Tests for Flame Propagation of Textiles and Films.
- .4 Underwriters' Laboratories of Canada (ULC)
 - .1 CAN/ULC-S109-03, Flame Tests of Flame Fabrics and Fibres.

1.3 DESIGN REQUIREMENTS

- .1 Design roller window shades to following requirements:
 - .1 Allow replacement of wear susceptible parts by user or the manufacturer.
 - .2 Guarantee of at least five years of available replacement parts following discontinued products manufacturer.
 - .3 Provide instructions for replacing or repairing worn parts, including inventory numbers for parts and procedures for ordering replacement parts.
 - .4 Program allowing for the refurbishing or return of used roller window shades.
 - .5 Permit disassembly of components in order to permit recycling of materials where recycling markets exist.
 - .6 Include stamps on all major plastic components indicating composition code to facilitate recycling efforts.

1.4 PERFORMANCE REQUIREMENTS

- .1 Fire performance characteristics: provide shade material tested in accordance with NFPA 701 and CAN/ULC-S109.
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1.5 SUBMITTALS

- .1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures
- .2 Product data:
 - .1 Submit manufacturer's printed product literature and datasheet and include product characteristics, performance criteria, physical size, finish and limitations.
- .3 Shop drawings: submit drawings as follows:
 - .1 Indicate dimensions in relation to window jambs, operator details, top and bottom rail, conditions between adjacent blinds, including mullion tracks for light blocking and method of feeding weight bar and fabric into tracks, anchorage details, hardware and accessories, details, connections and required clearances. Indicate location of controls for each window.
- .4 Samples:
 - .1 Submit one representative working sample of roller shade.
 - .2 Submit duplicate samples of manufacturer's standard colours of specified fabric for selection by Consultant.
 - .3 After approval samples will be returned for incorporation in the Work.
- .5 Quality control submittals:
 - .1 Manufacturer's Instructions: submit manufacturer's installation instructions and special handling criteria, installation sequence and cleaning procedures.
- .6 Closeout Submittals:
 - .1 Provide operation and maintenance data for roller window shades for incorporation into manual specified in Section 01 78 00 - Closeout Submittals.

1.6 QUALITY Assurance

- .1 Manufacturer Qualifications:
 - .1 Obtain roller shades system through one source from a single manufacturer with a minimum of ten years experience and a minimum of five projects of similar scope and size. This includes but is not limited to all required extrusions, accessories, controls and fabricated roller shades.
- .2 Installer Qualifications:
 - .1 Installer for roller shade system shall be trained and certified by the manufacturer with a minimum of ten years

experience in installing products comparable to those specified in this section.

1.7 DELIVERY, STORAGE AND HANDLING

- .1 Packing, shipping, handling and unloading:
 - .1 Deliver, store and handle materials in accordance with manufacturer's written instructions.
- .2 Waste Management and Disposal:
 - .1 Separate waste materials for recycling in accordance with Section 01 10 10 - General Instructions, 1.22 Waste Management.

1.8 EXTENT

- .1 Manually operated single window shades per all exterior windows, as per following specifications.

PART 2 - PRODUCTS

2.1 WINDOW SHADES

- .1 All shades and mechanisms to be from the same manufacturer. All fabric to be 1% openness.

2.2 COMPONENTS

- .1 Manually operated, chain driven, roller shade system, consisting of sprocket and spring brake mechanism with retainer cap permitting infinite positioning of the shade. Roller window shades shall consist of a total system of manual roller shades, mounted on the underside of bulkhead at window head structure.
 - .2 Head rail: extruded aluminum roller tube complete with internal fins for stability, 1-3/4" (44 mm) diameter to permit maximum span without deflection. Mounting brackets to allow ceiling attachment on underside of window soffit.
 - .3 Operating chain shall be No. 10 (4.5 x 6) qualified heavy duty stainless steel chain, 41 kg. load test, buffed finish. Chain to be complete with chain hold-down bracket/retainer, clear colour.
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- .4 Weight Bar: weight bar shall be extruded aluminum in a sealed pocket hem.

- .6 Shade Fabric:
 - .1 Woven, bi-directional vinyl-coated polyester yarn.
 - .2 Minimum weight: 12.1 oz/yd² (410 g/m²); minimum thickness: 26 mil (0.65 mm); 1% openness.
 - .3 Flame retardant as per NFPA-701 Small / Large Scale Test Method #1, US California Title 19.
 - .4 Ultra-sonic cut along edges to prevent fraying.
 - .5 GreenGuard Indoor Air Quality Certified; PVC Free

- .8 10 year conditional warranty on hardware.

- .9 Acceptable products:
 - .1 Moduline by Sun Project.
 - .2 Mecho Shade Systems.
 - .3 RB-500 by Hunter Douglas.

PART 3 - EXECUTION

3.1 MANUFACTURER'S INSTRUCTIONS

- .1 Compliance: comply with manufacturer's written recommendations, including product technical bulletins, handling, storage and installation instructions, and data sheets.

3.2 EXAMINATION

- .1 Examine substrate and conditions for installation. Notify the Consultant in writing prior to installation when the project conditions are unacceptable for shade installation. Beginning of installation means acceptance of substrate and project conditions.

 - .2 Site measurements to be taken prior to order being placed for window shades. All on site conditions that restrict the operation of the window blinds and/or differ from the original drawings and specifications are to be rectified under this contract.
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3.3 INSTALLATION

- .1 Install one(1)shade per window. Controls should be on the right hand side. Install to underside of bulkhead at window head structure. Suppliers are responsible to verify site dimensions and order materials to suit.
- .2 Install roller window shades in accordance with manufacturer's instructions.
- .3 Securely fasten to bulkhead. Use non-corrosive metal fasteners for installation, concealed in final assembly, with recommended hardware and accessories.
- .4 Install window shades square, plumb, true to line with operable parts adjusted for correct function and smooth operation without binding.
- .5 Install units within the following tolerances:
 - .1 Maximum variation of gap at window opening perimeter: 1/4 inch, per 8 feet (+/- 1/8 inch) of shade height.
 - .2 Maximum offset from level: 1/8 inch.
 - .3 Follow manufacturer's edge-clearance specifications for shades where the width-to-height (W:H) ratio exceeds 1:3.
 - .4 Shades shall be located so the shade band is not closer than 2 inches(50 mm)to the interior face of the glass.
 - .5 Allow proper clearances for window operation hardware.
 - .6 Clean roller shade surfaces after installation, according to manufacturer's written instructions.

3.4 ADJUSTING

- .1 Adjust units for smooth operation. Adjust shade and fabric to hang flat without buckling or distortion. Replace any units or components which do not hang properly or operate smoothly.

3.5 CLEANING

- .1 Touch up damaged finishes and repair minor damage in order to eliminate evidence of repair. Remove and replace work that cannot be satisfactorily repaired.
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- .2 Clean exposed surfaces, including metal and fabric, using non-abrasive materials and methods recommended by the fabric manufacturer. Remove and replace work which cannot be satisfactorily cleaned.

3.6 DEMONSTRATION

- .1 Demonstrate operation method and instruct Owner's personnel in the proper operation and maintenance of the window shade systems.