

SECTION 12240: ROLLER WINDOW SHADES

PART 1: GENERAL

1.01 RELATED DOCUMENTS

Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to work of this section.

1.02 DESCRIPTION OF WORK

- A. Work Included in This Section: Provision for and installation of motorized interior room darkening roller shades as indicated on the Drawings.
- B. Related Work Specified Elsewhere:
 - 1. ROUGH CARPENTRY Section
 - 2. ACOUSTICAL CEILING TREATMENT Section
 - 3. ELECTRICAL Sections

1.03 REFERENCES

- A. American National Standards Institute/Institute of Electrical and Electronic Engineers (ANSI/IEEE):
 - 1. C62.41-1991
 - 2. D4674-02a
- B. ASTM International (ASTM):
 - 1. D4674-89
 - 2. G21-96 (2002)
 - 3. G22-76 (1996)
- C. National Fire Protection Association (NFPA):
 - 1. 701 (2004)
- D. Underwriters Laboratories, Inc. (UL):
 - 1. 1310
 - 2. 508

1.04 SYSTEM DESCRIPTION

- A. Roller Shade System: Ultra-quiet, precision-controlled electronic drive unit contained within head tube, controlling shade movement.
- B. Controls: Wall mounted.

1.05 SUBMITTALS

Submittals shall conform to the SUBMITTALS Section of these Specifications and include the following:

- A. Shop Drawings:
 - 1. Shade schedule indicating room number, opening sizes, quantities and keys to details.
 - 2. Head, jamb and sill details, and mounting requirements for each product and mounting condition.
 - 3. One-line wiring diagrams including connection details and overall arrangement of shades and control locations.
- B. Samples:
 - 1. Fabric samples showing manufacturer's full range of available colors.
 - 2. Samples showing available color and finish selections for controls.
- C. Product Data:
 - 1. Descriptive literature and details for each product type including materials, finishes, construction, profiles, and mounting requirements.
 - 2. Installation instructions and operating instructions.
 - 3. Current certificate showing that line voltage components of system are UL listed or UL recognized.

1.06 QUALITY ASSURANCE

- A. Manufacturer's Qualifications:
 - 1. Minimum 10 years experience in manufacture of precision-engineered, low-voltage motorized shading systems.
 - 2. Furnish shading system and electrical control equipment to complete installation with single source responsibility of shading and lighting control.

- B. Installer Qualification: Qualified to install and commission specified products by prior factory training, experience, demonstrated performance, and acceptance of any requirement of the manufacturer.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging, labeled to identify each shade for each opening, until ready for installation.
- B. Include installation, programming, and maintenance instructions.

1.08 PROJECT CONDITIONS

- A. Maintain temperature in installation area between 32 degrees F and 104 degrees F.
- B. Maintain humidity in installation area between 0% and 90%, non-condensing.

1.09 COORDINATION

- A. Coordinate pre-wiring of system utilizing manufacturer's approved low voltage wiring to each shade drive location.
- B. Fabricate shades after obtaining field dimensions for each opening.

1.10 WARRANTY

- A. Provide manufacturer's 10 year warranty providing for repair or replacement of defective equipment.

PART 2: PRODUCTS

2.01 PERFORMANCE STANDARDS

- A. This specification uses the products of Lutron Electronics Company, Inc. to establish a minimum standard for material and system performance. Products of other manufacturers that meet or exceed these established standards may be substituted if required documentation is submitted to the Architect in the prescribed manner and approval obtained.
- B. Manufacturer: Lutron Electronics Company, Inc.
- C. System: Sivoia QS Motorized Roller Shades

2.02 SYSTEM REQUIREMENTS

- A. System Description
 - 1. Ultra-quiet, precision controlled electronic drive unit housed inside

roller tube, controlling shade movement.

2. Audible Noise: Maximum 44 dBA measured 3 feet from electronic drive unit. No audible clicks when motor starts or stops.
3. Operate independently, without use of external group controllers.
4. Systems with multiple electronic drive units electronically synchronized to start, stop, and move in unison.

B. System Controls

1. Electronic drive units and keypad allowing high level programming.

C. System Performance

1. One-touch control of shades by means of keypad.
2. Store over 250 programmable stop points, including open, close, and any other position.
3. Pre-sets set by 5-second button push and hold from keypad.
4. Pre-sets recalled by keypad.
5. System components electro static discharge protected.

2.03 ROLLER SHADES

A. Mounting

1. Brackets to provide symmetrical light gaps on each side of shade.
2. Roller shade leveling adjustment allowing leveling adjustment while roller shades are mounted to brackets.
3. Allow side-to-side adjustment.
4. Allow projection adjustment.
5. Provide brackets and enclosures as required for recessed pocket mounting above suspended ceiling as detailed on the Drawings.
 - a. Integral flange on face and both ends to support suspended ceiling panel.

B. Shade Tube: Fabric connected to tube using double-sided adhesive strip with minimum of one turn of fabric on roller before working section of fabric starts.

C. Fabric

1. Pass NFPA 701 large and small scale tests.
2. Where applicable, seal shade fabric or treat PVC-coated fabric edges to prevent fraying.
3. Minimum 5 mm "No Growth Contact Area", tested to ASTM G21 and G22.

4. Fabric Selection: Room Darkening
 5. Color: As selected by Architect from manufacturer's full standard range.
- D. Bottom Bar
1. End cap color coordinated with fabric selection.
 2. Contain spline groove at top to receive and secure fabric.
 3. Full wrap, with fabric wrapped around bottom bar.

2.04 ACCESSORIES

- A. Wall Mounted Controls
1. Low voltage keypad with faceplate attached without visible means of attachment, product color to match NEMA WD1, with backlit buttons.
 2. Visible parts ultraviolet color stabilized.
 3. Type: Five button with raise/lower
- B. Power Supplies
1. Electronic drive units powered with 24 VDC from approved power supply; power supply via NEC Class 2 power source.
 2. Provide power panel including individual outputs.

PART 3: EXECUTION

3.01 SURFACE CONDITIONS

Coordination: Coordinate with all other trades as required to ensure proper and adequate provision in framing and ceiling finish for the installation of the roller shades in the locations required.

3.02 INSTALLATION

- A. Install in accordance with manufacturer's instructions and approved Shop Drawings.
- B. Install shades to provide smooth operation.
- C. Locate control where directed.

- D. Connect to power supply and control wiring.

3.03 ADJUSTMENT

- A. Adjust level, projection, and shade centering from mounting brackets.
- B. Adjust fabric on tube if visibly telescoping.

3.04 DEMONSTRATION

- A. Demonstrate proper operation and maintenance of window shade system to Owner.

3.05 SCHEDULE

- A. Shade Type 1:
 - 1. Description: Motorized interior room darkening shade with blackout fabric.
 - 2. Color: As selected by Architect.

End Of Section 10050