



SECTION 12494

ROLLER SHADES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Manually operated solar roller shades.
- B. Manually operated black-out embossed solar roller shades.
- C. Electrically operated solar roller shades.
- D. Electrically operated black-out embossed solar roller shades.

1.2 RELATED SECTIONS

- A. Section 06100 - Rough Carpentry: Wood blocking and grounds for mounting roller shades and accessories.
- B. Section 09260 - Gypsum Board Assemblies: Coordination with gypsum board assemblies for installation of shade pockets, closures and related accessories.
- C. Section 09510 - Acoustical Ceilings: Coordination with acoustical ceiling systems for installation of shade pockets, closures and related accessories.
- D. Division 16 - Electrical: Electric service for motor controls.

1.3 REFERENCES

- A. NFPA 70 - National Electrical Code.
- B. NFPA 701-99 - Fire Tests for Flame-Resistant Textiles and Films.

1.4 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. LEED Submittals:
 - 1. Product Data for Credit MR4.1 and Credit MR 4.2: For products having recycled content, documentation indicating percentages by weight of postconsumer and pre-consumer recycled content.
 - a. Include statement indicating costs for each product having recycled content.
- C. Product Data: Manufacturer's data sheets on each product to be used, including:

1. Preparation instructions and recommendations.
 2. Styles, material descriptions, dimensions of individual components, profiles, features, finishes and operating instructions.
 3. Storage and handling requirements and recommendations.
 4. Mounting details and installation methods.
 5. Typical wiring diagrams including integration of motor controllers with building management system, audiovisual and lighting control systems as applicable.
- D. Shop Drawings: Plans, elevations, sections, product details, installation details, operational clearances, wiring diagrams and relationship to adjacent work.
- E. Window Treatment Schedule: For all solar roller shades. Use same room designations as indicated on the Drawings and include opening sizes and key to typical mounting details.
- F. Selection Samples: For each finish product specified, one set of solar shade film options and aluminum finish color samples representing manufacturer's full range of available colors and patterns.
- G. Verification Samples: For each finish product specified, one complete set of shade components, unassembled, demonstrating compliance with specified requirements. Shade film sample and aluminum finish sample as selected. Mark face of material to indicate interior faces.
- H. Maintenance Data: Methods for maintaining solar roller shades, precautions regarding cleaning materials and methods, instructions for operating hardware and controls.

1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Obtain roller shades through one source from a single manufacturer with a minimum of six years experience in manufacturing products comparable to those specified in this section.
- B. Installer Qualifications: Installer trained and certified by the manufacturer with a minimum of five years experience in installing products comparable to those specified in this section.
- C. Source Limitation: Obtain roller shades through one source from a single manufacturer.
- D. Fire-Test-Response Characteristics: Passes NFPA 701-99 small and large-scale vertical burn. Materials tested shall be identical to products proposed for use.
- E. Electrical Components: NFPA Article 100 listed and labeled by either UL or ETL or other testing agency acceptable to authorities having jurisdiction, marked for intended use, and tested as a system. Individual testing of components will not be acceptable in lieu of system testing.
- F. Environmental Certification: Submit written certification from the manufacturer, including third party evaluation, recycling characteristics, and perpetual use certification as specified below. Initial submittals, which do not include the Environmental Certification, below will be rejected. Materials that are simply 'PVC free' without identifying their inputs shall not qualify as meeting the intent of this specification and shall be rejected.
- G. Third Party Evaluation: Provide documentation stating the shade cloth has undergone third party evaluation for all chemical inputs, down to a scale of 100 parts per million, that have been evaluated for human and environmental safety. Identify any and all inputs, which are known to be carcinogenic, mutagenic, teratogenic, reproductively toxic, or endocrine disrupting. Also identify items that are toxic to aquatic systems, contain heavy metals, or

organohalogenes. The material shall contain no inputs that are known problems to human or environmental health per the above major criteria, except for an input that is required to meet local fire codes.

- H. Mock-Up: Provide a mock-up (manual shades only) of one solar roller shade assembly for evaluation of mounting, appearance and accessories.
 - 1. Locate mock-up in window designated by Architect.
 - 2. Do not proceed with remaining work until, mock-up is accepted by Architect.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver shades in factory-labeled packages, marked with manufacturer and product name, fire-test-response characteristics, and location of installation using same room designations indicated on Drawings and in the Window Treatment Schedule.

1.7 PROJECT CONDITIONS

- A. Environmental Limitations: Install solar roller shades after finish work including painting is complete and ambient temperature and humidity conditions are maintained at the levels indicated for Project when occupied for its intended use.

1.8 WARRANTY

- A. Traditional solar shade film: Manufacturer's limited 3 year warranty, life time on mechanicals.
- B. Embossed solar shade film: Manufacturer's limited 5 year warranty, life time on mechanicals.
- 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 MANUFACTURERS

- A. Acceptable Manufacturer: Halcyon Shades, 1600 S. 39th Street, St. Louis, MO 63110.
- B. Tel: (800) 234-2280. Fax: (800) 291-3331. Email: service@halcyonshades.com
www.halcyonshades.com
- C. Substitutions: Not permitted.
- D. Requests for substitutions will be considered in accordance with provisions of Section 01600.

2.2 APPLICATIONS/SCOPE

- A. Roller Shade Schedule:
 - 1. Shade Type 1: Manual operating, chain drive, solar roller shade in all interior windows of rooms and spaces shown on the Drawings, and related mounting systems and accessories.
 - 2. Shade Type 2: Manual operating interior, chain drive, black-out embossed solar roller shade in all exterior windows of rooms and spaces shown on Drawings, and related mounting systems and accessories.
 - 3. Shade Type 3: Motorized interior solar roller shades in all exterior windows of rooms and spaces shown on Drawings, and related motor control systems.

4. Shade Type 4: Motorized interior black-out embossed solar roller shades in all exterior windows of rooms and spaces shown on Drawings, and related motor control systems.
5. Shade Type 5: Motorized skylight hard pleat roller shades in all skylights of rooms and spaces shown on Drawings, and related motor control systems.

2.3 SOLAR SHADE FILMS with RAYFLECT HEAT REJECTION LAYER

- A. Visually Transparent Solar Shade Film: Halcyon Shades, Traditional
 1. Bronze/Silver TR: Total Solar Reflectance - 79%, Visible Light Transmittance – 2%, Glare Reduction – 98%
 2. Grey/Silver TR: Total Solar Reflectance - 81%, Visible Light Transmittance – 2%, Glare Reduction – 98%
 3. Bronze/Silver TR: Total Solar Reflectance - 64%, Visible Light Transmittance – 17%, Glare Reduction – 81%
 4. Bronze/Silver/Bronze TR: Total Solar Reflectance - 20%, Visible Light Transmittance – 13%, Glare Reduction – 85%
 5. Grey/Silver/Grey TR: Total Solar Reflectance - 62%, Visible Light Transmittance – 7%, Glare Reduction – 92%
 6. Light Grey TR: Total Solar Reflectance - 17%, Visible Light Transmittance – 40%, Glare Reduction – 55%
 7. Steel Blue/Silver/Steel Blue TR: Total Solar Reflectance - 15%, Visible Light Transmittance – 4%, Glare Reduction – 9%
- B. Visually Transparent Solar Shade Film: Halcyon Shade, Embossed
 1. Bronze/Silver EM: Total Solar Reflectance - 78%, Visible Light Transmittance – 3%, Glare Reduction – 97%
 2. Grey/Silver EM: Total Solar Reflectance - 69%, Visible Light Transmittance – 3%, Glare Reduction – 97%
 3. Bronze/Silver EM: Total Solar Reflectance - 67%, Visible Light Transmittance – 8%, Glare Reduction – 91%
 4. Bronze/Silver/Bronze EM: Total Solar Reflectance - 18%, Visible Light Transmittance – 12%, Glare Reduction – 86%
 5. Green/Silver EM: Total Solar Reflectance - 67%, Visible Light Transmittance – 13%, Glare Reduction – 91%
 6. Grey/Silver EM: Total Solar Reflectance - 56%, Visible Light Transmittance – 8%, Glare Reduction – 91%
 7. Grey/Silver/Grey EM: Total Solar Reflectance - 17%, Visible Light Transmittance – 9%, Glare Reduction – 90%
- C. Visually Transparent Solar Shade Film: Halcyon Shades, Soft Pleat
 1. Grey/Grey SP: Total Solar Reflectance – 17%, Visible Transmittance – 9%, Glare Reduction – 90%
- D. Room Darkening Solar Shade Film: Halcyon Shades, Black-Out Embossed
 1. White/Silver/White EM: Total Solar Reflectance - 81%, Visible Light Transmittance – 0.1%, Glare Reduction – 100%

2.4 SHADE WEB

- A. Shade Webs: Construction of shade web includes the shade film, the weight bar, shade roller tube, and the attachment of the shade web to the roller tube. Sewn hems and open hem pockets shall not be acceptable.
 1. Weight Bars: a recyclable aluminum extruded weight bar attached by means of an adhesive to the bottom of the film web. The weight bar shall be designed to accommodate the use of “hold-down” pins or brackets and shall be the precise width of the film web. Weight bar construction and weight bar shall be similar for all shades within one room, unless otherwise specified by the architect.
 2. Shade Web and Shade Roller Attachment:

- a. Use extruded aluminum shade roller tube of a diameter and wall thickness required to support shade fabric without excessive deflection. Roller tubes less than 1.125 inch (28.58mm) in diameter for manual shades, and less than 1.25 inches (31.7 mm) for motorized shades shall not be acceptable.
- b. Provide for positive mechanical engagement with drive / brake mechanism.
- c. Attachments with adhesives are acceptable.

2.5 SHADE FABRICATION

- A. Fabricate units to completely fill existing openings from head to sill and jamb-to-jamb, unless specifically indicated otherwise.
- B. Fabricate film web to hang flat without buckling or distortion. Fabricate unguided film web to roll true and straight without shifting sideways more than 1/8 inch (3.18mm) in either direction per 8 feet (2438m) of shade height due to warp distortion or embossed design.

2.6 SHADE MOTOR DRIVE SYSTEM

- A. Shade Motors:
 - 1. Tubular, asynchronous (non-synchronous) motors, with built-in reversible capacitor operating at 110v AC (60hz), single phase, temperature Class A, thermally protected, totally enclosed, maintenance free with line voltage power supply equipped with locking disconnect plug assembly furnished with each motor.
 - 2. Conceal motors inside shade roller tube.
 - 3. Maximum current draw for each shade motor of 2.3 amps.
 - 4. Use motors rated at the same nominal speed for all shades in the same room.
- B. Total hanging weight of shade band shall not exceed 80 percent of the rated lifting capacity of the shade motor and tube assembly.

2.7 MOTOR CONTROL SYSTEMS

- A. Motorization (RF) with Remote Option – easy to use radio frequency motorized remote control options; motors are small and wireless and are completely concealed. No assembly required, shipped ready.
 - 1. Telis 1 RTS: Single Channel RF remote operates multi shades at the same time.
 - 2. Telis 4 RTS: Multi Channel RF remote operates multi shades and groups at the same time.
 - 3. DecoFlex WireFree™ RTS 5 RF Wall Switch: Multi Channel RF wireless wall switch that operates five window coverings or five groups of window coverings. Up, down and stop functions and favorite position on each channel.
- B. Motorization (DC) with Remote Option
 - 1. TO BE COMPLETED

2.8 CONFIGURATIONS

- A. Mounting options
 - 1. Inside – measured from jamb to jamb
 - 2. Outside – add 1/2" to measurement for each end of the normal measurement
- B. Roll Configuration
 - 1. Regular Roll – allows the material to roll down from the rear of the shade. Regular roll is standard unless noted otherwise
 - 2. Reverse Roll – the material will roll over the front of the shade and is used if there is obstacle in the window such as a crank handle. Cannot reverse roll in valance or fascia.

- C. Tapered shape – allows for windows with a different top angle to bottom angle. The bottom portion of the shade must always be smaller than the top.
- D. Two-On-One-Cassette – two shades that open and close independently. Sharing the same cassette. An option for side-by-side windows or wide windows where individual operation are preferred.

2.9 ACCESSORIES

- A. Exposed Roller/Clutch – RollEase Clutch systems are used on all shades for smooth, precise raising and lowering, designed to hold shade at the desired height. Clutch rollers come with universal mounting brackets that may be used for all types of mounting. Shades can be mounted for either right of left-handed operation. Spring roller available upon request.
 - 1. Color: Black, White
- B. Exclusive designed aluminum weight bar
 - 1. Color: Alabaster, Black, Blue, Bronze, Silver, White
- C. Control Chain – beaded control chain in heavy-duty coated plastic with a chain stop to hold at desired chain position. Child Safety-Tension device included with each shade.
 - 1. Color: Alabaster, Black, Bronze, Clear, Silver, White, or metal
- D. Valance Options
 - 1. Deluxe Basswood Valance – designed for an outside mount requiring an additional ½” on each end of the normal shade measurement.
 - a. Sizes: up to 96” width
 - b. Stains: Cherry, Maple, Oak, or stained to match
 - 2. Modern Valance – rust-proof anodized aluminum.
 - a. Sizes: 24”–144” width
 - b. Colors: Alabaster, Black, Blue, Bronze, Silver, White, other colors available upon request
 - 3. Contemporary Valance-Head rail – round face valance made of rust-proof aluminum
 - a. Sizes: 24”-144” width
 - b. Colors: White, other colors available upon request
 - 4. Fascia
 - a. Sizes: 24”-144” width
 - b. Colors: Alabaster, Bronze, Silver, White, other colors available upon request
- E. Hold-Down Clips – for doors or windows that require shade to remain stationary, prevents swinging or banging.
 - a. Colors: Clear
- F. Side Rails – reduce light gaps with silver anodized aluminum side rails, cut to size on-site during installation on each side of the window. The weight bar shall “float” inside of the railing to ensure a secure and smooth operation. Side rail openings shall be covered by a slit metalized polyester film seal that allows the weight bar to pass through the slit in the film thereby creating a thermal transfer barrier around the descending film web and weight bar. Can be used with cassette, fascia, or retro shades. Side rails shall be designed to attach to window frames and jams by either screws or adhesives.
 - a. Square Side Rail – installed with mounting clip brackets to window mullion for inside of outside mounting. Size 1 1/2”x1 1/2”
 - 1) Colors: Silver Anodized, other colors available upon request

PART 3 EXECUTION

3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.3 INSTALLATION

- A. Install roller shades level, plumb, square, and true according to manufacturer's written instructions, and located so shade band is not closer than 2 inches (50 mm) to interior face of glass. Allow proper clearances for window operation hardware.
- B. Adjust and balance roller shades to operate smoothly, easily, safely, and free from binding or malfunction throughout entire operational range.
- C. Clean solar roller shade surfaces after installation, according to manufacturer's written instructions.
- D. Engage Installer to train Owner's maintenance personnel to adjust, operate and maintain roller shade systems.

3.4 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION