

SECTION 12 24 13 - ROLLER WINDOW SHADES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Manually operated roller shades with single rollers.
 - 2. Roller shade fabrics.

1.3 SUBMITTALS, GENERAL

- A. General: Submit all action submittals (except Samples for Verification) and informational submittals required by this Section concurrently.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include styles, material descriptions, construction details, dimensions of individual components and profiles, features, finishes, and operating instructions for roller shades.
- B. Shop Drawings: Show fabrication and installation details for roller shades, including shadeband materials, their orientation to rollers, and their seam and batten locations, all dimensions and clearances for each shade installation.
 - 1. Include typical elevation layout showing separation between shade units and meeting edges at corners with sections and details at head and sill between blind units and corners.
 - 2. Provide verified in field details showing all types of shade installation conditions.
 - 3. Components and conditions not fully dimensioned or detailed in manufacturers product data indicating relationship to adjoining construction.
 - 4. Manufacturers specification instructions and details specific to components and conditions not fully dimensioned or detailed in manufactures product data.
 - 5. Provide data for all components required for installation.
- C. Samples for Verification and Initial Color Selection: For each type and color of shadeband material.
 - 1. Include Samples of accessories involving color selection.
 - 2. Actual color samples of manufactures full range – no color copies will be accepted.

3. Shadeband Material: Not less than 10 inches square. Mark inside face of material if applicable.
4. Roller Shade: Full-size operating unit, not less than 16 inches wide by 36 inches long for each type of roller shade indicated.
5. Installation Accessories: Full-size unit, not less than 10 inches long.

1.5 INFORMATIONAL SUBMITTALS

- A. Product Certificates: For each type of shadeband material, signed by product manufacturer.

1.6 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For roller shades to include in maintenance manuals.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Deliver roller shades in factory packages, marked with manufacturer, product name, and location of installation using same designations indicated on Drawings.

1.8 WARRANTY

- A. Manufacturer's Warranty - Provide manufacturer's warranty including coverage of at least following components:
 1. Corrosion of all metal parts.
 2. Sagging, creasing, or breaking of slats.
 3. Sagging, creasing or ripping of shadeband material.
 4. Smoothly performing mechanism without slippage or jams.
 5. Finish of all components matching in color, uniform, and against fading or discoloration.
 6. Defects in materials and installation workmanship.

1.9 FIELD CONDITIONS

- A. Environmental Limitations: Do not install roller shades until construction and finish work in spaces, including painting, is complete and dry and ambient temperature and humidity conditions are maintained at the levels indicated for Project when occupied for its intended use.
- B. Field Measurements: Where roller shades are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication and indicate measurements on Shop Drawings. Allow clearances for operating hardware of operable glazed units through entire operating range. Notify Architect of installation conditions that vary from Drawings. Coordinate fabrication schedule with construction progress.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Source Limitations: Obtain roller shades from single source from single manufacturer.

2.2 MANUALLY OPERATED SHADES WITH SINGLE ROLLERS

- A. Basis-of-Design Product: Subject to compliance with requirements, provide Draper Inc.; Manual FlexShade Systems or comparable product by one of the following:
 - 1. Hunter Douglas Contract.
 - 2. MechoShade Systems, Inc.
- B. Chain-and-Clutch Operating Mechanisms: With continuous-loop bead chain and clutch that stops shade movement when bead chain is released; permanently adjusted and lubricated; with chain retainer.
 - 1. Bead Chains: Manufacturer's standard.
 - a. Limit Stops: Provide upper and lower ball stops.
- C. Rollers: Corrosion-resistant steel or extruded-aluminum tubes of diameters and wall thicknesses required to accommodate operating mechanisms and weights and widths of shadebands indicated without deflection. Provide with permanently lubricated drive-end assemblies and idle-end assemblies designed to facilitate removal of shadebands for service.
 - 1. Roller Drive-End Location: Right or left side as require per shade layout.
 - 2. Direction of Shadeband Roll: Regular, from back of roller and or back to front to clear window handles, extrusions etc.
 - 3. Shadeband-to-Roller Attachment: Manufacturer's standard method- no double-side tape will be accepted. Provide adequate brackets on multiple sash windows to hold roller pin ends no more than 1/8 inch apart over centerline of mullion.
- D. Shadebands:
 - 1. Shadeband Material: Light-blocking fabric similar to "Sun-Bloc Series" fabric by Draper Inc.
- E. Shadeband Bottom (Hem) Bar: Steel or extruded aluminum.
 - 1. Type: Enclosed in sealed pocket of shadeband material.
- F. Fabrication:
 - 1. Cut shades perfectly square and true and mount on rollers using suitable fasteners. Provide all material used in shade manufacture new, commercially perfect and of first quality. Provide material in one piece.

2. Provide one finished length of each single hung shade after hemming 14 inches longer than portion of sash covered by shade. Provide finished shade width to cover adequately, but not more than 1/4 inch of barrel exposed at each end of roller.
 - a. Where necessary, increase diameter of roller from 1-1/4 inches to correspond with size of shade.
 - b. Provide hems of proper width for slat, double turn hems, and sew with straight stitch. Neatly backstitch all hems at the ends.
 - c. Hem at top and bottom of shade.
3. Fabrication Tolerances:
 - a. Size shades to fit openings head – including but not limited to wall, door, window head etc., to sill including but not limited to windowsill, floor sill etc. (allowing for 6 to 10 inches in additional length) and between mullions, unless otherwise indicated on Drawings.
 - b. Provide single sets of shades no greater in width than distance between 2 mullions at openings up to 15 ft. wide.
 - c. Provide minimum clearances for appropriate operation of shades.

G. Installation Accessories:

1. Front Fascia: Aluminum extrusion that conceals front and underside of roller and operating mechanism and attaches to roller endcaps without exposed fasteners.
 - a. Shape: L-shaped.
 - b. Height: Manufacturer's standard height required to conceal roller and shadeband when shade is fully open.
 - c. Provide full range of manufactures colors.
2. Exposed Headbox: Rectangular, extruded-aluminum enclosure including front fascia, top and back covers, endcaps, and removable bottom closure.
 - a. Height: Manufacturer's standard height required to enclose roller and shadeband when shade is fully open.
 - b. Provide full range of manufactures colors.
3. Endcap Covers: To cover exposed endcaps.
4. Installation Accessories Color and Finish: As selected from manufacturer's full range.

2.3 SHADEBAND MATERIALS

- A. Shadeband Material Flame-Resistance Rating: Comply with NFPA 701. Testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
- B. Light-Blocking Fabric: Opaque fabric, stain and fade resistant.
 1. Source: Roller-shade manufacturer.

2. Type: Fiberglass textile with PVC film bonded to both sides.
 3. Thickness: 0.015 inches.
 4. Weight: 12 oz./sq. yd..
 5. Features: Washable.
 6. Color: As selected by Architect from manufacturer's full range.
 7. Basis-of-Design Product: Subject to compliance with requirements, provide Draper Inc.; SunBloc Series SB9000 or comparable product.
- C. Rescue Window Labels: Provide and install on window shade in every space of pupil occupancy opaque labels with words "RESCUE WINDOW" Install labels on shades associated with rescue window coordinate with Architect for location.
1. Color: Opaque, bright yellow background with black letters.
 2. Size: 2 inches by 1 inch, 3/8" wide lines to form letters.
 3. Text: "RESCUE WINDOW", readable from room side of window.

2.4 ROLLER-SHADE FABRICATION

- A. Product Safety Standard: Fabricate roller shades to comply with WCMA A 100.1, including requirements for flexible, chain-loop devices; lead content of components; and warning labels.
- B. Unit Sizes: Fabricate units in sizes to fill window and other openings as follows, measured at 74 deg F:
1. Between (Inside) Jamb Installation: Width equal to jamb-to-jamb dimension of opening in which shade is installed less 1/4 inch per side or 1/2-inch total, plus or minus 1/8 inch. Length equal to head-to-sill dimension of opening in which shade is installed less 1/4 inch, plus or minus 1/8 inch.
 2. Outside of Jamb Installation: Width and length as indicated, with terminations between shades of end-to-end installations at centerlines of mullion or other defined vertical separations between openings.
- C. Shadeband Fabrication: Fabricate shadebands without battens or seams to extent possible.
- D. Rescue Window Labels: Provide and install on window shade in every space of pupil occupancy opaque labels with words "RESCUE WINDOW" Install labels on shades associated with rescue window coordinate with Architect for location.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances, operational clearances and other conditions affecting performance of the Work.

- B. Proceed with installation only after unsatisfactory conditions have been corrected.
- C. Beginning installation constitutes Contractor's acceptance of substrates and conditions.

3.2 ROLLER-SHADE INSTALLATION

- A. Install roller shades level, plumb, and aligned with adjacent units according to manufacturer's written instructions.
 - 1. Opaque Shadebands: Located so shadeband is not closer than 2 inches to interior face of glass. Allow clearances for window operation hardware.
 - 2. Hang shades at window to fit opening properly and operate smoothly and efficiently. Hang each shade perfectly level and with spring tension of roller properly adjusted. Locate tips of adjoining shades no further than 3/8 inch apart when two or more are mounted back-to-back.
 - 3. Install each shade on brackets securely fastened to ceiling or wall as shown on Drawings. Furnish and install new brackets and other hardware required for proper installation of shades.
- B. Prior to installation of roller-shade units, coordinate installation locations and method of installation with window manufacturer, do not secure roller-shade units to window frame.

3.3 ADJUSTING

- A. Adjust and balance roller shades to operate smoothly, easily, safely, and free from binding or malfunction throughout entire operational range.

3.4 CLEANING AND PROTECTION

- A. Clean roller-shade surfaces after installation, according to manufacturer's written instructions.
- B. Provide final protection and maintain conditions, in a manner acceptable to manufacturer and Installer, that ensure that roller shades are without damage or deterioration at time of Substantial Completion.
- C. Replace damaged roller shades that cannot be repaired, in a manner approved by Architect, before time of Substantial Completion.

3.5 DEMONSTRATION

- A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain motor-operated roller shades.

END OF SECTION 12 24 13