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Design & Construction Standards:
TECHNICAL GUIDELINES

Division 12

12 24 13 Roller Window Shades

12 30 00 Casework

12 36 00 Countertops

12 66 00 Telescoping Stands

FACILITY MANAGEMENT

April 2016

SECTION 12 24 13

ROLLER WINDOW SHADES

PART 1 GENERAL - No Requirements

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Basis of Design: Indoor Sky LLC, Daylitter Shade, 504 Highland Terrace, Williamsport, PA 17701 Telephone: 570 651 5105, <http://www.indoor-sky.com>. Other acceptable manufactures include Draper Inc., Mecho Shade Systems, Springs Window Fashions, and Rollease Acmeda.
- B. Substitutions: Under provisions of Section 01 33 00.
 - 1. Any substitutions provided by the contractor shall be reviewed at the contractor's expense by the architect/interior.
 - 2. All proposed substitutions (clearly delineated as such) must be submitted in writing for approval by the design professional a minimum of 10 working days prior to the bid date and must be made available to all bidders. Proposed substitutes must be accompanied by a review of the specification noting compliance on a line-by-line basis.
 - 3. By using pre-approved substitutions, the contractor accepts responsibility and associated costs for all required modifications. The contractor shall provide complete engineered shop drawings with deviations for the original design highlighted in an alternate color to the engineer for review and approval prior to rough-in.

2.02 ROLLER SHADES

- A. Mounting:
 - 1. Provide universal mounting brackets for window frame, wall or jamb mounting to be attached typically 18" to 36" below top of window.
 - 2. Provide symmetrical light gaps of 0.5 inch on each side of shade.
 - 3. Allow side-to-side adjustment up to 0.25 inch on each side while shade is mounted to bracket.
 - 4. One-piece mounting bracket providing level and projection adjustments from mounting bracket for both main shade and integral lightshelf element.
 - 5. Spring loaded pin end technology for side-to-side adjustment.
- B. Shade Tube:
 - 1. Fabric connected to tube using double-sided adhesive strip with minimum of one turn of fabric on roller before working section of fabric starts.
- C. Operating Clutch:
 - 1. Velvetrol internal spring arrangement enables the application of a balanced force on both sides of the shade simultaneously allowing for even distribution of forces. Available in 3 sizes to handle shade weights of up to 15lbs.
 - 2. Clutch driven by manual bead chain to operate main shade only attached to jamb with integral child safety device.
- D. Fabric:
 - 1. Shall be flame resistant in accordance with NFPA 701 Standard Methods of Fire Tests for Flame Propagation of Textiles and Films.
 - 2. Where applicable, seal shade fabric or treat PVC-coated fabric edges to prevent fraying.
 - 3. Fabric selection: Alkenz Sun Shadow solar screen fabric collection with up to 10% transparency factor.

4. Custom printing: Shade fabric may be custom printed (Consult manufacturer).

E. Hem Bar:

1. Color coordinated with fabric selection.
2. Internal aluminum spine to capture and secure fabric.
3. Extruded aluminum external hem bar with integral end caps.

2.03 LIGHTSHELVES

A. S Series:

1. Single lightshelf element, sunshade fabric on aluminum frame mounted to universal one piece roller shade bracket (detailed in 1.2A above).
2. Lightshelf to have open position (parallel to ceiling) and closed position.
3. (parallel to window) for maximum daylight management.
4. Removable stops allow for lowering of lightshelf for deep cleaning purposes.

B. L Series:

1. Multiple parallel lightshelf elements, sunshade fabric on aluminum frame mounted to vertical jamb frame members.
2. Lightshelf element to be coupled with jalousie style operating mechanism and to operate in harmony through jamb mounted lever.

C. Fabric:

1. Lightshelf fabric selected to match main roller shade or contrasting according to architectural selection.

2.04 ACCESSORIES

- A. Wall Mounted child safety device for bead chain loop.

PART 3 EXECUTION - No Requirements

END OF SECTION 12 24 13

SECTION 12 30 00

CASEWORK

PART 1 GENERAL

1.01 QUALITY ASSURANCE

- A. Casework manufacturers seeking approval of their products must submit literature and a sample cabinet for review by the Architect and DPS prior to the bid. Supplemental information for bidders should contain this information.

PART 2 PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

- A. Columbine Kitchen and Bath
- B. Construction Design Associates (Denver, Colorado)
- C. Dubworks Murphy Millworks (Erie and Pueblo, Colorado).
- D. Eurocase Premier Series
- E. Freelance Cabinets
- F. Hartson Enterprises, Inc. (Sheridan, Colorado)
- G. J&M Custom Cabinet Shop, Inc.
- H. JK Concepts
- I. Ly-Line
- J. North American Caseline, Inc. (Winnipeg, MB, Canada)
- K. Salina Planing Mill, Inc. (Salina, KS)
- L. Sidney Millwork Company (Sidney, Montana)
- M. St. Charles Series "P" Casework
- N. Stevens Cabinet "Standard Edge Series"
- O. TMI Trimline Dowelled 7000 Series
- P. Westmark Commercial Casework, Series 100

NOTE: Listing of manufacturers above does not indicate any lessening of detailed requirements specified in other portions of this specification. Manufacturers must provide products complying with the detailed requirements listed below.

2.02 FABRICATION

- A. Shop Fabrication: Fabricate plastic-faced casework to dimensions, profiles, and details indicated on the Drawings.
- B. Assemble units in the shop in components as large as practical to minimize field cutting and jointing. All joints shall be dadoed, rabbeted, and glued.
- C. Joints shall be glued with a quick-set white glue. Use precision jigs and clamps to insure square corners and plumb vertical surfaces.

2.03 MATERIALS/COMPONENTS

- A. Core Material:
 - 1. Minimum density 45 lb. particleboard, minimum ¾" thick. Fabricate panels with plastic laminate face on both sides, or balancing sheet on concealed faces.
- B. Countertops:

1. Minimum NEMA LD-3, type HGS50 high-pressure general purpose laminate, 0.050" minimum thickness.
 2. Chemical-Resistant (Resin) Countertops: Chemical-resistant countertops shall be constructed of monolithic copolymer resins, modified epoxy or fiber reinforced-cement, molded or cast.
- C. Exposed Surfaces (Except Countertops):
1. NEMA LD-3, Type HGS50 and PF30, high-pressure melamine laminate, 0.028" thickness, general purpose type.
- D. Semi-Exposed Surfaces:
1. Comply with the above except CLS-20 (minimum 0.020" thick) cabinet liner type for backs of doors, inside face of exposed ends and shelves.
 2. All other semi-exposed surfaces: Low-pressure laminate, minimum 0.015" thick.
- E. Concealed Surfaces:
1. Comply with above except BK-20 (0.020" thick), liner or backer type.
- F. Case Backs and Drawer Bottoms:
1. Manufacturer's standard pre-finished tempered hardboard (minimum 3/8" thick). Provide removable backs where piping or other utilities are routed behind casework.
- G. Sub-Tops:
1. Provide 3/4" (minimum) solid particleboard sub-top on all base units (except sink bases). Sub-top to have facing sheets for concealed surface.
- H. Drawer Fronts:
1. Provide double front drawers. Inner drawer front shall be dowelled or dovetailed joined to drawer sides. Drawer faces shall be screwed to inner drawer fronts.
- I. Door and Drawer Spreaders:
1. Provide minimum 3/4" x 4" full-width particleboard or hardwood spreaders behind all door/drawers and all multiple drawer horizontal joints. Exposed edges shall have 1 mm (minimum) PVC edging.
- J. Exposed Edges:
1. Exposed cabinet body edges and shelves shall be edged with 3 mm (minimum) PVC edge banding, machine-applied with hot melt glue. Door and drawer front edges shall be covered with PVC T-Mold edge banding (3 mm minimum). Color shall be selected by the Architect.
- K. Filler Panels and Scribes:
1. Panels shall be finished with surface laminate for full height of filler.
- L. Cabinet Hardware:
1. Hinges: Institutional-type, five knuckle 2 1/2" x .093" wrought steel. Provide one (1) pair for doors less than 4' high and three (3) hinges per door for doors over 4'. No European style allowed.
 2. Pulls: Semi-flush ABS plastic pulls for drawers and swing doors, mounted with two (2) screws fastened from back. Provide two (2) pulls for drawers over 24" wide. Color selected by the Architect.
 3. Catch: Magnetic with adjustable stop position. Minimum seven (7) lb. pull. Provide a minimum of two (2) catches for doors over 4' high. Provide magnetic catch for each door leaf. Magnetic catch shall be constructed of metal.
 4. Chain bolt: Stanley 1055 steel. For doors over 48" in height, chain bolts shall be 3" long, shall have an 18" pull cord and an angle strike to secure inactive door on cabinets. Provide two (2) chain bolt latches with connecting chain for inactive leaf of all full-height cabinets (over 54" high).

5. File Drawer guides: Cabinet manufacturer's standard complying with positive stops requiring manual depression of lever to remove drawer, steel ball bearing suspensions which shall be 4" extension, have a load capacity minimum of 75 lbs. Knee space drawers shall be equipped with full extension-suspensions with a load capacity minimum of at least 50 lbs. and shall have positive stops requiring manual depression of lever to remove drawer. Paper storage and file drawers shall be equipped with one (1) pair of full extension steel ball bearing suspensions of similar design with a load capacity minimum of 100 lbs for drawers over 24" wide. Provide a minimum of four mounting screws on each side.
6. Drawer and cupboard locks: Plated-finish disc tumbler, cam type. Only round cylinder to be exposed. Provide locks on all cabinet doors and drawers except for sink base cabinets. Double-door base cabinets shall have cylinder locks on each door leaf. Lock strike plate shall be constructed of metal. All locks shall be keyed alike within each room. Each room shall be keyed differently. Provide two (2) keys for each lock keying. Provide a master key to pass all cabinet locks. Each lock furnished with two (2) keys and master keyed. Locks shall be engraved with corresponding key number.
7. Coat rods: 1" diameter, 14-gauge chrome-plated steel.
8. Glass: ¼" thick tempered float glass. Each piece shall bear permanent tempered marker.
9. Mirrors: ¼" thick polished mirror plate attached with metal clips and screws.
10. Adjustable shelf supports: Shelf supports shall be heavy-duty, self-locking nylon, designed for installation in pre-drilled holes in cabinet ends and vertical partitions. Each shelf support shall have two (2) pins 0.20" in diameter, designed to prevent the shelf support from rotating. Shelf supports that are not two-pin and self-locking are not acceptable.
11. Restraint Chains: Provide cabinet door restraint chain to prevent cabinet door from opening into obstruction; i.e. wall, countertop, etc. (EPCO TC12 or comparable product).
12. Accessories: Provide all miscellaneous plastic laminate items, such as scribes, aprons, skirts, fillers, and closures, as required for a complete installation. Miscellaneous plastic laminate items shall be constructed of materials and by methods as specified for other casework components. All exposed surfaces of miscellaneous items shall be finished the same as door and drawer faces.

2.04 MATERIALS/CONSTRUCTION

A. Cabinet Body Joinery:

1. Join tops and bottoms to cabinet ends with minimum six (6) hardwood dowel. Four (4) fasteners may be used for 12" deep cabinets. Internal cabinet components such as fixed horizontals, rails, and verticals shall also be fastened with dowels.
2. Base cabinets: Each base and tall unit shall have a separate or integral base. Rubber or vinyl base covering will be furnished and installed by others.
3. Wall cabinets shall have continuous horizontal reinforcement at top of wall cabinet for attachment to wall. Reinforcement shall be 12-gauge steel angle or 3/4" x 2 1/2" particleboard attached with screws and washers 2" from ends and 6" o.c. inside. Back of wall cabinet shall be flush with wall at the upper 2 1/2" of the cabinet.
4. Cabinet top and bottom: Tops and bottoms shall be particleboard, 3/4" thick, laminated on the interior with melamine with a backer sheet of neutral color on the unexposed surface. The interior surface of sink cabinet bottom shall be melamine. The bottom surface of all upper cabinets shall be low-pressure laminate cabinet liner. Front edges shall be hot melt glue-applied PVC edging. T-mold or self-edged laminate is not acceptable on cabinet edges. All tops shall be solid except for sink base tops, which shall have 1" x 1" x 1/8" angle iron front rail. All cabinets over 42" and up to 72" in height shall be supplied with a finished 3/4" continuous top.

5. Cabinet ends: Unexposed cabinet ends shall be particleboard, 3/4" thick, laminated on the interior with low-pressure laminate cabinet liner and a backer sheet of a neutral color on the exterior unexposed high-pressure laminate on the exterior and high-pressure laminate cabinet liner, light beige color, on the interior. Holes shall be drilled for adjustable shelf clips 32 mm (1 1/4") on center. All holes shall be drilled in back of hinges, to provide an unbroken line of holes. Front edges shall be banded with hot melt glue-applied PVC edging. T-mold or self-edged laminate is not acceptable on cabinet edges. Bottom edges of wall cabinet ends to be banded with PVC edging. All ends shall be rabbeted to accept recessed back.
 6. Fixed intermediates and adjustable shelves: Particleboard, 3/4" thick, laminated on both sides with high-pressure laminate cabinet liner 0.020" thick. Color shall be light beige on both surfaces. Shelf front and back edges shall be banded with hot melt glue-applied 3 mm PVC edging. Edge banding less than 3 mm thick is not acceptable. Adjustable shelves up to 30" wide shall be 3/4" thick. Shelves wider than 30" shall be 1" thick with added reinforcing to prevent sag.
 7. Cabinet back: Standard recessed cabinet back shall be 3/8" minimum thickness pre-finished hardboard. Color to match cabinet interior. All sink cabinets shall have split back, removable from inside. Exposed exterior back on fixed or movable cabinets shall be particleboard, 3/4" inch thick, laminated with high-pressure laminate on the exterior surface and light beige-colored high-pressure laminate cabinet liner on the interior surface.
 8. Provide removable backs at sink cabinets.
 9. Cabinet doors and drawer fronts: Particleboard, 3/4" thick, shall be laminated with vertical surface high-pressure plastic laminate on the exposed surface and light beige-colored high-pressure laminate cabinet liner on the interior surface. All corners shall be edged with heavy-gauge PVC edge banding (3 mm minimum thickness). Bevel edge banding corners.
- B. Drawers:
1. Standard and file drawers: All drawer sides, back, and sub-front shall be particleboard, 1/2" minimum thickness, laminated with light beige-colored polyester laminate. The back and sub-front shall be dowelled or dadoed and glued into the sides. Dowels shall be spaced 32 mm (1-1/4"). Dowels shall be hardwood, laterally fluted, with chamfered ends and a minimum diameter of eight (8) mm. Top edge shall be banded with PVC edging. Drawer bottom shall be light beige color 3/8" thick, pre-finished hardboard, or 1/2" particleboard, let into sub-front, sides and back. Paper storage drawers shall be of heavy-duty 3/4" particleboard construction with 100 lb. full-extension slides, plywood reinforcement stiffener at bottom center of drawer and a retaining hood at the rear of each drawer. Drawer box shall be screwed to drawer front.
 2. Drawers over 24" wide shall be 3/4" 13 ply Baltic Birch faced with Melamine. Bottom shall be 1/2" thick plywood.
- C. Countertop Fabrication:
1. Countertops shall be fabricated with segments as large as possible, to minimize seams. Edges shall be built up of a minimum of two thicknesses of 3/4" x 4" particleboard.

PART 3 EXECUTION

3.01 PREPARATION

- A. Field-verify dimensions prior to fabrication. Examine the substrata and the conditions under which the work in this Section is to be performed. Do not proceed with work under this Section until unsatisfactory conditions have been corrected.
- B. Coordinate with other trades for proper location of grounds and blocking.
- C. Verify rough-in locations, sizes and adequacy for mechanical and electrical services.
- D. Condition plastic-faced casework to average prevailing humidity conditions in installation areas prior to installing.
 1. Provide continuous blocking at anchorage of upper and lower casework.

3.02 FIELD MEASUREMENTS

- A. Verify dimensions of all areas to receive wall-to-wall casework.

3.03 INSTALLATION

- A. Install casework plumb, level, true and straight with no distortions. Shim as required, using concealed shims. Where plastic-faced casework abuts other finished work, scribe and cut for accurate fit.
- B. Trim and Moldings: Install in single, non-jointed lengths for openings and for runs less than maximum length of material available. For longer runs, use only one piece, less than maximum length available in any single straight run. Stagger joints in adjacent members. Scribe backsplashes to uneven surfaces of walls.
- C. Caulk joints between walls and scribes.
- D. Secure wall units and shelf standards to appropriate blocking using wood screws and ½” (minimum) finish washers. Attach all parts and accessories, closures, panels, aprons, etc. to basic units as detailed and required. Install shelving.
 - 1. Provide continuous blocking at anchorage of upper and lower casework.
- E. Adjust casework and hardware so that doors and drawers operate smoothly without warp or bind. Lubricate operating hardware as recommended by manufacturer.

3.04 FIELD QUALITY CONTROL

- A. Casework shall be installed only by skilled craftsmen authorized by the casework manufacturer.

END OF SECTION 12 30 00

SECTION 12 36 00

COUNTERTOPS

PART 1 GENERAL No Requirements

PART 2 PRODUCTS

2.01 MATERIALS

- A. Particleboard core for countertops:
 - 1. Reprocessed wood and resin binder mat-formed material, ANSI A161.2 Grade 1-M-2 or better.
 - 2. Edge: Square.
 - 3. Thickness: 1-1/4"
 - 4. Panel size as required to minimize field joints.
- B. Epoxy resin:
 - 1. Modified epoxy resin, monolithihic copolymer, fiber reinforced-cement, cast or molded with an eased edge.
 - 2. Color: Integral black.
 - 3. Thickness: 1"
 - 4. Content: Countertops shall contain no asbestos materials.
- C. Plastic laminate:
 - 1. Standard plastic laminate: 0.050" thick general purpose high-pressure laminate plastic surfacing material.
 - 2. Chemical-resistant plastic laminate: 0.040" thick horizontal postforming.
 - 3. Scratch-resistant plastic laminate.
 - 4. Finish: Matte textured.
 - 5. Do not specify premium color laminates.
 - 6. A maximum of five plastic laminate colors shall be used per school.
- D. Solid surface:
 - 1. Solid cast plastic resin materials.
 - 2. Thickness: Minimum 1/2"
- E. Cast plastic: Mineral-filled plastic resin conforming to applicable requirements for cultured marble.

2.02 FABRICATION

- A. Cutouts
 - 1. Provide cutouts for equipment, grommets, plumbing and utilities. Inside corners of cutouts shall have 1/8" minimum radius, to avoid stress cracking.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Provide sealant at joints between countertops and adjacent materials, and at penetrations in countertops.
- B. Work surfaces without base cabinets shall be supported by continuous blocking in the partition or wall behind the work surface, along with a supporting 45 degree shelf angle screwed into and perpendicular to the wall at a minimum of 30" o.c., or appropriate support legs at outside edge of surface.

END OF SECTION 12 36 00

SECTION 12 66 00

TELESCOPING STANDS

PART 1 GENERAL

1.01 QUALITY ASSURANCE

- A. Manufacturer shall be regularly engaged in the design and manufacture of telescopic seating for not less than ten (10) years.
- B. Seating shall conform to all applicable code requirements.

PART 2 PRODUCTS

2.01 FABRICATION

- A. Pre-assemble components in shop as much as possible to minimize field assembly.
- B. Design loads per industry standard and meeting all applicable codes for live loads and both horizontal and perpendicular sway forces.
- C. All welds shall be shop welded by certified welders conforming to AWS Standards- no field welding permitted.
- D. All required end caps, nosings, and risers shall be provided for a finished application that has no sharp edges.
- E. All motorized units shall have a removable pendant operation switch at the base of the first row.

2.02 MANUFACTURERS

- A. Interkal.
- B. The Folding Bleacher Company.
- C. Irwin Seating Company.
- D. Hussey.
- E. Sheridan Seating.

2.03 MATERIALS

- A. Structure:
 - 1. Steel
 - 2. Aluminum
- B. Seating:
 - 1. Plastic
 - 2. Vinyl clad aluminum
 - 3. Aluminum
 - 4. Wood seating is prohibited.
- C. Floor Planking:
 - 1. Polyethylene plastic
 - 2. Aluminum
 - 3. Steel
 - 4. Wood

2.04 ACCESSORIES

- A. Rollers shall be non marking type with locks.
- B. Safety end rails.

1. Self-storing.
- C. Aisle Center Rails:
 1. Folding and self storing.
- D. Intermediate steps.
- E. Removeable Timer's Table.
- F. Vinyl Side Curtains.
- G. End panels and filler boards.
- H. Row Identification markers.
- I. Back Rails and panels.
- J. Front rails.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Attachment to masonry or steel structural frame only. Blocking is not acceptable. Use of plastic anchors is not acceptable.

3.02 SPARE PARTS

- A. Provide spare parts in quantity and in accordance with manufacturer's recommended list to include but not limited to:
 1. Keys (6 each)
 2. Locks (6 each)
 3. Hand Held Power Operator (Pendant Switch) – (1)
 4. Rollers (6 each – if pairs, provide 6 pairs)

END OF SECTION 12 66 00