

**SECTION 12 24 00**  
**WINDOW SHADES**

**PART 1 - GENERAL**

**1.1 DESCRIPTION**

Cloth or woven roller shades are specified in this section. Window shades shall be furnished complete, including brackets, fittings and hardware.

**1.2 RELATED WORK**

- A. Color of material and color of exposed parts of roller shades, including header and controls: Section 09 06 00, SCHEDULE FOR FINISHES.
- B. Green Globes for New Construction (NC) 2013: Section 01 81 11, SUSTAINABLE DESIGN REQUIREMENTS.

**1.3 QUALITY CONTROL**

Manufacturer Qualifications: Obtain roller shades system through one source from a single manufacturer with a minimum of ten years experience and minimum of five projects of similar scope and size in manufacturing products comparable to those specified in this section. This includes but is not limited to all required extrusions, accessories, controls and fabricated roller shades or else all stated and published warranties may be void.

**1.4 SUBMITTALS**

- A. Submit in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.
- B. Green Globes for New Construction (NC) 2013 Submittals: Section 01 81 11 SUSTAINABLE DESIGN REQUIREMENTS:
  - 2. For compliance with criteria 3.5.2.2 Path B: Prescriptive Path for Interior Fit-outs.
  - 3. For compliance with Volatile Organic Compounds.
- C. Shop Drawings: Show design and installation details.
- D. Manufacturer's literature and data, showing details of construction and hardware for: Manual Roller Shades
- E. Test Report: Showing that material complies with specified fire and safety code requirements.
- F. Samples:
  - 1. Shade material, 300 mm (12 inches) long, including controls, mounting and associated hardware showing color and finish.

**1.5 APPLICABLE PUBLICATIONS**

- A. The publications listed below form a part of this specification to the extent referenced. The publications are referenced to in the text by the basic designation only.
- B. Federal Specifications (Fed. Spec.):  
AA-V-00200B.....Venetian Blinds, Shade, Roller, Window, Roller, Slat, Cord, and Accessories
- C. American Society for Testing and Materials (ASTM):  
D1784-08.....Rigid Poly (Vinyl Chloride) (PVC) Compounds and Chlorinated Poly (Vinyl Chloride) (CPVC)  
Compounds referenced Applicable Publications.
- D. Green Globes for New Construction Technical Reference Manual, Version 1.1, July 18, 2013.

**PART 2 - PRODUCTS**

**2.1 MATERIALS**

A. Visually Transparent Single-Fabric Shadecloth: MechoSystems, ThermoVeil® group, single thickness, opaque non-raveling 0.030-inch (0.762 mm) thick vinyl fabric, woven from 0.018-inch (0.457 mm) diameter extruded vinyl yarn comprising of 21 percent polyester and 79 percent reinforced vinyl, in colors selected from manufacturer's available range.

**2.3 FASTENINGS**

A. Zinc-coated or cadmium plated metal, aluminum or stainless steel fastenings of proper length and type. Except as otherwise specified, fastenings for use with various structural materials shall be as follows:

Type of Fastening	Structural Material
Wood screw	Wood
Tap screw	Metal
Case-hardened, self-tapping screw	Sheet Metal
Screw or bolt in expansion shields	Solid masonry
Toggle bolts	Hollow blocks, wallboard and plaster

**2.6 FABRICATION**

- A. Fabricate shades to fit measurements of finished openings obtained at site for Inside Mount.
- 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.
  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 (3.18 mm) 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 M5 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 (9.525 mm) 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. (22 kg) 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.
9. Drive Chain: #10 qualified stainless steel chain rated to 90 lb. (41 kg) minimum breaking strength. Nickel plate chain shall not be accepted.

**C. Fascia:**

- 1. Continuous removable extruded aluminum fascia that attaches to shade mounting brackets without the use of adhesive, 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.

**PART 3 - EXECUTION**

**3.1 INSTALLATION**

- A. Contractor shall be responsible for field inspection on an area-by-area and floor-by-floor basis during construction to confirm proper mounting conditions per approved shop drawings.

- B. Verification of Conditions: examine the areas to receive the work and the conditions under which the work would be performed and notify General Contractor and Owner of conditions detrimental to the proper and timely completion of the work. Do not proceed until unsatisfactory conditions have been corrected. Commencement of installation shall constitute acceptance of substrate conditions by the installer.
  - C. Contractor shall provide accurate to 0.0625 inch (1.5875mm); field measurements for custom shade fabrication on the Roller Shades manufacturers input forms.
  - D. Installer shall install roller shades level, plumb, square, and true according to manufacturer's written instructions, and as specified here in. Blocking for roller shades installed under the contract of the interior General Contractor shall be installed plumb, level, and fitted to window mullion in accordance with industry standard tolerances. The horizontal surface of the shade pocket shall not be out-of-level more than 0.625 inch(15.875mm) over 20 linear feet (6.096 meters)
  - E. Shades shall be located so the shade band is not closer than 2 inches (50 mm) to the interior face of the glass. Allow proper clearances for window operation hardware.
  - F. Adjust, align and balance roller shades to operate smoothly, easily, safely, and free from binding or malfunction throughout entire operational range.
  - G. Clean roller shade surfaces after installation, according to manufacturer's written instructions.
6. Protect roller shades against defacements, warpage, or bending of fascia or headrails. Warped, damaged, or bent shades or components shall be removed from the site immediately and replaced. Scratching or other defacements shall be repaired at the Contractor's expense.

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