DIVISION 12
FURNISHINGS

SECTION 12 21 13

HORIZONTAL LOUVER BLINDS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Horizontal slat louver blinds with valance.

B. Operating hardware.

1.2 RELATED SECTIONS

A. Section 09 22 16 – Non-Structural Metal Framing.

B. Section 09 29 00 – Gypsum Board.

C. Section 12 24 13 – Roller Window Shades.

1.3 SYSTEM DESCRIPTION

A. Horizontal metal slat louver blinds installed at window openings, manual control of raising and lowering by cord; blade angle adjustable by control wand.

1.4 SUBMITTALS

A. General: Submit under provisions of Section 01 33 00.

B. Submit shop drawings indicating opening sizes, tolerances required, installation at window openings, attachment method, clearances, and operation.

C. Submit product data under provisions of Section 01 33 00.

D. Submit product data indicating physical and dimensional characteristics and operating features.

E. Submit samples under provisions of Section 01 33 00.

F. Submit two samples 6" long illustrating slat materials and finish and color.

G. Submit manufacturer's installation instructions.

1.5 QUALITY ASSURANCE

A. Manufacturer: Company specializing in manufacturing the products specified in this Section.

1.6 DELIVERY, STORAGE AND HANDLING

A. Deliver products to site under provisions of Section 01 60 00.

B. Deliver blinds wrapped and crated in a manner to prevent damage to components or marring of surfaces.

C. Store and protect products under provisions of Section 01 60 00.

D. Store in a clean, dry area, laid flat and blocked off ground to prevent sagging, twisting or warping.

1.7 EXTRA MATERIALS

A. Furnish ten additional slats under provisions of Section 01 77 00.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Basis-of-Design Product: Levolor, Rivera Dust Guard 1-inch Blind.

B. Substitutions: Specified product is Building standard; no substitutions permitted.

2.2 MATERIALS

A. General: Blinds shall be free of sharp edges, burrs or other defects.

B. Louver Slats: One inch wide; nominal 0.0085" thick after finish coating, spring tempered prefinished unperforated 5000 Series magnesium aluminum horizontal slats, with manufacturing burrs removed; radiused slat corners.

C. Slat Support Yarn Dyed: Braided polyester, ladder configuration, 15.7 slats per vertical foot.

D. Head Rail Housing: Prefinished, formed steel box, .025" thick, 1" high x 19/16" wide, "U" shaped, internally fitted with hardware, pulleys and bearings for blind operation.

E. Bottom Rail: .031" thick steel.

F. Installation brackets: .048" thick steel with rivet-hinged safety locking front cover.

G. Tilter: .042" thick steel housing with a self-lubricating nylon, automatically disengaging worm and gear mechanism.

H. Lift Cord: Braided high strength, 1.4 diameter polyester fiber with a polyester core, 34 picks per inch, 16 carrier smooth braids and a minimum breaking strength of 130 lbs.

I. Control Wand: Extruded hollow transparent plastic, hexagonal cross section 5/16" across flats, removable type, length of window opening height less 12".

J. Cord Lock: .042" steel; crashproof.

K. Drum and Cradle: Provide for each ladder. Drums shall be .031" thick steel. Cradles shall be .042" thick steel.

L. Ladder Drum: Shall be injection molded thermoplastic with smooth hole edges to position ladder. Ladders shall be securely attached by means of a snap down top, eliminating the need for braided ladder clips.

M. General: Blinds shall be free of sharp edges, burrs or other defects.

N. Accessory Hardware: Type recommended by blind manufacturer.

2.3 FABRICATION

A. Fabrication: Fabricate blinds to fill openings from head to sill and jamb to jamb. Locate blind divisions at mullions.

2.4 FACTORY FINISHING

A. Blind Slat and Head Rail Housing: Color as selected by Architect.

B. Cord and ladder color to match slats and rail color.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that openings are ready to receive the work.

B. Do not commence fabrication until field measurements are confirmed.

C. Ensure structural supports are correctly placed.

D. Beginning of installation means installer accepts existing surfaces.

3.2 INSTALLATION

A. Install blinds in accordance with manufacturer's instructions.

B. Place controls for most accessible location.

C. All lift cords and tilt wands shall be of sufficient length to be accessible from a maximum of 48" above the finished floor.

D. Secure in place with concealed fasteners.

3.3 TOLERANCES

A. Maximum Variation of Gap at Window Opening Perimeter: 1/4".

B. Maximum Offset From Level: 1/8".

3.4 ADJUSTING

A. Adjust blinds for smooth operation.

3.5 CLEANING

A. Clean work under provisions of Sections 01 51 00 and 01 77 00.

END OF SECTION

SECTION 12 24 13

ROLLER WINDOW SHADES

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Manually operated roller shades.

B. Motor operated roller shades.

1.2 RELATED SECTIONS

A. Section 04 22 00 – Concrete Unit Masonry

B. Section 09 22 16 – Non-Structural Metal Framing

C. Section 09 51 13 – Acoustical Panel Ceilings

D. Division 26 – Electrical

1.3 REFERENCES

A. The publications listed below form a part of this Section to the extent referenced. The publications are referred to in the text by the basic designation only.

B. Unless otherwise noted, standards and manuals refer to the latest edition of such standards and manuals as of the date of issue of this Section.

C. Referenced Standards:

1. AAMA 2603 – Voluntary Specification, Performance Requirements and Test Procedures for Pigmented Organic Coatings on Aluminum Extrusions and Panels.
2. ASTM G21 – Standard Practice for Determining Resistance of Synthetic Polymeric Materials to Fungi
3. NFPA 701 – Methods of Fire Tests for Flame-Resistant Textiles and Films.

1.4 SUBMITTALS

A. General: Submit in accordance with Section 01 33 00.

B. Product Data: Submit manufacturer's descriptive literature and product specification for each product.

C. Shop Drawings:

1. Show locations and methods of attachment, illustrating with details any special conditions and details of abutments at corners, head and sill connection, and division between adjacent units.
2. Wiring diagrams of motorized controls.

D. Samples:

1. Submit complete roller shade assembly showing component parts.
2. Selection of metal component finishes.
3. Selection of fabric colors, weaves, and types.

E. Manufacturer's installation instructions.

F. Closeout Submittals

1. Operation and maintenance data.

1.5 QUALITY ASSURANCE

A. Qualifications

1. Manufacturer Qualifications: Firm specializing in manufacturing products specified in this Section with a minimum 5 years documented experience.
2. Supplier Qualifications: The manufacturer or its subsidiary or licensed agent approved to supply products of this Section and honor any claims against the product presented in accordance with the warranty.
3. Installer Qualifications: Firm specializing in installing work specified in this Section acceptable to manufacturer with documented experience on at least 5 projects of similar nature in past 3 years.

B. Single Source Responsibility: Furnish complete system specified in this Section produced by one manufacturer, including hardware, accessories, mounting, installation components, and software.

C. Field Samples: Provide large size sample of selected fabric for final verification of color, weave, and density as directed by Architect.

D. Pre-Installation Meetings

1. Conduct pre-installation meeting in accordance with Section 01 30 00.
2. Convene pre-installation meeting one week prior to commencing work of this Section.
3. Coordinate work in this Section with work in related Sections.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Comply with requirements of Section 01 60 00.

B. Deliver products when all concrete, masonry, plaster, painting, and other wet work have been completed and dry.

C. Deliver products in manufacturer's original containers, dry and undamaged, with seals and labels intact.

D. Store materials in a dry secure place. Protect from weather, surface contaminants, corrosion, construction traffic, and other potential damage.

1.7 ENVIRONMENTAL REQUIREMENTS

A. Shade and blackout fabric shall be PVC-free.

B. Maintain ambient temperature between 60 and 85 degrees F and relative humidity between 20 and 50 percent 24 hours before installation and maintain until the State's final acceptance.

C. Condition products at designated work areas 24 hours before installation.

1.8 WARRANTY

A. Comply with provisions of Section 01 77 00

B. Warrant installed units to be free from defects in material and workmanship as follows:

1. Manual Operating Components and Fabric: 8 years (except for bead chain, which is considered a maintenance item).
2. Roller Shade Motors: 5 years.
3. Roller shade motor control system and Electrical Components: 2 years.
4. Installation: 1 year.

C. In the event a product or component fails during warranty period, provide replacement, at no cost to the State, under provisions of Section 01 77 00.

1.9 MAINTENANCE

A. Extra Materials

1. Provide 5 percent of each type of shade mounting hardware, but not less than 1 pair for each type.
2. Provide replacement fabric completely fabricated and ready for attachment to roller tubes equal to 5 percent of the total number of each fabric type and color in the largest size required for those fabrics.

B. Operations and Maintenance Data

1. Comply with requirements of Section 01 77 00.
2. Include operation and cleaning information.

PART 2 PRODUCTS

2.1 MANUFACTURERS AND PRODUCTS

A. Acceptable Manufacturers:

1. MechoShade Systems, Inc.; 42-03 35th Street, Long Island City, NY 11101; phone: 718.729.2020; fax: 718.729.2941; URL: http://www.mechoshade.com.
2. Lutron Shading Solutions by Vimco, a division of Lutron Electronics Co., Inc.; 11520 Sun Shade Lane, Ashland, VA 23005; phone: 800.446.1503; fax: 804.752.3366; URL: http://www.vimco.com.
3. Nysan Shading Systems, 1, 115 28th Street SE, Calgary, AB Canada T2A 5K4, phone: 403.204.8675; fax: 403.204.8676; URL: http://www.nysan.com.
4. Or equal.

B. Products: Provide manually operated or motor operated roller window shades, as indicated on Drawings.

2.2 MANUALLY OPERATED WINDOW SHADES

A. Acceptable Manufacturers and Products:
   1. MechoShade Systems Inc.; Product: "MechoShade".
   2. Vimco.
   3. Nysan Shading Systems.
   4. Or equal.

B. Manual operated tubular roller shade. Provide brackets for mounting as indicated on Drawings.

C. Roller tube:
   1. Enameled roll-formed steel or extruded aluminum alloy.
   2. Diameter: Sufficient diameter and thickness to prevent excessive deflection. Brackets provided for mounting as indicated on Drawings.

D. Operator and Clutch/Brake Mechanism: Manual operated chain and sprocket system with a bi-directional clutch/brake mechanism designed to hold fabric at any position.

E. Chain: No. 10 nickel plated steel ball chain or No. 10 stainless steel 90 pound test ball chain with connector and upper and lower ball stops.

2.3 MOTOR OPERATED WINDOW SHADES

A. Acceptable Manufacturers and Products:
   1. MechoShade Systems Inc.; Product: "ElectroShade II".
   2. Vimco.
   3. Nysan Shading Systems.
   4. Or equal.

B. Tubular motorized roller shades. Provide brackets for mounting as indicated on Drawings.

C. Roller Tube:
   1. Extruded aluminum alloy roller tube.
   2. Diameter: Sufficient diameter and thickness to support fabric without excessive deflection. Minimum 2.50 inch for widths up to 120 inch.

D. Motors:
   1. UL listed asynchronous capacitor start and run with built-in thermal overload protection and limit switch adjustments.
   2. 110/120 Volts, 60 Hz, single phase.
   3. Motors totally enclosed within the roller tube.
   4. Total hanging weight of shade fabric shall not exceed 80 percent of motor's lifting capacity.

2.4 MOTOR CONTROLS

A. Group Control System: Microprocessor controlled, programmable for unlimited intermediate stop positions and navigable sub grouping capabilities without need for rewiring.

2.5 SHADE FABRIC

A. Acceptable Manufacturers and Products (PVC-free):
   1. MechoShade; Product: EcoVeil (PVC-free).
   2. Privacy Translucent 2 (PVC-free) by Lutron.
   3. GreenScreen (PVC-free) by Nysan.
   4. Or equal.

B. Visually transparent non-raveling shade fabric.

C. All shade fabric shall be PVC-free.

D. Characteristics (PVC-free):
   1. Meet or exceed requirements of NFPA 701.
   2. Thickness: 19 mils minimum.
   3. Weight: 8 oz/sq yd minimum.
   4. Openness Factor: 5% - 7%.
   5. Washable, colorfast and fade resistant.
   6. Fungal and Bacterial Resistance. No growth result as per ASTM G21 and G22 tests.
   7. Color: As selected by Architect.

2.6 BLACKOUT FABRIC

A. Acceptable Manufacturers and Products (PVC-free):
   1. MechoShade; Product: Equinox 0100 Series (PVC-free).
   2. Lutron; Products: Blackout Standard #2, or Blackout Premier (both PVC-free).
   3. Nysan; Product: SuperSol (PVC-free).
   4. Or equal.

B. First quality materials with no pinholes, breaks, or cracks.

C. Blackout fabric shall be PVC-free.

D. Characteristics (PVC-free):
   1. Meet or exceed requirements of NFPA 701 and 703.
   2. Thickness: 16 mils minimum.
   3. Weight: 11 oz/sq yd minimum.
   4. Openness Factor: 0 percent (total blackout). Will not admit light.
   5. Washable, colorfast and fade resistant.
   6. Fungal and Bacterial Resistance. No growth result as per ASTM G21 and G22 tests.

2.7 ACCESSORIES

A. Mounting Brackets:
   1. Zinc or cadmium coated steel capable of supporting 150 percent of roller shade assembly and shade fabric weight, including attached panels and covers.
   2. Mounting as indicated on Drawings.

B. Fascia Panel: Extruded aluminum panel installed to completely conceal roller tube and mounting hardware. .

C. Top/Back Cover: Extruded aluminum panels completely covering top and backsides of roller shade assembly.

D. Side Closure Channels: One piece extruded aluminum with concealed fastening. Provide light seal on both leading edges.

E. Exposed Hem Bar: Extruded aluminum section with grooves or slots to receive and secure shade fabric. Provide weight bar if required.

2.8 FINISH

A. Extruded Aluminum (panels, covers, bars, and channels) and Steel Brackets:
   1. Thermoset acrylic resin complying with AAMA 2603; "Duracron" manufactured by PPG Industries, Inc. or approved substitute.

B. Shade Fabric: Type and color as selected by Architect from samples submitted.

C. Blackout Fabric: Type and color as selected by the Architect from samples submitted.

2.9 FABRICATION

A. Take accurate field measurements to verify required dimensions prior to fabrication.

B. Fabricate fabric to hang flat without buckling or distortion. Fabricate with heat-sealed trimmed edges to hang straight without curling or reveling.

C. Fabricate unguided fabric to roll true and straight without shifting sideways more than 1/8 inch in either direction for every 8 feet of shade height due to warp distortion or weave design.

D. Fabricate with bottom hem weights as need or exposed hem bar with light seal as applicable.

E. Provide battens in standard shades as required to ensure proper tracking and uniform rolling of fabric.

PART 3 EXECUTION

3.1 EXAMINATION

A. Examine substrate conditions and dimensions. Verify if substrate is ready and acceptable to receive window shade system.

B. Report unacceptable conditions to Architect. Begin installation only when unacceptable conditions have been corrected.

3.2 INSTALLATION

A. Install in accordance with manufacturer's printed instructions and approved shop drawings.

B. Install units plumb, level, and square, and free from warp or twist while maintaining dimensional tolerances and alignment with adjacent surfaces.

C. Installation Tolerances:

1. Maximum variation of gap at window opening perimeter: 1/4 inch per 8 feet of shade height.
2. Maximum offset from level: 1/16 inch per 5 feet of shade width.

3.3 ADJUSTING

A. Adjust parts for smooth, uniform operation.

B. Adjust shade assembly and fabric to hang flat without buckling and distortion.

C. Replace any units or components, which do not hang properly or operate smoothly, at no cost to the State.

3.4 CLEANING

A. Clean exposed surfaces, including metal and shade fabric using non-abrasive materials and methods as recommended by manufacturer.

B. Do not use materials or methods, which may damage finish or surrounding construction.

C. Remove and replace work which cannot be satisfactorily cleaned, at no cost to the State.

3.5 SCHEDULE

A. Provide roller shades in locations indicated on Drawings.

END OF SECTION

SECTION 12 48 19

ENTRANCE GRATING SYSTEM

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Recessed grating system.

1. Roll-up grate with rubber tread inserts.

1.2 RELATED SECTIONS

A. Section 03 11 00 – Concrete Formwork.

B. Section 03 30 00 – Cast-in-Place Concrete.

1.3 REFERENCES

A. The publications listed below form a part of this Section to the extent referenced. The publications are referred to in the text by the basic designation only.

B. Unless otherwise noted, standards and manuals refer to the latest edition of such standards and manuals as of the date of issue of this Section.

C. Referenced Standards:

1. ACI 302.1R – Guide for Concrete Floor and Slab Construction.
2. ASTM B221 – Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.
3. ASTM D256 – Standard Test Methods for Determining the Izod Pendulum Impact Resistance Plastic.
4. ASTM D3884 – Standard Test Method for Abrasion Resistance of Textile Fabrics.
5. NFPA 253 (ASTM E-648) – Standard Method of Test for Critical Radiant Flux of Floor Covering Systems Using a Radiant Heat Energy Source.

1.4 SUBMITTALS

A. Submit under the provisions of Section 01 31 00.

B. Shop Drawings: Indicate locations and dimensions of recessed area to receive products specified in this Section.

C. Selection Samples: For each specified product requiring color or finish selection, submit two 12 inches by 12 inches samples illustrating selected color, finish, edging, and insert.

1.5 MAINTENANCE DATA

A. Submit under the provisions of Section 01 77 00.

B. Maintenance data: Include cleaning instructions and replacement procedures for inserts.

1.6 PERFORMANCE REQUIREMENTS

A. Structural Performance: Provide roll-up mats and frames capable of withstanding the following loads and stresses within limits and under conditions indicated:

1. Uniform floor load of 300 lbf/sq. ft.
2. Wheel load of 350 lb per wheel.

1.7 QUALITY ASSURANCE

A. Manufacturer Qualifications: Manufacturer with minimum five years documented experience producing products specified in this section.

B. Source Limitations: Obtain floor mats and frames through one source from a single manufacturer.

C. Accessibility Requirements: Provide installed floor mats that comply with CBC and Section 4.5 in the U.S. Architectural & Transportation Barriers Compliance Board's "Americans with Disabilities Act (ADA), Accessibility Guidelines for Buildings and Facilities (ADAAG)."

1.8 WARRANTY

A. Comply with provisions of Section 01 77 00.

B. Provide manufacturer's standard warranty against defects in materials and workmanship.

C. Warranty Period: 5 years.

1.9 DELIVERY, STORAGE AND HANDLING

A. Store and protect under provisions of Section 01 60 00.

B. Store Products of this section in manufacturer's unopened packaging until installation.

C. Maintain dry, heated storage area until installation of products.

1.10 SITE CONDITIONS

A. Field Measurements: Obtain field measurements of recessed areas to receive products of this section prior to order placement; include information on squareness and levelness of recess.

B. Verify that field measurements are as indicated on shop Drawings.

PART 2 PRODUCTS

2.1 SPECIAL ENVIRONMENTAL REQUIREMENTS.

A. Comply with Section 01 81 13.

B. Provide recycled content as follows:

1. Post-Consumer Recycled Aluminum Content: 15 percent.
2. Post-Industrial Recycled Aluminum Content: 35 percent.

2.2 MANUFACTURERS AND PRODUCTS

A. Acceptable Manufacturers and Products:
   1. ARDEN Architectural Specialties Inc., St. Paul, MN, 800-521-1826; Product: "Model G-275 EnvIRONtread"
   2. American Floor Products Company, Inc.
   3. Pawling Corporation; Architectural Products Division.
   4. C/S Group.
   5. Or equal.

B. Supply all products specified in this section from a single manufacturer.

2.3 MATERIALS

A. Recessed Grating System: 7/8-inch deep, roll-up aluminum grate.

B. Recycled Content, Aluminum: 12.66 percent.

C. Frame: Extruded, #6063 aluminum alloy with T52 temper per ASTM B221
   1. Profile: Angle, 1-inch deep leg, thickness 1/8 inch.
   2. Corners: Butted.
   3. Finish: Clear anodized finish.
   4. Provide all accessories recommended by manufacturer as required for a complete frame system installation.

D. Rails:
   1. Material: Extruded, #6063-T52 aluminum alloy conforming to ASTM B-221.
   2. Rail Width and Spacing: 1-inch wide rails, spaced at 1-1/2 inches o.c.
   3. Rails to run perpendicular to traffic direction.
   4. Rails to have continuous bottom cushions to reduce noise.
   5. Finish: Clear anodized finish.

E. Hinges:
   1. Low-density polyethylene hinges, with large drain holes to allow dirt and moisture to pass through the mat.
   2. Hinges to be retained in a "captive" aluminum tread port.

F. Tread Inserts: Provide two buffed-rubber tread inserts per rail.
   1. Material: Nylon-reinforced buffed rubber.
   2. Color: Black.

2.4 FABRICATION

A. Fabricate units in the shop to greatest extent possible and in sizes indicated. Unless otherwise indicated, provide single unit for each mat installation.

B. Coat surfaces of aluminum frames that will contact cementitious materials with manufacturer's standard protective coating.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that recesses to receive products of this section are correct size and within square tolerances and level tolerances.

1. Substrate tolerance not to exceed 1/8-inch in 10 feet, per ACI 302.

3.2 PREPARATION

A. Surface preparation: Remove debris from recesses to receive grating system and vacuum clean.

3.3 INSTALLATION

A. Install specified products in accordance with shop drawings and manufacturer's printed installation instructions.

B. Provide necessary shims, spacers, and anchorage to attach frames to concrete.

C. Install grating frame to achieve flush plane with adjacent finished floor surface.

D. Install roll-up grating in floor recess flush with adjacent finished floor after cleaning of flooring.

3.4 PROTECTION

A. Provide temporary fillers of plywood or fiberboard in tread recesses, and cover frame with plywood for protection of grating during construction.

B. Maintain protection until construction traffic has ended and Project is near substantial completion.

END OF SECTION