

PHASE 1 AND 2 COMBINED  
BURNS ROAD COMMUNITY CENTER

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 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes roller window shades.
  - 1. Manually operated.
  - 2. Motorized.
- B. Related Sections include the following:
  - 1. Division 26 sections for electrical requirements.

1.3 SUBMITTALS

- A. Product Data: For each type of product indicated. Include styles, material descriptions, construction details, dimensions of individual components and profiles, features, finishes, and operating instructions.
- B. Shop Drawings: Show location and extent of roller shades. Include elevations, sections, details, and dimensions not shown in Product Data. Show installation details, mountings, attachments to other work, operational clearances, and relationship to adjoining work.
- C. Samples for Initial Selection: For each colored component of each type of shade indicated.
  - 1. Include similar Samples of accessories involving color selection.
- D. Samples for Verification:
  - 1. Complete, full-size operating unit not less than 16 inches wide for each type of roller shade indicated.
  - 2. For the following products:
    - a. Shade Material: Not less than 3 inches square, with specified treatments applied. Mark face of material.
- E. Window Treatment Schedule: For roller shades. Use same designations indicated on Drawings.
- F. Product Certificates: For each type of roller shade, signed by product manufacturer.
- G. Qualification Data: For Installer.
- H. Product Test Reports: For each type of roller shade.

PHASE 1 AND 2 COMBINED  
BURNS ROAD COMMUNITY CENTER

- I. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, for each type of roller shade.
- J. Maintenance Data: For roller shades to include in maintenance manuals. Include the following:
  - 1. Methods for maintaining roller shades and finishes.
  - 2. Precautions about cleaning materials and methods that could be detrimental to fabrics, finishes, and performance.
  - 3. Operating hardware.

1.4 QUALITY ASSURANCE

- A. Comply with Title 19, Article 3-08.
- B. Installer Qualifications: Fabricator of products.
- C. Source Limitations: Obtain roller shades through one source from a single manufacturer.
- D. Fire-Test-Response Characteristics: Provide roller shade band materials with the fire-test-response characteristics indicated, as determined by testing identical products per test method indicated below by UL or another testing and listing approved by CSFM.
  - 1. Flame-Resistance Ratings: Passes NFPA 701.
- E. Product Standard: Provide roller shades complying with WCMA A 100.1.
- F. 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.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver shades in factory packages, marked with manufacturer and product name, fire-test-response characteristics, and location of installation using same designations indicated on Drawings and in a window treatment schedule.

1.6 PROJECT CONDITIONS

- A. Environmental Limitations: Do not install roller shades until construction and wet and dirty finish work in spaces, including painting, is complete 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 operable glazed units' operation hardware throughout the entire operating range. Notify Architect of discrepancies. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

PHASE 1 AND 2 COMBINED  
BURNS ROAD COMMUNITY CENTER

1.7 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of roller shades that fails in materials or workmanship within specified warranty period.
  - 1. Warranty Period: Lifetime.
- B. Installer's Warranty: 1 year.

1.8 EXTRA MATERIALS

- A. Furnish extra materials described below that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
  - 1. Rollers Shades: Before installation begins, for each size, color, texture, and pattern indicated, full-size units equal to 5 percent of amount installed, but not fewer than 2 units.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Roller Shades: Subject to compliance with requirements, provide either the named product or an equal product by one of the other manufacturers specified.
  - 1. ~~Mecho 5~~ by MechoShade Systems, Inc. (Basis of Design)
  - 2. Draper Inc.
  - 3. Silent Gliss USA, Inc.
  - 4. Hunter Douglas.
  - 5. Or equal.

2.2 ROLLER SHADES

- A. Type: Both motorized and manual operation as indicated on Drawings.
- B. Configuration: Solar shadecloth.
- C. Solar Shade Cloth:
  - 1. ThermoVeil 1300 Series basket weave shadeclths in 2 non-directional 2 x 2 basket-weave. Uniform scrim effect at the window wall with appropriate densities for sun control.
  - 2. Content: 79% vinyl, 21% polyester core.
  - 3. UV Test 200 sun-fade hours: None
  - 4. 500 sun-fade hours: 5%.
  - 5. Openness Factor:  $\pm 5\%$ .
  - 6. Color: Selected from manufacturer's standard colors.

PHASE 1 AND 2 COMBINED  
BURNS ROAD COMMUNITY CENTER

2.3 ACCESSORIES

- A. Roller Shade Pocket: For recessed mounting in acoustical tile, or drywall ceilings as indicated on the Drawings.
1. Product: 1-1/2" by 6" clear anodized aluminum.
  2. Provide either extruded aluminum and or formed steel shade pocket, sized to accommodate roller shades, with exposed extruded aluminum closure mount, tile support and removable closure panel to provide access to shades.
    - a. Provide "Vented Pocket" such that there will be a minimum of four 1 inch diameter holes per foot allowing the solar gain to flow above the ceiling line.
  3. Pocket Accessories: As indicated on the Drawings.
- B. Fascia:
1. Continuous removable extruded aluminum fascia that attaches to shade mounting brackets without the use of adhesives, magnetic strips, or exposed fasteners.
  2. Fascia shall be able to be installed across two or more shade bands in one piece.
  3. Fascia shall fully conceal brackets, shade roller and fabric on the tube.
  4. Provide bracket / fascia end caps where mounting conditions expose outside of roller shade brackets.
  5. Notching of Fascia for manual chain shall not be acceptable.

2.4 SHADE BAND

- A. Shade Bands: Construction of shade band includes the fabric, the hem weight, hem-pocket, shade roller tube, and the attachment of the shade band to the roller tube. Sewn hems and open hem pockets are not acceptable.
1. Hem Pockets and Hem Weights: Fabric hem pocket with RF-welded seams (including welded ends) and concealed hem weights. Hem weights shall be of appropriate size and weight for shade band. Hem weight shall be continuous inside a sealed hem pocket. Hem pocket construction and hem weights shall be similar, for all shades within one room.
  2. Shade Band 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 1.55 inch in diameter for manual shades, and less than 2.55 inches for motorize shades are not acceptable.
    - b. Provide for positive mechanical engagement with drive / brake mechanism.
    - c. Provide for positive mechanical attachment of shade band to roller tube; shade band shall be made removable / replaceable with a "snap-on" snap-off" spline mounting, without having to remove shade roller from shade brackets.
    - d. Mounting spline shall not require use of adhesives, adhesive tapes, staples, and/or rivets.
    - e. Any method of attaching shade band to roller tube that requires the use of: adhesive, adhesive tapes, staples, and/or rivets are not 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.

PHASE 1 AND 2 COMBINED  
BURNS ROAD COMMUNITY CENTER

- B. Fabricate shadecloth to hang flat without buckling or distortion. Fabricate with heat-sealed trimmed edges to hang straight without curling or raveling. Fabricate unguided shadecloth to roll true and straight without shifting sideways more than 1/8 inch in either direction per 8 feet of shade height due to warp distortion or weave design. Fabricate hem as follows:
  - 1. Standard concealed hem bar.

2.6 COMPONENTS

- A. Access and Material Requirements:
  - 1. Provide shade hardware allowing for the removal of shade roller tube from brackets without removing hardware from opening and without requiring end or center supports to be removed.
  - 2. Provide shade hardware that allows for removal and re-mounting of the shade bands without having to remove the shade tube, drive or operating support brackets.
  - 3. Use only Delrin engineered plastics by DuPont for all plastic components of shade hardware. Styrene based plastics, and /or polyester, or reinforced polyester will not be acceptable.
  
- A. 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 factory-rewired motor controls, power disconnect switch, enclosures protecting controls and operating parts, and accessories required for reliable operation without malfunction. Include wiring 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, and marked for intended location and application.
  - 2. Electric Motor: Manufacturer's standard tubular, enclosed in roller.
  - 3. Remote Control: Electric controls with NEMA ICS 6, Type 1 enclosure for recessed or flush mounting. Provide the following for remote-control activation of shades:
    - a. Individual Switch Control Station: Three-position, toggle-style, wall-switch-operated control station with open, close, and center off functions.
    - b. Group Control Station: Three-position, rocker-style, wall-switch-operated control station with open, close, and center off functions for single-switch group control.
    - c. Microprocessor Control: Electronic programmable means for setting, changing, and adjusting control features; isolated from voltage spikes and surges.
  - 4. Limit Switches: Adjustable switches interlocked with motor controls and set to stop shades automatically at fully raised and fully lowered positions.
  - 5. Operating Features:
    - a. Group switching with integrated switch control; single faceplate for multiple switch cutouts.
  
- B. Manual Operated Chain Drive Hardware and Brackets:
  - 1. Provide for universal, regular and offset drive capacity, allowing drive chain to fall at front, rear or non-offset for all shade drive end brackets. Universal offset shall be adjustable for future change.
  - 2. Provide hardware capable for installation of a removable fascia, for both regular and/or reverse roll, which shall be installed without exposed fastening devices of any kind.
  - 3. Provide shade hardware system that allows for removable regular and/or reverse roll fascias to be mounted continuously across two or more shade bands without requiring exposed fasteners of any kind.

PHASE 1 AND 2 COMBINED  
BURNS ROAD COMMUNITY CENTER

4. Provide shade hardware system that allows for operation of multiple shade bands (multi-banded shades) by a single chain operator, subject to manufacturer's design criteria. Connectors shall be offset to assure alignment from the first to the last shade band.
5. Provide shade hardware system that allows multi-banded manually operated shades to be capable of smooth operation when the axis is offset a maximum of 6 degrees on each side of the plane perpendicular to the radial line of the curve, for a 12 degrees total offset.
6. Provide positive mechanical engagement of drive mechanism to shade roller tube. Friction fit connectors for drive mechanism connection to shade roller tube are not acceptable
7. Provide shade hardware constructed of minimum 1/8-inch thick plated steel or heavier as required to support 150 percent of the full weight of each shade.
8. Drive Bracket / Brake Assembly:
  - a. MechoShade Drive Bracket model shall be fully integrated with all MechoShade accessories, including, but not limited to: SnapLoc fascia, room darkening side / sill channels, center supports and connectors for multi-banded shades.
  - b. M5 drive sprocket and brake assembly shall rotate and be supported on a welded 3/8 inch steel pin.
  - c. The brake shall be an over-running clutch design which disengages to 90 percent during the raising and lowering of a shade. The brake shall withstand a pull force of 50 lbs. in the stopped position.
  - d. The braking mechanism shall be applied to an oil-impregnated hub on to which the brake system is mounted. The oil impregnated hub design includes an articulated brake assembly, which assures a smooth, non-jerky operation in raising and lowering the shades. The assembly shall be permanently lubricated. Products that require externally applied lubrication and or not permanently lubricated are not acceptable.
  - e. The entire M5 assembly shall be fully mounted on the steel support bracket, and fully independent of the shade tube assembly, which may be removed and reinstalled without effecting the roller shade limit adjustments.
  - f. Drive Chain: #10 qualified stainless steel chain rated to 90 lb. minimum breaking strength. Nickel plate chain shall not be accepted.

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.
  1. 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, and located so shade band is not closer than 2 inches to interior face of glass. Allow clearances for window operation hardware.

PHASE 1 AND 2 COMBINED  
BURNS ROAD COMMUNITY CENTER

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.

END OF SECTION 122413