

SECTION 12 24 00
WINDOW SHADES

PART 1 - GENERAL

1.1 DESCRIPTION

Cloth shades, vertical blinds and venetian blinds are specified in this section. Window shades shall be furnished complete, including brackets, fittings and hardware.

1.2 RELATED WORK

- A. Color of shade cloth and color of exposed parts of venetian blinds, (including tapes and cords) and color of vertical blinds: Section 09 06 00, SCHEDULE FOR FINISHES.
- B. Lightproof Shades: Section 12 24 21, LIGHTPROOF SHADES.

1.3 QUALITY CONTROL

Manufacturer's Qualification: Venetian blind and vertical blind manufacturer shall provide evidence that the manufacture of blinds are a major product, and that the blinds have performed satisfactorily on similar installations.

1.4 SUBMITTALS

- A. Submit in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.
- B. Samples:
 - 1. Shade cloth, each type, 600 mm (24 inch) square, including cord and ring, showing color, finish and texture.
 - 2. Vertical blind slats, 300 mm (12 inches) long, including chain and supporting channels, showing color and finish.
 - 3. Venetian blind slats, 300 mm (12 inches) long, including cord and tape, showing color and finish.
- C. Manufacturer's literature and data; showing details of construction and hardware for:
 - Cloth and window shades
 - Vertical blinds
 - Venetian blinds

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):
- A167-99(R2009).....Stainless and heat-Resisting Chromium-Nickel
Steel Plate, Sheet and Strip
- B221/B221M-08.....Aluminum-Alloy Extruded Bars, Rods, Wire,
Shapes, and Tubes
- D635-10.....Rate of Burning and/or Extent and Time of
Burning of Self-Supporting Plastics in a
Horizontal Position
- D648-07.....Deflection Temperature of Plastics Under
Flexural Load in the Edgewise Position
- D1784-08.....Rigid Poly (Vinyl Chloride) (PVC) Compounds and
Chlorinated Poly (Vinyl Chloride) (CPVC)
Compounds

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Shade Cloth: opaque.
- B. Staples (For Cloth Window Shades): Nonferrous metal or zinc-coated steel.
- C. Stainless Steel: ASTM A167
- D. Cords for Venetian Blinds: No. 4 braided nylon or No. 4-1/2 braided cotton having not less than 175 pounds breaking strength.
- E. Extruded Aluminum: ASTM B221/B221M.

2.2 VENETIAN BLINDS

Fed. Spec. AA-V-00200, Type I, 50 mm (two inch slat) fabricated of aluminum. Pre-production sample is not required.

2.3 VERTICAL BLIND LOUVER BLADES

Rigid polyvinyl chloride, light stable, ASTM D1784, Type I, Grade 2, not less than 0.6 mm (0.025 inch) thick, 90 mm (3-1/2 inches) wide, and with beaded edges on each side of not less than 1.2 mm (0.050 inch). Louvers shall withstand 80°C (180 degrees F) head chamber for thirty minutes without distortion; shrinkage or stretching for no more than one half of one percent as tested by ASTM D648. Louvers shall be opaque and of plain finish, and permanently flame retardant as tested by ASTM D635.

2.4 VENETIAN BLINDS AND SHADES ENCLOSED IN WINDOWS

Shades or blinds inside of windows panes shall be used at Mental Health and Behavioral Nursing Units. There shall be no cords or ropes attached

and curtains shall not be used. Hardware should be flush with the walls so that it can't be used to secure a nose. Hardware should also be tamper proof to prevent removal for use as a weapon or for self harm.

2.5 FASTENINGS

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: cloth shades, venetian blinds, or vertical blinds to fit measurements of finished openings obtained at site.
- B. Cloth Window Shades: Rolling type, constructed of shade cloth mounted on rollers. Shade cloth shall have plain sides, and with hem at bottom to accommodate wood slat. Separate shades are required for each individual sash within opening. Length of shades shall exceed height of window approximately 300 mm (12 inches) measured from head to sill, in addition to material required to make-up hem:
 1. Provide rollers with spindles, nylon bearings, tempered steel springs, and all other related accessories required for positive action. Provide rollers of diameter recommended by shade manufacturer. Staple shade cloth to wood rollers to prevent wrinkling or folding, and on line parallel to axis of rollers so that shade will hang plumb. Space staples not over 90 mm (3-1/2 inches) on centers. Use of tacks is prohibited.
 2. Wood slats shall be smooth, tapered, and inserted in the bottom hem of the shade cloth.
 3. Eyelets shall have clear openings large enough to accommodate cords. Edges of eyelets shall not cut into cloth when set.

4. Cords shall be of sufficient length to permit shades to be drawn to bottom of opening with ends looped and held with cord rings. Attach cords to hems through metal eyelets in center of slats in bottom hems.
- C. Venetian Blinds: Venetian blinds shall have 25 mm (one inch) width horizontal slats positioned within ladder tapes. Multiple blinds in openings are to be of same type and divided at mullions.
1. Head-rails shall fully enclose operating mechanism on three sides and ends.
 2. Bottom rails shall be fully enclosed to prevent contact of tapes and sill at underside.
 3. Finish concealed metal work of head-rails including concealed mechanism, with one shop coat of paint. Do not paint parts that have non-rusting finish, or parts where motion of friction occurs.
- D. Vertical Blinds: Traversing type with rotating louvers positioned between window head and sill rails, and including hardware, brackets, anchors, fastenings and accessories.
1. Head and sill rails shall be one piece, extruded aluminum, full length with capped ends. Concealed surfaces shall be of manufacturer's standard finish. Exposed surfaces shall match finish on windows.
 2. Provide carrier trucks for head and sill rails for each louver blade, with two, aluminum or steel, ball bearing wheels, mounted on acetal resin axles. Louvers shall be held fixed until reset by control. Stainless steel, full hard, flexible spacer links shall space and stabilize each truck by passing smoothly between stabilizer guides on each truck. No glides or sliders shall be allowed. Louvers shall traverse at any angle without binding.
 3. Louvers shall be kept taut between head and sill rails with a minimum of one to a maximum of 1 Kg (2-1/2 pounds) of spring tension.
 4. Traversing shall be split draw and shall be accomplished by an anodized aluminum, spiral lead screw extending the full length of the channel, actuating a lead nut, and controlled by a nickel plated brass or stainless steel bead chain. Blinds shall pack when traversed to not more than 11 mm (7/16-inch) per louver plus space for end caps and end spacer tubes.
 5. All louvers shall overlap not less than 9 mm (3/8-inch). Louvers shall operate manually in opposite direction from normal traverse, and end louver shall be firmly fixed by a friction spacer or anti-creep pin.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Cloth Window Shades: Mount window shades on end of face brackets, set on metal gussets, or casing of windows as required. Provide extension face brackets where necessary at mullions.
 - 1. Locate rollers in level position as high as practicable at heads of windows to prevent infiltration of light over rollers.
 - 2. Where extension brackets are necessary, on mullions or elsewhere, for alignment of shades, provide metal lugs, and rigidly anchor lugs and brackets.
 - 3. Place brackets and rollers so that shades will not interfere with window and screen hardware.
 - 4. Shade installation methods not specifically described, are subject to approval of COTR.
- B. Venetian Blinds: Support blinds in level position by brackets and intermediate supports that will permit easy removal and replacement of units without damage to blind, or adjacent surfaces. Provide at least two fasteners for each bracket or other support.
 - 1. Install blinds between jambs on window openings with steel trim. Mount brackets on trim reveal, flush with face of trim and secure with steel screws.
 - 2. Install blinds between jambs on window openings with wood trim. Mount brackets on trim or on wood plaster-mold set against plaster or other wall finish, and secure in place with screws.
 - 3. Mount brackets and intermediate supports of lobby blinds on face of trim members, and secure with stainless steel standard tap or thread-forming machine screws, or by cadmium-plated molley or toggle bolts. Screws and bolts shall penetrate through and lock behind steel sub-frame.
 - 4. Where blinds abut glass partitions of Vestibules, extend head rails to trim at head of partition frame with slats sufficiently long to clear transom bars.
 - 5. Provide one brush (for each 1 to 50 blind) of an approved type, suitable for cleaning blinds.
- C. Vertical Blinds:
 - 1. Support blinds in level position that will permit easy removal and replacement of units without damage to blind or adjacent surfaces. Provide at least one fastener for each 500 mm (20 inches) of width, with end screws maximum of 75 mm (three inches) from end.

2. Protect vertical blinds against defacements, warpage of slats, or bending of rails. Warped or damaged slats, or bent rails shall be removed from the site immediately and replaced. Scratching or other defacements shall be repaired at the Contractor's expense and as approved by the Resident Engineer.

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