

SECTION 12 21 16

VERTICAL LOUVER BLINDS

PART 1 GENERAL

1.01 SUMMARY

- A. Section Includes:
 - 1. Vertical louver blinds at [all sliding doors,] [adjacent fixed glazing,] [and] [_____].
 - 2. [Electric motor operators.]
- B. Related Sections:
 - 1. Section 06 10 00 - Rough Carpentry: Concealed wood blocking for attachment of headrail brackets.
 - 2. [Section 12 21 13 - Horizontal Louver Blinds.]

1.02 DEFINITIONS

- A. Light and Privacy Scale:
 - 1. Level One: Reduces glare and still reveals considerable details to the outside, provides no privacy.
 - 2. Level Two: Softens the light and still reveals some details to the outside. Provides moderate privacy.
 - 3. Level Three: Softens the light but reveals shadow-like outlines to the outside, provides substantial privacy.
 - 4. Level Four: Diffuses the light and reveals no shape or details to the outside. Provides complete privacy and room-darkening options.
 - 5. Level Five: Blocks virtually all the light and provides the most privacy and light control available.

1.03 REFERENCE STANDARDS

- A. National Fire Protection Association:
 - 1. NFPA 701 - Standard Methods of Fire Tests for Flame Propagation of Textiles and Films.
- B. Window Covering Manufacturers Association:
 - 1. WCMA A100.1 - Safety of Corded Window Covering Products.

1.04 ADMINISTRATIVE REQUIREMENTS

- A. Coordination:
 - 1. Coordinate the Work with window installation and placement of concealed blocking to support vertical louver blinds.
 - 2. Coordinate vertical louver blinds details with details of adjacent work to assure proper installation.
- B. [Preinstallation Meeting:]
- C. [Sequencing:]
- D. Scheduling:
 - 1. Do not start installation before openings are finished and all finishes have been completed; do not install until painting is completed.

1.05 [SUSTAINABLE CHARACTERISTICS]

A. Section 01 35 63 - Sustainability Project Requirements: Requirements for sustainable design compliance.

B. Materials and Resources Characteristics:

1. [Recycled Content Materials: Furnish materials with maximum available recycled content including:

SPEC NOTE *List materials specified in this section required to have recycled content.*

a. [_____.]

2. [Regional Materials: Furnish materials extracted, processed, and manufactured within 500 miles of Project site.]

SPEC NOTE *List materials specified in this section required to be regional materials.*

a. [_____.]

1.06 SUBMITTALS

A. See Section 01 33 00 - Submittal Procedures, for submittal procedures.

B. Product Data: Manufacturer's data sheets on each product to be used, including:

1. Preparation instructions and recommendations.
2. Physical and dimensional characteristics
3. Storage and handling requirements and recommendations.
4. Installation methods.

C. Certification: Provide certification that product complies with WCMA A100.1.

D. Shop Drawings: Indicate opening sizes, tolerances required, method of attachment, clearances, operation, and relationship to adjacent work.

E. Samples: Submit 4 samples, 6-inch-long illustrating slat materials and finish, color, cord type and color.

F. Project Record Documents: Record actual locations of pull chains and direction of travel.

G. Operation and Maintenance Data: Manufacturer's data on repair and replacement of vanes, chains, and other parts.

1.07 [SUSTAINABLE DESIGN SUBMITTALS]

A. Section 01 35 63 - Sustainability Project Requirements: Requirements for sustainable design submittals.

B. Manufacturer's Certificate: Certify products meet or exceed specified sustainable design requirements.

1. Materials Resources Certificates:

- a. Certify source and origin for [salvaged] [and] [reused] products.
- b. Certify recycled material content for recycled content products.
- c. Certify source for regional materials and distance from Project site.

C. Product Cost Data: Submit cost of products to verify compliance with Project sustainable design requirements. Exclude cost of labor and equipment to install products.

1. Provide cost data for the following products:

- a. [Salvage products.]
- b. [Reused products.]

- c. Products with recycled material content.
- d. Regional products.

1.08 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section, with not less than three years of documented experience.
- B. Installer Qualifications: Company specializing in performing work of this type with minimum five years of documented experience.
- C. Mock-Up: For evaluation of light and privacy characteristics only, provide a mock-up at least 2 feet wide by 3 feet high of louvers intended for use.
 - 1. Mock-up may not be incorporated into the project and will become the property of the University.
 - 2. [Full-sized mock-up may become part of the final installation.]
 - 3. [Full-sized mock-up will become the property of the University to be used for spare parts.]

1.09 DELIVERY, STORAGE, AND PROTECTION

- A. Deliver vertical louver blinds in factory-labeled packages, marked with manufacturer and product name, and location of installation using same room designations indicated on Drawings.
- B. Individually package and mark shades with room number and opening number.
- C. Inspect the materials upon delivery to assure that specified products have been received.
- D. Store and handle shades to prevent damage to fabrics, finishes, and operators prior to installation
- E. Store delivered products in clean, safe, dry area.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Vertical Louver Blinds:
 - 1. Hunter Douglas Contract.
 - 2. Levolor Contract, Division of Newell Rubbermaid, Inc.
 - 3. Graber, Division of Springs Industries, Inc.
 - 4. or equal.
 - 5. [The same manufacturer as for horizontal blinds, to obtain match.]

2.02 BLINDS AND BLIND COMPONENTS

- A. Vertical Louver Blinds: Horizontal travel, vertical louver units complete with tracks, pivot and traversing mechanisms, and accessories, as follows:
 - 1. Louvers: PVC louver blades of the size indicated.
 - 2. Operation: Electric motor operated.
 - 3. Direction of Travel: As indicated on the drawings.
 - 4. Mounting: Inside (between jambs).
 - 5. Cord and Chain Operation: Comply with WCMA A100.1.

- B. Tracks: Channel tracks as required for type of operation, extruded aluminum with clear anodized finish, with end caps.
 - 1. Dimensions: Manufacturer's standard, selected for suitability for installation conditions, span, and weight of louvers.
 - 2. Dimensions: Approximately 1-3/4 inches by 1-5/16 inches by 0.045-inch wall thickness.
 - 3. Louver Rotation: Chain driven direct rotation by activating tilt gear within end cap assembly in turn actuating tilt rod and worm-and-spur gears in carrier trucks.
 - 4. Operating Components: Internally mounted heavy-duty extruded aluminum tilt rod, louver carriers, and other components required for proper performance and designed for smooth, quiet, trouble-free operation.
 - 5. Pivot Mechanism: Geared for synchronous 180 degrees rotation of louver blades and type of operation indicated.
 - 6. Louver Carriers: Metal carriers with ball-bearing wheels or thermoplastic trucks, equipped with linkages or other devices to ensure positive spacing of louver blades.
 - 7. Tilt Chain: Nickel plated brass beaded ball chain, minimum 1/8-inch diameter; locate at drawback side of units as indicated.

- C. PVC Vanes: Integrally colored, extruded PVC; flat, 2 inches (50 mm) wide.
 - 1. Thickness: 0.030-inch, minimum.
 - 2. Flammability: Comply with NFPA 701.
 - 3. Color: As selected by from manufacturer's full range of colors.
 - 4. Light and Privacy: Provide perforations or other design features to achieve light and privacy equivalent to Level Two as defined herein.
 - a. Acceptance of light and privacy characteristics is subject to final approval of mock-up.

- D. Aluminum Vanes: Flat, 2 inches (50 mm) wide.
 - 1. Thickness: 0.008-inch, minimum.
 - 2. Pattern, Color, and Texture: As selected by from manufacturer's full range of colors.
 - 3. Light and Privacy: Provide perforations or other design features to achieve light and privacy equivalent to Level Two as defined herein.
 - a. Acceptance of light and privacy characteristics is subject to final approval of mock-up.

- E. Fabric Vanes: Integrally colored, extruded PVC vanes with fabric infill; flat, 2 inches (50 mm) wide.
 - 1. Fabric: Manufacturer's standard flame-resistant fabric.
 - 2. Flammability: Comply with NFPA 701.
 - 3. PVC Color: As selected by from manufacturer's full range of colors.
 - 4. Light and Privacy: Provide perforations or other design features to achieve light and privacy equivalent to Level Two as defined herein.
 - a. Acceptance of light and privacy characteristics is subject to final approval of mock-up.

- F. Brackets and Mounting Hardware: As recommended by manufacturer for the mounting configuration and span indicated; provide manufacturer's standard L- bracket with clip for outside mounting and clip only for inside mounting.

- G. Valances: To match louver design and color.
 - 1. Style: As selected by from blind manufacturer's full selection.
 - 2. Style: As indicated on the drawings.

- H. Number Plates: Number each opening and blind. Provide aluminum number plates for each blind unit and each opening. Fasten blind plate to the back of head track. Fasten opening plate on unexposed surface of the opening; alternatively, stamp number on opening.

- I. Electric Operation: Provide motor or motors, as recommended by motor manufacturer, integrated into blind operating components and concealed from view.
 1. Electrical Characteristics: 120 V AC, 60 Hz.
 2. Actuators: Wall switches located where indicated.

2.03 FABRICATION

- A. Prior to ordering or fabrication take field measurements to determine sizes required.
- B. Fabricate blinds to fit openings within specified tolerances.
 1. Vertical Dimensions: Fill openings from head to sill with 1/2-inch space between bottom of vanes and finish floor.
 2. [Horizontal Dimensions - Inside Mounting: Fill openings from jamb to jamb.]
 3. [Horizontal Dimensions - Outside Mounting: Cover window frames, trim, and casings completely.]
 4. [Horizontal Dimensions - Outside Mounting: Extend blinds on the collection side to allow full visual access to the window jamb and 6 inches beyond jamb on the other side.]
 5. [Horizontal Dimensions - Outside Mounting: Extend blind 6 inches beyond jambs on each side.]
- C. Dimensional Tolerances: Fabricate blinds to within plus/minus 1/8 inch of intended dimensions.
- D. Dimensional Tolerances: As recommended in writing by manufacturer.
- E. At openings requiring continuous multiple blind units with separate tracks, locate track joints at window mullion centers, butt tracks end-to-end.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Examine construction to support, adjoin or otherwise contact and verify that:
 1. Openings are ready to receive the work.
 2. Dimensions are correct.
 3. Adequate support will be available at time of installation.
 4. Supports are available where required by weight of items.
 5. Setting conditions are dry, clean and otherwise proper for installation.
- B. Do not install items until unsatisfactory conditions have been corrected.

3.02 PREPARATION

- A. Ensure adequate support will be available at time of installation.
- B. Clean surfaces thoroughly prior to installation.
- C. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.03 INSTALLATION

- A. Install vertical louver blinds in accordance with manufacturer's written recommendations and reviewed Shop Drawings.

- B. Install vertical louver blinds level, plumb, square, and true
- C. Secure in place with flush countersunk fasteners.
- D. Place intermediate head supports at 12 inches on center.
- E. Use manufacturer's brackets and fasteners as required to penetrate material to which attached.

3.04 INSTALLATION TOLERANCES

- A. Inside Mounting: Maximum space between vane and jamb when closed of 1/16 inch.
- B. Maximum Offset From Level: 1/16 inch.
- C. Replace vertical louver blinds that exceed specified dimensional tolerances at no extra cost to University.

3.05 ADJUSTING

- A. Adjust vertical louver blinds for smooth operation.

3.06 CLEANING

- A. Clean installed work to like-new condition just prior to occupancy.

3.07 PROTECTION OF INSTALLED WORK

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

END OF SECTION