SECTION 122124 – MANUAL ROLLER SHADE

PART 1 – GENERAL

1.1 SECTION INCLUDES

A. Provide manually operated, sunscreen and blackout roller shades as applicable.

B. Related Sections:
1. Division 09 - Gypsum Board Assemblies: Coordination with gypsum board assemblies for blocking, installation of shade pockets, closures and related accessories.
2. Division 09 - Acoustical Ceilings: Coordination with acoustical ceiling systems for blocking, installation of shade pockets, closures and related accessories.
3. Division 26 - Electrical: Electric service for EDU's, and EDU controls, internal communication, low voltage wiring and data transfer, and connection to the Internet and required.

1.2 SUBMITTALS

A. Product Data: Manufacturer's data sheets on each product to be used, including:
1. Preparation instructions and recommendations.
2. Styles, material descriptions, dimensions of individual components, profiles, features, finishes and operating instructions.
3. Storage and handling requirements and recommendations.
4. Mounting details and installation methods.
5. Typical wiring diagrams including integration of EDU controllers with building management system, audiovisual and lighting control systems as applicable.

B. Window Treatment Schedule: For all roller shades. Use same room designations as indicated on the Drawings and include opening sizes and key to typical mounting details.

C. Verification Samples: For each finish product specified, one complete set of shade components, unassembled, demonstrating compliance with specified requirements. Shade cloth samples and aluminum finish sample as selected. Mark face of material to indicate interior faces.

D. Maintenance Data: Methods for maintaining roller shades, precautions regarding cleaning materials and methods, instructions for operating hardware and controls.

E. Warranty: Provide manufacturer's warranty documents as specified in this Section.

1.3 QUALITY ASSURANCE

A. 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.

B. Fire-Test-Response Characteristics: Passes NFPA 701-99 small and large-scale vertical burn. Materials tested shall be identical to products proposed for use.

C. Shadecloth Anti-Microbial Characteristics: 'No Growth' per ASTM G 21 results for fungi ATCC9642, ATCC 9644, and ATCC9645.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Deliver components in factory-labeled packages, marked with manufacturer and product name, fire-test-response characteristics, and location of installation using same room designations indicated on Drawings and in the Window Treatment Schedule.

1.5 PROJECT CONDITIONS

A. Environmental Limitations: Install roller shades after finish work including painting is complete and ambient temperature and humidity conditions are maintained at the levels indicated for Project when occupied for its intended use.

1.6 WARRANTY

A. Warranty: Provide manufacturer's standard warranties, including the following:
   1. Roller Shade Hardware, and Shadecloth: Manufacturer's standard non-depreciating twenty-five year limited warranty.
   2. Roller Shade Installation: One year from date of Substantial Completion, not including scaffolding, lifts or other means to access to the work above 12' Feet AFF, which are the responsibility of others.

PART 2 – PRODUCTS

2.1 MANUFACTURER

A. Basis of Design Manufacturer for Window Shade System: Products by MechoSystems; 42-03 35th Street, Long Island City, NY 11101. Tel: (718) 729-2020 ext 1901; Mr. Glen Berman. Email: glenb@MechoSystems.com.

2.2 SHADE BANDS

A. Shade Bands: Construction of shade band includes the fabric, the enclosed hem weight, shade roller tube, and the attachment of the shade band to the roller tube. Sewn hems and open hem pockets are not acceptable.
   1. Concealed Hembar: Shall be continuous extruded aluminum for entire width of shade band and with the following characteristics:
      a. Hembar shall be heat sealed on all sides.
      b. Open ends shall not be accepted.
   2. Shade Band and Shade Roller Attachment:
      a. Use extruded aluminum shade roller tube of a diameter and wall thickness required to support shade fabric without excessive deflection.
      b. Provide for positive mechanical attachment of shade band to roller tube; shade band shall be made removable / replaceable with a "snap-on" snap-off" spline mounting, without having to remove shade roller from shade brackets.
      c. Mounting Spline shall not require use of adhesives, adhesive tapes, staples, and/or rivets.
      d. Any method of attaching shade band to roller tube that requires the use of: adhesive, adhesive tapes, staples, and/or rivets, does not meet the performance requirements of this specification and shall not be accepted.

2.3 ROLLER SHADE FABRICATION

A. Fabricate shade cloth to hang flat without buckling or distortion. Fabricate with heat-sealed trimmed edges to hang straight without curling or raveling. Fabricate unguided shadecloth to roll true and straight without shifting sideways more than 1/8 inch (3.18 mm) in either direction per 8 feet (2438 mm) of shade height due to warp distortion or weave design.

B. Provide battens in standard shades as required to assure proper tracking and uniform rolling of the shade bands. Contractor shall be responsible for assuring the width-to-height (W:H) ratios shall not exceed manufacturer's standards or, in absence of such standards, shall be responsible for establishing appropriate standards to assure proper tracking and rolling of the shadecloth within specified standards. Battens shall be roll-formed stainless steel or tempered steel, as required.

C. For railroaded shade bands, provide seams in railroaded multi-width shade bands as required to meet size requirements and in accordance with seam alignment as acceptable to Architect. Seams shall be properly located. Furnish battens in place of plain seams when the width, height, or weight of the shade exceeds manufacturer's standards. In absence of such standards, assure proper use of seams or battens as required to, and assure the proper tracking of the railroaded multi-width shade bands

D. Provide battens for railroaded shades when width-to-height (W:H) ratios meet or exceed manufacturer's standards. In absence of manufacturer's standards, be responsible for proper use and placement of battens to assure proper tracking and roll of shade bands.

E. Blackout shade bands, when used in side channels, shall have horizontally mounted, roll-formed stainless steel or tempered-steel battens not more than 3 feet (115 mm) on center extending fully into the side channels. Battens shall be concealed in an integrally colored fabric to match the inside and outside colors of the shade band, in accordance with manufacturer's published standards for spacing and requirements.
   1. Battens shall be roll formed of stainless steel or tempered steel and concave to match the contour of the roller tube.

2.4 ROLLER SHADE COMPONENTS

A. Access and Material Requirements:
   1. Provide shade hardware allowing for the removal of shade roller tube from brackets without removing hardware from opening and without requiring end or center supports to be removed.
   2. Provide shade hardware that allows for removal and re-mounting of the shade bands without having to remove the shade tube, drive or operating support brackets.
   3. Use only Delran engineered plastics by DuPont for all plastic components of shade hardware. Styrene based plastics, and /or polyester, or reinforced polyester shall not be accepted.

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.

2.5 SHADECLOTH

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.
    1. Dense Linear Weave: "1000 series", 3 percent open, dense linear-weave pattern.
    2. Color: Selected from manufacturer's standard colors.

2.6 ROLLER SHADE ACCESSORIES

A. Shade Pocket: For recessed mounting in acoustical tile or drywall ceilings as indicated on the drawings.
    1. Either extruded aluminum and or formed steel shade pocket, sized to accommodate roller shades, with exposed extruded aluminum closure mount, tile support and removable closure panel to provide access to shades.

B. Fascia:
    1. Continuous removable extruded aluminum fascia that attaches to shade mounting brackets without the use of adhesives, 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 EXAMINATION

A. Do not begin installation until substrates have been properly prepared. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

A. Clean surfaces thoroughly prior to installation. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.3 INSTALLATION OF ROLLER SHADES

A. Contractor Furnish and Install Responsibilities:
   1. Window Covering Contractor (WC) shall provide an on site, Project Manager, and shall be present for all related jobsite scheduling meetings.
   2. WC shall supervise the roller shade installation, and setting of intermediate stops of all shades to assure the alignment of the shade bands within a single EDU group, which shall not exceed +/- 0.125 inches (3.175mm), and to assure the alignment between EDU groups, which shall not exceed +/- 0.25 inches (6.35mm).
   3. WC 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.
   4. 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.
   5. WC shall provide accurate to 0.0625 inch (1.5875mm); field measurements for custom shade fabrication on the Roller Shades manufacturers input forms.
   6. WC 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 as per interior architect's design documents and 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)
   7. 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.
   8. Adjust, align and balance roller shades to operate smoothly, easily, safely, and free from binding or malfunction throughout entire operational range.
   9. Installer shall set Upper, Lower and up to 3 intermediate stop positions of all motorized shade bands and assure alignment in accordance with the above requirements.
   10. WC shall certify the operation of all motorized shades and turn over each floor for preliminary acceptance.
   11. The WC shall participate and cooperate with the electrical contractor, the window shade manufacturer and the Commissioning agent to verify and certify the installation is in full conformance with the specifications and is fully operational. This work to occur during the commissioning stage and is in addition to preliminary acceptance required for each floor.
   12. Clean roller shade surfaces after installation, according to manufacturer's written instructions.
   13. WC shall train Owner's maintenance personnel to adjust, operate and maintain roller shade systems.

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

3.4 PROTECTION

A. Protect installed products until completion of project.

B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION 122124

SECTION 123554 – MANUFACTURED CASEWORK

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Plastic Laminate Casework

B. Countertop Grills & Toespace grills

C. Countertops (see separate specification for solid surface)

1.2 RELATED SECTIONS

A. Section 061000 - Rough Carpentry: Framing and blocking in walls, floors and ceiling to support equipment.

B. Section 220511 - Common Work Results for Plumbing: Connections for drain lines, service piping, vents, re-vents, in-line vacuum breakers, special plumbing fixtures, traps and tailpieces to service fixtures.

1.3 SUBMITTALS

A. Submit under provisions of Section 013000.

B. Shop Drawings: Include plans, elevations, sections, details, and attachments to other work.

1. Indicate locations of blocking and reinforcements required for installing casework.

2. Indicate locations and types of service fittings, together with associated service supply connection required.

3. Include details of utility spaces.

4. Include indicators of exposed conduits, if required, for service fittings.

5. Indicate locations of and clearances from adjacent walls, doors, windows, other building components, and other laboratory equipment.

6. Include coordinated dimensions for laboratory equipment specified in other Sections.

C. Certificate of Origin: Manufacturer must supply with first submittal, an example of their Certificate of Origin declaring casework is wholly manufactured and assembled specifically in the United States, including city, county, and state locations. A notarized Certificate of Origin must be provided with closeout documents.

D. Selection Samples: For each finish product specified, one complete set of color chips representing manufacturer's full range of available colors and patterns.

1. One set of samples indicating full range of finishes for countertop specified.

2. One set of casework samples indicating full range of finishes for casework specified.

1.4 QUALITY ASSURANCE

A. Manufacturer Qualifications: Not less than 5 years experience in the actual production of specified products. Casework shall be wholly manufactured and assembled in the USA: i.e. “American Made”.

B. Installer Qualifications: Firm with 5 years experience in installation or application of systems similar in complexity to those required for this Project, plus the following.

1. Authorized distributor of manufacturer.

C. Mock-Up: Provide a mock-up for evaluation of fabrication techniques and application workmanship. To be provided 7 days in advance of bid for manufactures seeking consideration.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Store products in manufacturer's unopened packaging until project conditions are ready for installation.

1.6 PROJECT CONDITIONS

A. For delivery and installation of laboratory casework and equipment, building conditions shall comply with AWI Standard 1700-G-3 and 1700-G-4 and be as follows:

1. Flooring required to be placed under casework and equipment installed.

2. Wood or metal blocking (wall grounds) installed within partitions to allow for immediate installation upon delivery.

3. Heating and air conditioning systems providing consistent temperature and humidity conditions to comply with by AWI Standard 1700-G-4 and 1700-G-5.

4. Relative humidity not less than 40 percent, nor more than 60 percent.

5. Temperatures not less than 65 degrees F (18 degrees C) and not greater than 80 degrees F (27 degrees C) in areas of casework and equipment installation.

6. Overhead mechanical, electrical and plumbing rough-in work is complete.

7. Wet operations complete prior to delivery.

8. Ceiling grids (with or without ceiling tiles), overhead soffits, ductwork and lighting installed.

9. Painting complete.

1.7 WARRANTY

A. Casework Manufacturer Warranty: 3 years from date of delivery. Warranty is for the conditions indicated below, and when notified in writing from Owner, manufacturer shall promptly investigate, and address said deficiencies.

1. Defects in materials and workmanship.

2. Deterioration of material and surface performance below minimum SEFA 8 standards as certified by independent third-party testing laboratory.

3. Within the warranty period, we shall, at our option, repair, replace, or refund the purchase price of defective casework.

B. Casework manufacturer shall be notified immediately of defective products and be given a reasonable opportunity to inspect the goods prior to return. Casework manufacturer will not assume responsibility, or compensation, for unauthorized repairs or labor. Casework

manufacturer makes no other warranty, expressed or implied, to the merchantability, fitness for a particular purpose, design, sale, installation, or use, of casework; and, shall not be liable for incidental or consequential damages, losses of or expenses, resulting from the use of their products.

1. The warranty with respect to products from another company sold by the casework manufacturer is limited to the warranty extended by that other company.

C. Casework manufacturer shall provide, with close-out documents, a Certificate of Warranty for products provided.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Basis-of-Design Product: Case Systems, 2700 James Savage Road, Midland, Michigan 48642 (989) 496-9510 and/or approved dealers.

B. Preapproved Acceptable Manufacturers: TMI Systems

C. Substitution Limitations:

1. Substitutions will be considered only when other manufacturers submit substitution requests in accordance with procurement substitution and/or substitution procedures, or provide a comparable product with the following support information detailed below:

   a. Written documentation stating specification compliance regarding construction, materials, and standard of quality and manufacturing techniques.
   b. Note all deviations to the drawings and/or specifications in writing.
   c. The owner, or its designated representative, reserves the right to reject any proposal that in his opinion fails to meet the criteria established by this specification. Such a decision shall be final.

2.2 CONSTRUCTION

A. Plastic laminate on particleboard core: Casework.

B. Cabinet Finish, Interiors and Exteriors Match Finished:
   1. Plastic laminate. Refer to Finish Schedule and drawings for plastic laminate types and locations. (Thermofuse cabinet interiors & exteriors are NOT to be provided)

C. Drawer and Door Styles:
   1. Drawer and Door Styling: Doors and drawers are 3/4 inch thick and have a particleboard core with plastic laminate face and back with 1/8 inch PVC edge-band.

D. Door and Drawer Hardware Style:

   1. Drawer Slides:

      a. Drawer Epoxy powder coated, cold rolled steel, heavy-duty with a 100 lbs (45 kilograms) load capacity. They are equipped with heavy-duty, nylon rollers for smooth effortless operation. Slides have automatic positive stop to prevent drawer's accidental removal but allow for quick removal without tools.

2.3 MATERIALS

A. Hardboard used in drawer bottoms and unexposed backs, consists of super-refined wood fibers and chips, highly compressed into a hard, dense, 1/4 inch thick, homogeneous sheet, faced with wood grain pattern melamine on the exposed face. Physical properties: Average MOR is 5,000 lbs/sq inches (3.5 kgf/sq mm); density is 48 lbs/cu ft (0.6 kg/cu m); and MOE of 500,000 psi (350 kgf/sq mm). All hardboard shall be CARB Phase 1 compliant.

B. Particleboard is industrial grade, with the following physical properties: Density, 48 lb/cu. ft. (0.6 kg/cu m); minimum modulus of rupture 2,200 psi (1.5 kgf/sq mm); minimum modulus of elasticity 450,000 psi (315 kgf/sq mm). All particleboard shall be CARB Phase 1 compliant.

C. High-pressure plastic laminate, regular grade, is melamine impregnated decorative surface papers, superimposed over kraft phenolic core sheets, vertical grade, high pressure, plastic laminate has a nominal thickness of 0.030 inch complying with NEMA LD 3.
   1. Exposed interior and exposed exterior surfaces.

D. Low-pressure plastic laminate are panels of melamine resin impregnated decorative paper, thermally fused to industrial grade particleboard or to service tempered hardboard. Thermal fusion under heat and pressure, permanently bonds the resin-impregnated paper to the substrate and produces a permanent bond between the melamine surface and the substrate. Low-pressure plastic laminate is frosty white in color. Low-pressure plastic laminated to hardboard is used as drawer bottoms and unexposed interior backs.
   1. Unexposed and concealed interior and unexposed exterior.

2.4 FABRICATION

A. Cabinets have a 1 inch by 4 inches, low-pressure plastic laminate on particleboard core horizontal front and back top frame member, with black PVC edge-band on front member. Front intermediate rail is 10-5/8 inches by 3/4 inch, low- pressure plastic laminate on particleboard core. Exposed exterior backs are high-pressure plastic laminated 3/4 inch particleboard. Cabinets with exposed interiors but unexposed exteriors have 3/4 inch particleboard, and the unexposed surface is laminated with low-pressure plastic laminate. Cabinets with unexposed interiors and exteriors have faces of low-pressure plastic laminated 1/4 inch hardboard. Exposed interior or exterior end panels are high-pressure plastic laminated 3/4 inch particleboard. Unexposed interior or exterior end panels are low-pressure plastic laminated 3/4 inch particleboard. Bottom, shelves, and dividers in cabinets with exposed interiors are high-pressure plastic laminated 3/4 inch particleboard; with unexposed interiors is low-pressure plastic laminated 3/4 inch particleboard. Exposed edges of end panels, bottom, shelves and dividers are edged with black PVC, applied after lamination. Color coordinated PVC must be specified, Drawer separators, furnished only when specified, are full depth, 3/4 inch, and low-pressure plastic laminate on particleboard core.

B. Cabinet construction is bored, doweled, dadoed, glued and screwed construction. Cabinets are enclosed without the use of common partitions. A full horizontal, mortise, tenon and glued, top frame is bored, doweled, glued, and reinforced with six (6) screws into the cabinet. Intermediate front rails and bottom rear horizontal parting rails are provided as required. Separators, where specified, are let into routed intermediate rails. Backs are recessed and encapsulated into dadoed end panels then screwed into the top and bottom case members. A standard enclosed toe space, 2-1/4 inches by 4 inches high, is provided, with toe rail bored, doweled and glued to end panels; however, casework cabinets, when in a library assembly such as a circulation desk, will have an enclosed toe space 2-1/4 inches deep by 6 inches high. Shelves are supported on heavy-duty, laboratory grade, twin pin plastic shelf clips, which fit into two double rows of holes drilled 1-1/4 inches on centers, in the case end panels for maximum shelf adjustability.

C. Construction - Wall and Upper Cases: Wall and upper cases have components that are

laminate on particleboard core. Adjustable shelves are 1 inch thick particleboard with laminate faces and appropriate edging. Backs, in cases with exposed interiors and exposed exteriors are 1/4 inch thick hardboard with melamine face. Backs in cases with unexposed interiors and unexposed exteriors are 1/4 inch hardboard with melamine face. Exterior back cross rails: 4 inches by 3/4 inch hardwood plywood.

D. Construction - Tall Cases: Top panels in tall cases with exposed interiors are 1 inch hardwood plywood; tall cases with unexposed interiors have top panels of 1 inch plywood. Bottom panels in tall cases with exposed interiors are 3/4 inch hardwood plywood; and unexposed interiors have 3/4 inch plywood. Interiors, whether exposed or unexposed, are stain color matched to the exterior finish. Adjustable shelves are 1 inch thick hardwood plywood if exposed; 1 inch plywood if unexposed. Shelves are edged with 1/8 inch solid hardwood edging. Backs in tall cases with exposed interiors and exposed exteriors, are 1/4 inch hardwood plywood. Tall cases with unexposed interior or exterior backs have 1/4 inch hardboard melamine color stain matched to the interior. End panels in tall cases with exposed end panels have 3/4 inch hardwood plywood. End panels in cases with unexposed end panels have 3/4 inch plywood. All exposed edges of hardwood plywood components and plywood components are edged with 1/8 inch solid hardwood edging. Tall cases have two exterior hardwood plywood cross rails, 4 inches by 3/4 inch. Tall cases are rigidly constructed, integral units with the strongest, most advanced joinery methods utilized of bored, doweled, dadoed, glued and screwed construction. Each case is completely enclosed without the use of common partitions and has flush construction with overlapping doors to provide a dust resistant interior. The top panel is bored, doweled and glued into end panels; and the bottom panel is bored, doweled and glued into end panels and glued and screwed to the back. Additional back cross rails are provided as required. Backs are recessed and encapsulated into dadoed end panels and screwed to the top and bottom tall case members. An enclosed toe space 2-1/4 inch by 4 inches is provided with toe rail securely bored, doweled and glued to end panels and bottom panel. Adjustable shelves are supported on heavy-duty laboratory grade, twin pin plastic shelf clips, which fit into two rows of holes drilled 1-1/4 inches on centers in the end panels, for maximum shelf adjustability.

2.5 CABINET HARDWARE

A. Provide l casework manufacturer's standard finish, commercial-quality, heavy-duty hardware complying with requirements indicated for each type.

B. Hinges to be selected from manufacturers standard

C. Pulls are wire design: stainless steel

D. Locks on all cabinet doors and drawer to be 5 disc type with master keys

E. Friction roller or magnetic catch catch is zinc plated steel catch with a spring cushioned; polyethylene roller, and a metal strike plate. Screw mounted catches and strike plate have slotted holes for adjustability.

F. Shelf clips are made from clear polycarbonate. Clips have double, 3/16 inch diameter pins and are equipped with shelf lock hold down tabs for 3/4 inch or 1 inch thick shelves.

2.6 COUNTER TOPS- Solid Surface countertops and splash - see specification section

2.7 COUNTERTOP GRILLS AND TOE SPACE GRILLS - Aluminum- clear satin finish, pencil proof for countertop drop in grills. Stamped Steel painted flat black for toe space grills. Sizes as indicated on drawings.

PART 3 EXECUTION

3.1 INSTALLATION

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

1. Installation of casework shall be plumb, level, true and straight, with no distortions.

2. Use concealed shims as required.

3. Where laboratory casework or equipment butts against other finished work, scribe and cut for an accurate fit.

4. Lubricate operating hardware as recommended by the manufacturer.

B. Install countertop and edge surfaces in one plane with flush hairline seams. Locate seams where shown on Shop Drawings.

1. Provide required holes and cutouts for sinks as shown on Shop Drawings.

2. Seal unfinished edges and cutouts in plastic-laminate countertops.

3. Carefully dress joints smooth, remove surface scratches, and clean entire surface.

C. Coordination with Mechanical, Plumbing and Electrical Contractors.

D. Touch-up, repair replace damaged products before Substantial Completion.

END OF SECTION 123554

SECTION 124840 – ENTRANCE MATS AND GRATES

PART 1 - GENERAL

1.01 SUMMARY

A. This section includes the following types of Flooring Systems:

1. Entrance Matting and Framing Assemblies

1.02 REFERENCES

A. American Society for Testing and Materials (ASTM)

B. National Fire Protection Agency (NFPA)

C. The Aluminum Association, Inc.

D. The Carpet and Rug Institute (CRI)

E. The National Floor Safety Institute (NFSI)

F. ADA Accessibility Guidelines (CFR Part 36 Appendix A)

G. Surface Flammability of Carpets and Rugs (CFR 16 Part 1630 and 1631)

1.03 SUBMITTALS

A. Submit the following in accordance with specification section 01300 and contract requirements.

B. Product data for each type of entrance matting and frame to include:

1. Product detail drawing including product cross-section and technical information.

2. Manufacturer’s product specification, installation instructions.

3. Manufacturer’s maintenance and cleaning instructions.

4. Shop drawings showing traffic direction, dimensions, sectioning, insert types and colors, metal finishes and framing.

C. Product samples representing the assembled matting with the selected insert and insert color selector, and frame assembly including installation accessories.

1.04 QUALITY ASSURANCE

A. Flammability: Critical radiant flux 0.45 watts/m^2 or greater, in accordance with ASTM E648. Life Safety Code® NFPA 101, Class 1 Interior Floor Finish Testing and Classification.

B. Slip Resistance: Coefficient of friction 0.60 or greater, in accordance with ASTM D2047 tested in wet conditions.

C. Rolling Load: No deformation with 350 lb/wheel and minimum of 2500 passes. Load applied to a 5” diameter, 2” wide solid polyurethane wheel.

D. Single Source: Obtain entrance matting and frames from a single source to ensure dimensional compatibility.

1.05 DELIVERY, STORAGE AND HANDLING

A. Deliver materials in unopened original factory packaging, labeled to identify product and manufacturer. Store in controlled environment. To avoid damage do not stack other material on top of matting or frames.

1.06 PROJECT CONDITIONS

A. Coordinate installation of recess frame with concrete construction. Install frames to ensure dimensions provided in shop drawings are maintained. Finished recess must be flat and level. Defer frame installation until related interior finish work is in progress.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. Supply entrance matting and frames as manufactured by the Architectural Products Division of Pawling Corporation, 32 Nelson Hill Road, Wassaic, NY 12592.

B. Other manufacturers must comply with requirements indicated in this specification, products data, and shop drawings.

2.02 MATERIALS

A. Aluminum: ASTM B221, alloy 6105-T5 and 6063-T5 for extrusions.

B. Architectural Bronze: ASTM B455, alloy 385 for extrusions.

C. Rigid Vinyl: High impact, rigid PVC.

D. Flexible Vinyl: 80 Durometer, flexible PVC.

E. Tread Inserts: Refer to section 2.03

2.03 ENTRANCE MATTING

A. Pawling Corporation model RG-250 Drain-Well® Entrance Grating. Manufactured from high strength aluminum alloy tread-rail extrusions spaced at 1.5” centers, connected by continuous rigid vinyl hinges perforated to provide drainage. Tread rails to include continuous flexible vinyl cushion for contact with substrate and tread rail insert (selected from options listed below) for exposed walking surface. Flexible vinyl spacers provided on leading and trailing edges as required when recess opening cannot be accommodated by a whole number of rails. Tread rails are standard in mill finish aluminum. Also available in clear, medium bronze, and black anodized finishes.

B. Tread Inserts (select from options listed below)

1. Rigid-Back Nylon “SNC” Carpet: Solution dyed, 100% nylon, 33.8oz/sqyd available in manufacturer’s standard colors. Carpet fibers fusion bonded to continuous two-ply rigid backing. Carpet fibers incorporate anti-stain (Teflon), anti-static, and anti-microbial additives.

2. Bristle Filament “BF” Carpet: Solution dyed polypropylene fibers, 27oz/sqyd with a 50% blend of 600/12- denier multi filament and 595/D1 monofilament, available in manufacturer’s standard colors. Passes 16 CFR Part 1630 (FF 1-70) and 16 CFR Part 1631 (FF 2-70) flammability. Bristle Filament is not Class 1. Carpet fibers to be fusion bonded to continuous two-ply rigid backing. Fibers are waterproof and incorporate UV inhibitors for exterior use.

3. Maxi-Tuft Long Wear “MLW” Carpet: Spaced dyed, 100% polyamide nylon, tetra-lobal fibers, 30oz/sqyd available in manufacturer’s standard colors. Carpet fibers fusion bonded to continuous two-ply rigid backing. Carpet fibers incorporate anti-stain, anti-static, and anti-microbial additives.

4. Rigid Corrugated Vinyl “RCV”: Rigid vinyl extrusion with corrugated surface for improved slip resistance, available in manufacturer’s standard colors. Manufactured with UV stable pigments for improved color fastness.

5. Corrugated Aluminum “CA”: Alloy 6105-T5 extruded aluminum with corrugated surface for improved slip resistance, available in mill finish.

6. Abrasive Aluminum “AA”: Alloy 6105-T5 extruded aluminum with applied medium grit abrasive for maximum slip resistance. Aluminum is mill finish with abrasive available in manufacturer’s standard colors.

C. Flexible Vinyl Nosing

1. Square Nosing: Flexible vinyl nosing model EMV-250 for recess openings not accommodated by a whole number of aluminum tread rails. Nosing can be field trimmed to accommodate slight irregularities in the recess opening.

D. Framing

1. Level Bed: Model RGF-250, alloy 6063-T5 extruded aluminum recessed framing. Installed frame provides 1/2” exposed perimeter trim and a 3/4” deep recess. Standard in mill finish aluminum, also available in clear, medium bronze, and black anodized finishes (specify anodized finish for best resistance to contact with concrete). Installer to use self-leveling screed to ensure smooth, flat recess.

2. Angle Frame: Model SSF-250, alloy 6105-T5 extruded aluminum angle frame. Installed frame provides 1/8” exposed perimeter trim and a 3/4” deep recess. Standard in mill finish aluminum, also available in clear, medium bronze, and black anodized finishes (specify clear anodized finish for best resistance to contact with concrete). Installer to use self-leveling screed to ensure smooth, flat recess.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Examine substrate and area where matting is to be installed. Do not proceed until unsatisfactory conditions have been corrected.

3.02 INSTALLATION

A. Install products in accordance with manufacturer's installation instructions.

B. Recessed opening must be flat, 1/8" in 10'-0", and free of debris before Matting is installed.

3.03 PROTECTION

A. Protect installed frames from damage by using temporary plywood filler in recess opening. Cover exposed frames with similar materials until construction traffic is minimized. Install matting when project is near substantial completion and no further wheeled traffic or major construction operations will affect matting.

3.04 CLEANING

A. Include matting and recess in a routine cleaning and maintenance program. Regular cleaning will maximize functionality, appearance, and life span of the product. Refer to manufacturer's cleaning and maintenance instructions for additional information.

END OF SECTION 124840