

## SECTION 12 24 13 - ROLLER WINDOW SHADES

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. This Section includes roller shades and motorized shade operators.
- B. See Division 26 Sections for electrical service and connections for motorized shade operation.

#### 1.2 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: Include plans, elevations, sections, details, details of installation, operational clearances, wiring diagrams, and relationship to adjoining Work.
  - 1. Verify dimensions by field measurements before fabrication and indicate measurements on Shop Drawings.
- C. Coordination Drawings: Drawn to scale and coordinating penetrations and ceiling-mounted items.
- D. Samples: For each exposed finish and for each color and texture required.
- E. Window Treatment Schedule: Use same designations indicated on Drawings.
- F. Maintenance data.

#### 1.3 QUALITY ASSURANCE

- A. Installer Qualifications: Fabricator of products.
- B. Fire-Test-Response Characteristics: Provide products passing flame-resistance testing according to NFPA 701 by a testing agency acceptable to authorities having jurisdiction.
- C. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
- D. Comply with WCMA A 100.1.

- E. Mockups: Build mockups to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.
  - 1. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

## PART 2 - PRODUCTS

### 2.1 ROLLER SHADES

- A. Products: Subject to compliance with requirements, provide one of the following:
  - 1. Hunter Douglas, Inc.; Hunter Douglas Window Fashions Division; **<Insert product name or designation>**.
  - 2. Lutron Shading Solutions by VIMCO; **<Insert product name or designation>**.
  - 3. MechoShade Systems, Inc.; **<Insert product name or designation>**.
  - 4. Nysan Shading Systems Ltd.; **<Insert product name or designation>**.
  - 5. Sol-R-Veil; **<Insert product name or designation>**.
  - 6. Verosol USA, Inc.; OEM Shades Inc.; **<Insert product name or designation>**.
- B. Shade Band Material: PVC-coated fiberglass.
  - 1. Colors: As selected by Owner from manufacturer's full range
  - 2. Material Solar-Optical Properties: **<Insert requirements>**
  - 3. Material Openness Factor: **<Insert number>** percent.
  - 4. Material UV Blockage: **<Insert number>** percent.
- C. Rollers: Electrogalvanized or epoxy primed steel or extruded-aluminum tube of diameter and wall thickness required to support and fit internal components of operating system and the weight and width of shade band material without sagging; designed to be easily removable from support brackets. Provide capacity for one roller shade band(s) per roller.
- D. Direction of Roll: Regular, from back of roller.
- E. Mounting Brackets: Galvanized or zinc-plated steel.
- F. Fascia: L-shaped, formed-steel sheet or extruded aluminum; long edges returned or rolled; continuous panel concealing front and bottom of shade roller, brackets, and operating hardware and operators; removable design for access.
- G. Top/Back Cover: L-shaped; material and finish to match fascia; combining with fascia and end caps to form a six-sided headbox enclosure sized to fit shade roller and operating hardware inside.
- H. Bottom Bar: Steel or extruded aluminum, with plastic or metal capped ends. Provide concealed, by pocket of shade material, internal-type.
- I. Mounting: Inside [**As indicated on Drawings**].

- J. Shade Operation: Manual; with continuous-loop bead-chain, clutch, and cord tensioner and bracket lift operator.
- K. Shade Operation: Motorized operator.

## 2.2 ROLLER SHADE FABRICATION

- A. Unit Sizes: Obtain units fabricated in sizes to fill window and other openings as follows, measured at 74 deg F:
  - 1. Shade Units Installed between (Inside) Jambs: Edge of shade not more than 1/4 inch from face of jamb. Length equal to head to sill dimension of opening in which each shade is installed.
- B. Installation Brackets: Designed for easy removal and reinstallation of shade, for supporting fascia, roller, and operating hardware and for hardware position and shade mounting method indicated.
- C. Installation Fasteners: No fewer than two fasteners per bracket, fabricated from metal noncorrosive to shade hardware and adjoining construction; type designed for securing to supporting substrate; and supporting shades and accessories under conditions of normal use.

## 2.3 MOTORIZED ROLLER SHADE OPERATORS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
  - 1. Manufacturer of roller shade.
  - 2. Elero USA Inc.
  - 3. SIMU US, Inc.
  - 4. SOMFY Systems.
- B. General: Provide factory-assembled motorized shade operation systems designed for lifting shades of type, size, weight, construction, use, and operation frequency indicated. Include wiring from motor controls to motors. Coordinate operator wiring requirements and electrical characteristics with the building electrical system.
- C. Comply with NFPA 70.
- D. Control Equipment: Comply with NEMA ICS 1, NEMA ICS 2, and NEMA ICS 6 with NFPA 70, Class 2 control circuit, maximum 24-V ac or dc.
- E. Electric Motors: UL-approved or -recognized, totally enclosed, insulated motor, complying with NEMA MG 1, with thermal-overload protection, brake, permanently lubricated bearings, and limit switches; sized by shade manufacturer to start and operate size and weight of shade considering service factor or considering Project's service conditions without exceeding nameplate ratings.
  - 1. Service Factor: According to NEMA MG 1, unless otherwise indicated.

2. Motor Characteristics: Single phase, 110 V, 60 Hz.
  3. Motor Mounting: Within manufacturer's standard roller enclosure.
- F. Remote Controls: Electric controls with NEMA ICS 6, Type 1 enclosure recessed or flush mounting. Toggle-style, wall switch.
- G. Limit Switches: Adjustable switches, interlocked with motor controls and set to automatically stop shade at fully raised and fully lowered positions.

### PART 3 - EXECUTION

#### 3.1 ROLLER SHADE INSTALLATION

- A. Install roller shades level, plumb, and aligned with adjacent units according to manufacturer's written instructions, and located so shade band is not closer than 2 inches to interior face of glass. Allow clearances for window operation hardware.
- B. Connections: Connect motorized operators to building electrical system.
- C. Adjust and balance roller shades to operate smoothly, easily, safely, and free from binding or malfunction throughout entire operational range.
- D. Clean roller shade surfaces after installation, according to manufacturer's written instructions.

#### 3.2 DEMONSTRATION

- A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain roller shades. Refer to Division 01 Section Demonstration and Training."

**END OF SECTION 12 24 13**