

**WINDOW SHADES****Part 1 General****1.1 REFERENCES**

- .1 American Society for Testing and Materials (ASTM).
  - .1 ASTM B221-08. Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.
- .2 Underwriter Laboratories of Canada (ULC).
  - .1 CAN/ULC-S109-03. Flame Tests of Flame Resistant Fabrics and Films.
- .3 National Fire Protection Association (NFPA).
  - .1 NFPA 701-2004. Standard Methods of Fire Tests for Flame Propagation of Textiles and Films.

**1.2 SYSTEM DESCRIPTION**

- .1 Manually operated roller blind shading system utilizing tube and solar shading fabric including all necessary operating components and accessories required for a complete system.

**1.3 SHOP DRAWINGS**

- .1 Submit shop drawings in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Indicate dimensions in relation to window jambs and sills. Provide detail sections of top, side and bottom channels, operator details, connections and required head and sill anchorage details. Provide details of hardware and accessories. Indicate dimensions and required clearances.
- .3 Indicate size and thicknesses of components, base material and surface finish. Include attachment devices and details of anchors. Show anchorage, accessory items and finishes.
- .4 Submit manufacturers Product Data Sheets. Submit product data sheets for each type of blind specified. Include manufacturer's specifications and installation instructions for each component.
- .5 Provide manufacturer's catalog cuts including hardware and fastenings.

**1.4 SAMPLES**

- .1 Submit samples in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Submit one representative working sample of each type of blind. Submit duplicate samples of each type of fabric in full range of available colours.
- .3 Submit representative samples of each specified item, including mounting brackets, fastenings and trim. Reviewed samples will be returned for inclusion into the work.

**WINDOW SHADES****1.5 CLOSEOUT SUBMITTALS**

- .1 Submit manufacturer's maintenance instructions for cleaning and maintaining window shades for incorporation into manual specified in Section 01 78 00 - Closeout Submittals.
- .2 Submit literature to indicate special handling procedures, preparation criteria, finishing and cleaning procedures.

**1.6 DESIGN REQUIREMENTS**

- .1 Fabric flammability: in accordance with CAN/ULC S109 and NFPA 701.

**1.7 DELIVERY STORAGE AND HANDLING**

- .1 Deliver and store materials in manner to prevent damage and in accordance with manufacturers written instructions. Deliver pre-finished materials in original, unopened cartons or other packaging materials necessary to protect structure and finishes.
  - .1 Label packages clearly with manufacturer's name and item description.
  - .2 Store materials in original packaging until installation.
  - .3 Store components with adequate support to ensure flatness and to prevent damage to pre-finished surfaces.

**1.8 WASTE MANAGEMENT AND DISPOSAL**

- .1 Separate and recycle waste materials in accordance with Section 01 74 21 - Construction / Demolition Waste Management.
- .2 Collect and separate plastic, paper packaging and corrugated cardboard in accordance with Waste Management Plan.

**Part 2 Products****2.1 COMPONENTS**

- .1 Tubing: extruded aluminum tube to ASTM B221. 6063-T5 alloy. 64.77 mm outside diameter complete with fabric mounting channels designed to receive spline.
- .2 Splines: extruded aluminum or fiberglass with asymmetrical locking channels and embossed fabric guide. Designed for a snap and lock installation into tube. Provide sufficient capacity for fabric and be easily removable without dismounting tube from end brackets.
- .3 End brackets: 6 mm thick steel, permanently installed to fascia; provide wall, jamb and ceiling mountings to installation requirements.
- .4 End plug: adjustable delrin end caps.
- .5 Fascia: extruded aluminum 6063-T5 alloy. Clear anodized. Installed to mounting clips without exposed fasteners. Sized to fully cover tube and provide top space for air circulation.

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- .6 Closure and hanger: extruded aluminum 6063-T5 alloy. Provide closure hanger and closure cover. Clear anodized. Complete with fasteners.
- .7 Side and end channels: extruded aluminum 6063-T5. Channels 63.5 x 31.75 mm designed to prevent light infiltration around sides of shades.
- .8 Centre support: 6 mm steel bracket with vertically adjustable plastic saddle and aluminum axle. Provide as required for installation.
- .9 Hem bar: extruded aluminum hollow section profile, single lengths. Insert into fabric pocket and sew both ends.
- .10 Fasteners. Concealed screws and bolts: hot dip galvanized. Exposed fasteners to match face of unit. Expansion shields: fibre, lead or rubber as recommended by manufacturer for component and its intended use.
- .11 Drive Chain: No. 10 "bright" finished series 300 stainless steel bead type chain forming continuous loops and capable of withstanding 400 N pull test. Provide drive chains with upper and lower stops to prevent overwinding or underwinding.

**2.2 FABRIC**

- .1 Solar shading fabric: 100 % PVC Free fiberglass scrim. Green guard certified Low VOC. Departmental Representative will select 1 colour from manufacturer's full and extended range of colours.
  - .1 Fabric designed to hang flat without buckling or distortion.
  - .2 Edges trimmed to prevent raveling.
  - .3 Surface burning characteristics to CAN/ULC-S109 and NFPA 701.
  - .4 Open Area: 3%.

**2.3 OPERATION**

- .1 Provide manual chain driven devices for raising and lowering blinds. Provide stops at highest and lowest shade positions to prevent over winding and unrolling.
- .2 Mounting system to be designed to allow air between shade and glass.
- .3 Unguided vertical shades shall not drift sideways more than 3 mm in total run.

**2.4 FABRICATION**

- .1 Fabricate joints of components flush and smooth. Use mechanical fasteners only where approved.
- .2 Wherever possible form exposed surfaces from one sheet of stock, free of joints.
- .3 Brake form sheet metal work with 1.5 mm radius bends. Form surfaces flat without distortion. Maintain flat surfaces without scratches or dents.
- .4 Shop assemble components and package complete with anchors and fittings.

**WINDOW SHADES****Part 3 Execution****3.1 INSTALLATION**

- .1 Comply with manufacturer's written data, including product technical bulletins, installation instructions, carton installation instructions, and datasheet. Manufacturer's recommendations will be considered as minimal instructions.
- .2 Install blinds at exterior windows and locations indicated.
- .3 Include centre brackets where necessary to prevent deflection of headrail.
- .4 Adjust to provide for operation without binding.
- .5 Use non corrosive metal fasteners for installation, concealed in final assembly.

**3.2 PROTECTION**

- .1 Keep completed installation and all components clean. Remove blemishes immediately. Protect finished products from damage.

**END OF SECTION**