

SECTION 122413 - ROLLER WINDOW SHADES

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section Includes:

- 1. Motor-operated roller shades [with single rollers]

- B. Related Requirements:

- 1. Section 061053 "Miscellaneous Rough Carpentry" for wood blocking and grounds for mounting roller shades and accessories.
 - 2. Section 079200 "Joint Sealants" for sealing the perimeters of installation accessories for light-blocking shades with a sealant.

1.3 ALLOWANCES

- A. Roller shades are part of [Window-Covering Allowance] <Insert name of allowance>.

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.

- 1. Motor-Operated Shades: Include details of installation and diagrams for power and control wiring.

- C. Samples: For each exposed product and for each color and texture specified, 10 inches (250 mm) long and 8 inches (200 mm) wide.

- D. Samples for Initial Selection: For each type and color of shadeband material.
- E. Samples for Verification: For each type of roller shade.
 - 1. Shadeband Material: Not less than 10 inches (250 mm) by 8 inches (200 mm).
 - 2. Roller Shade: Full-size operating unit, not less than 22 inches (560 mm) wide by 36 inches (900 mm) long for each type of roller shade indicated.
 - 3. Installation Accessories: Full-size unit.
- F. Roller-Shade Schedule: Use same designations indicated on Drawings.

1.5 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer.
- B. Product Certificates: For each type of shadeband material, signed by product manufacturer.
- C. Product Test Reports: For each type of shadeband material, for tests performed by [manufacturer and witnessed by a qualified testing agency] [a qualified testing agency].

1.6 CLOSEOUT SUBMITTALS

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

1.7 QUALITY ASSURANCE

- A. Installer Qualifications: Installer trained by the manufacturer in installing products comparable to those specified in this section.
- B. Mockups: Build mockups to verify selections made under Sample submittals, to demonstrate aesthetic effects, and to set quality standards for materials and execution.
 - 1. Approval of mockups does not constitute approval of deviations from Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
 - 2. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.8 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.
- B. Do not deliver window shades until building is enclosed and construction within spaces where shades will be installed is substantially complete.

- C. Store products in manufacturer's unopened packaging until ready for installation in a dry location.

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 to avoid delaying Work.

1.10 WARRANTY

- A. Roller Shade Hardware and Shade Fabric: Manufacturer's standard 10 year limited warranty.
- B. Roller Shade Motors and Motor Control Systems: Manufacturer's standard five year warranty.
- C. Roller Shade Installation: One year from date of Substantial Completion, not including scaffolding, lifts, or other means to reach inaccessible areas.

PART 2 - PRODUCTS

2.1 MOTOR-OPERATED, SINGLE-ROLLER SHADES

- A. Basis-of-Design Product: Subject to compliance with requirements, provide Qmotion Shades; Qmotion Advanced Roller Shades.
- B. Motorized Operating System: Provide factory-assembled, shade-operator system of size and capacity and with features, characteristics, and accessories suitable for conditions indicated, complete with electric motor, and accessories required for reliable operation without malfunction. Include information and instructions for connections from motor controls to motors. Coordinate operator wiring requirements and electrical characteristics with building electrical system.
 - 1. Electrical Components: Listed and labeled as defined in NFPA 70, by a qualified testing agency as required, and marked for intended location and application.
 - 2. Automated Lifting System: QMotion motor systems are unique in their design since the motor end must equal the idler end. The motor must be totally enclosed in roller, with no exposed antenna on motor or shade. Motor assembly will offer equal light gaps on both ends of the tube.

- a. Manual override feature to allow for the automated shade to have a dual function of control either electronically or by hand to allow for more shade control and increase motor efficiency.
 - b. Brackets: Universal bracketing system utilizing a stainless steel metal bracket or a metal bracket of substantial strength with a Safety stop feature incorporated into the bracket system to assure that the shade will never overturn the fabric or overwind the fabric over the brackets thus damaging the fabric. System will be integrated in each bracket application to insure no back winding of hem bar over roller shade. Bracketing safety stop feature as assurance shade will not overturn on tube and cause damage to shade or installation location.
 - c. Shade band shall cover full shade dimensional width with exception of as much as 0.5 inches (13 mm) on either side to accommodate bracketing.
3. Electrical Supply System:
- a. Shade shall be energized with standard alkaline D size batteries. Motor shall not be required to use any outside power for operation. Battery Holder shall be integrated into shade tube with no external wire supplying power from outside tube, or externally mounted battery packs. Or
 - b. Electrical Supply System: Shade shall be energized with 12V or 24V power, as determined by manufacturer's specifications for shade dimensions.
4. Remote Control: Provide the following for remote-control activation of shades:
- a. Five Button Single Channel Transmitter: Manipulate single shade or shade grouping with hand-held, wall transmitter using RF system.
 - 1) Wall Mount: Wall magnetic mount for [one] [two] [three] 5-button transmitters.
 - 2) Hospitality cover for single 5-button transmitter. Adds single wall plate requirement to project.
 - b. Multi-Channel Remote: Manipulate six shades or shade groupings with hand-held, wall mountable transmitter using RF system. All shades by seventh "all" channel.
 - 1) Wall Mount: Wall magnetic mount for single Multi-Channel Remote.
 - 2) Hospitality cover for single Multi-Channel Remote. Adds single wall plate requirement to project.

- c. Timer Remote: Programmable via PC software providing up to six events, including astronomical clock.
 - d. QRelay signal supporter: Offers more consistent responsiveness of shades. Apply per manufacturer's instructions.
 - e. QConnect serial bridge: Interface with RS232, RS485, or dry contacts to building automation system.
 - f. Qsync wired network interface enabling control via ip-subnet located handheld smartphone or tablet 490 groups of scenes capable per Qsync.
4. Manual Override: Shades shall be operable additionally by manual function with hem bar tugs to send the shade up or pull the hem bar to desired stop position.
5. Programmable Intermediate Positions: Shades to have a minimum of three programmable intermediate stop positions which can be reached by single button presses on the remote control units, in addition to full bottom full top and programmable top position below full top.

C. Rollers: Corrosion-resistant 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 Electrical Supply Location: [Right side of inside face of shade] [Left side of inside face of shade] <Insert requirements>.
- 2. Direction of Shadeband Roll: [Regular, from back of roller] [Reverse, from front of roller].
- 3. Shadeband-to-Roller Attachment: [Removable spline fitting integral channel in tube permitting removal without lowering shade from mounting] <Insert description>.

D. Mounting Hardware: Brackets or endcaps, corrosion resistant and compatible with roller assembly, operating mechanism, installation accessories, and mounting location and conditions indicated.

E. Roller-Coupling Assemblies: Coordinated with operating mechanism and designed to join up to 18 inline rollers into a multiband shade that is operated by one roller drive-end assembly. Coupling bracket shall allow for both vertical and lateral adjustment as well as permitting fascia applications.

F. Shadebands:

- 1. Shadeband Material: [Light-filtering fabric] [Light-blocking fabric] <Insert requirements>.

2. Shadeband Bottom (Hem) Bar: Extruded aluminum.

- a. Type: [Enclosed in sealed pocket of shadeband material] [Exposed with endcaps] [Exposed with endcaps and integral light seal where bottom (sill) channels are indicated] <Insert description>.
- b. Color and Finish: [Manufacturer's standard] [As selected by Architect from manufacturer's full range] <Insert color and finish>.

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] <Insert requirements>.
 - b. Height: Manufacturer's standard height required to conceal roller and shadeband when shade is fully open, but not less than [4 inches (102 mm)] [3 inches (76 mm)] <Insert dimension>.
 - c. Integrated light-blocking wool pile to be inserted in extruded channel for enhanced light management when shades are inside mounted.
- 2. Cassette Enclosure: Enclosure that conceals front, top back, and underside of roller and operating mechanism, and attaches to roller endcaps without exposed fasteners.
 - a. Shape: Rounded.
 - b. Integrated light-blocking wool pile to be inserted in extruded channel for enhanced light management when shades are inside mounted.
 - c. Vinyl face plate which pivots upward for shade access.
- 3. Exposed Headbox: Rectangular, extruded enclosure including front fascia, top and back covers, endcaps, and removable bottom closure.
 - a. Height: Manufacturer's standard in height required to enclose roller and shadeband when shade is fully open, but not less than [4 inches (102 mm)] [3 inches (76 mm)] [as indicated on Drawings] <Insert dimension>.
- 4. Endcap Covers: To cover exposed endcaps.
- 5. Recessed Shade Pocket: Rectangular, extruded enclosure designed for recessed ceiling installation; with front, top, and back, end plates, and removable bottom closure panel.
 - a. Height: Manufacturer's standard height required to enclose roller and shadeband when shade is fully open.

6. Closure Panel: Removable panel designed for installation at bottom of ceiling recess or pocket.
 - a. Closure-Panel Width: Per manufacturer's specifications.
7. Side Channels: With light seals and designed to eliminate light gaps at sides of shades as shades are drawn down. Provide integrated stoppers at tops of side channels to prevent full roll-up and retain shadeband inside channel. Provide two piece side channel with patented pivot feature to allow for unrolling the fabric to have access to battery chamber without damaging fabric or having the need to unscrew the side channel from the wall.
8. Bottom (Sill) Angle: Designed to eliminate light gaps at bottoms of shades when shades are closed.
9. Installation Accessories Color and Finish: [As selected from manufacturer's full range] <Insert color and finish>.
10. MOTOR-OPERATED, DOUBLE-ROLLER SHADES- Encompasses a unique double roller bracket to be able to install two shades in the same bracket with all the features and benefits of a single system.
 - a. Double Roller Shade Fascia. Made of extruded Aluminum in 5 standard manufacturers color able to be painted to any custom color. Fascia will attach to the double roller shade bracket by snapping on to the bracket ledge by friction.

2.2 SHADEBAND MATERIALS

- A. Shadeband Material Flame-Resistance Rating: Comply with [NFPA 701] <Insert requirement>. Testing by a qualified testing agency. Select from manufacturers fabric book.
- B. Light-Filtering Fabric: Woven fabric, stain and fade resistant.

Refer to Qmotionshades.com for assistance with selecting fabrics, if desired. Fenestration characteristics of these materials are indicated in the Qmotion Shades Fabric collection, and on the Qmotionshades.com website. Qmotion also may offer value engineered alternative fabrics upon request. These will be highest quality alternatives, and may be available regularly. For screening materials, request the Q-screen program.

Koolback is a unique technology that enhances dark colored yarn's energy reflectivity by increasing its near infrared reflection.

Among ecological fabrics - the Infinity is 100 percent recyclable, as is the Nature Screen, which offers an uncoated appearance.

2.3 ROLLER-SHADE FABRICATION

Chainless and cordless shades remove entirely the inherent risk with unsecured loops, and by virtue of not having any loops to secure, installation is more attractive and less damaging to the walls.

- 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 (23 deg C):
 - 1. Between (Inside) Jamb Installation: Width equal to jamb-to-jamb dimension of opening in which shade bracketing is installed less 1/4 inch (6 mm) per side or 1/2-inch (13-mm) total, plus or minus 1/8 inch (3.1 mm). Length equal to head-to-sill or -floor dimension of opening in which shade is installed less 1/4 inch (6 mm), plus or minus 1/8 inch (3.1 mm). Shadeband light gaps as per manufacturer's specifications.
 - 2. Outside of Jamb Installation: Width and length as indicated, with terminations between shade brackets 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 except as follows:
 - 1. Vertical Shades: Where width-to-length ratio of shadeband is equal to or greater than [1:4] <Insert ratio>, may provide battens and seams at uniform spacings along shadeband length to ensure shadeband tracking and alignment through its full range of movement without distortion of the material.
 - 2. Railroaded Materials: Railroad material where material roll width is less than the required width of shadeband and where indicated, and within manufacturer specifications. Provide battens and seams as required by railroaded material to produce shadebands with full roll-width panel(s) plus, if required, one partial roll-width panel located at top of shadeband.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances, operational clearances, [accurate locations of connections to building electrical system,] and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

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 (51 mm)] <Insert dimension> to interior face of glass when shade is fully lowered. Allow clearances for window operation hardware.

B. Electrical Connections: Connect motor-operated roller shades to building electrical system.

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 122413