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SECTION 12300 – LABORATORY WOOD CASEWORK

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Fabrication, finishing, and installation of standard fixed modular casework
- B. Countertops
- C. Sinks and Sink Accessories
- D. Service Fixtures
- E. Electrical fixtures that are integral with the casework
- F. Utility Chase closure panels between cabinets and at exposed ends of utility chases
- G. Related Equipment: First Aid Kits, Chemical Storage Cabinets, and Goggle Cabinets

1.2 RELATED SECTIONS AND WORK PERFORMED BY OTHER TRADES

- A. Section 06100 - Rough Carpentry: Furnishing and installing framing and blocking in walls, floors and ceiling to support equipment
- B. Section 09560 - Resilient Flooring: Furnishing and installing base molding for casework including base cabinets, tall cabinets, table legs, and any panels that contact the floor surface.
- C. Section 15050 - Basic Mechanical Materials and Methods: Furnishing, installation and connection of traps, tailpieces, drain line and vents, service piping, in-line vacuum breakers, special plumbing fixtures, including any required supports, straps and or hangers.
- D. Section 16050 - Basic Electrical Materials and Methods: Furnishing, installation and connection of all piping, wiring, conduit, junction boxes and related items required to provide services from the building rough in to service fixture within casework and equipment.
- E. Section 11000 – Fume Hoods
- F. All caulking of counter tops, backsplashes, casework, and any equipment performed by trade other than casework installer.

1.3 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Not less than 5 years experience in the actual production of specified products. Casework shall be entirely manufactured and assembled in the USA. (American Made)
- B. Installer Qualifications: Firm with minimum 5 years experience in installation or application of systems similar to those required for this Project and approved by this manufacturer.
- C. Laboratory casework, tops, sinks, service fixtures, manufactured or furnished by one laboratory furniture company for single source responsibility

1.4 SUBMITTALS

- A. Submit shop drawings for all work furnished under this section. Drawings shall show size, arrangement, type of materials, and relationship to adjacent work.
- B. Indicate blocking requirements for installing casework.
- C. Include location of all utility rough-in areas.
- D. Finish selection - Submit finish color charts representing manufacturers full range of standard colors.
- E. Upon completion of installation, and as a condition of acceptance, submit copies of warranty and maintenance.

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1.5 PROJECT CONDITIONS FOR DELIVERY AND INSTALLTION

- A. All wood or metal blocking (wall grounds) installed within the partitions to allow for immediate installation upon delivery.
- B. Interior relative humidity not less than 40 percent, nor more that 60 percent.
- C. Interior temperature to be not less than 65 degrees nor greater than 80 degrees.
- D. All overhead work including grid/soffits, mechanical, electrical, or plumbing to be complete prior to delivery
- E. All painting / finishing is to be complete prior to delivery of casework.
- F. All wet operations to be complete prior to delivery of casework.
- G. Overhead lighting to be installed and operating prior to delivery of casework
- H. Concrete floors to be level within acceptable trade tolerances, within 1/8" of level per 10 foot run. Unacceptable gaps at floors due to this problem will not be the responsibility of the casework installer.

1.6 WARRANTY

- A. Casework Manufacturer Warranty: 3 years from date of delivery.
 - 1. Warranty covers the products for defects in materials and workmanship.
 - 2. Within the warranty period, we shall, at our option, repair, replace, or refund the purchase price of the defective casework.
- B. When notified in writing by the owner, manufacturer shall promptly investigate and address any deficiencies.
- C. Casework manufacturer will not assume any responsibility, or compensation, for unauthorized repairs or labor.
- D. The warranty with respect to products from another company sold by the casework manufacturer is limited to the warranty extended by that company.
- E. Casework manufacturer shall provide, with the closeout documents, a Certificate of Warranty for its products.

PART 2 PRODUCTS

2.1 WOOD LABORATORY CASEWORK

- A. Wood veneer on plywood core with interiors and exteriors finished to match.
 - Finish as selected by Architect from manufacturers range of submitted colors.
- B. Areas designated for handicap users shall comply with ADA standards.
- C. Base Cabinets Materials:
 - 1. Ends panels, dividers, rails, bottoms, and adjustable shelves will be 3/4" hardwood plywood. Exposed edges to be edged with 1/8" solid wood .
 - 2. Exposed edge of top horizontal frame rail will be edged with 1/8" solid wood.
 - 3. Front horizontal top frame rail will be 2 1/4" x 1" solid hardwood.
 - 4. Rear and side horizontal frame rails will be 2 1/8" x 1" solid hardwood.
 - 5. Exposed exterior back panels will be 3/4" hardwood plywood.
 - 6. Exposed interior with unexposed exteriors will have 1/4" hardwood plywood backs.
 - 7. Unexposed interior and exterior backs will have 1/4" hardboard with wood grained melamine face backs.
 - 8. On cabinet wider than 36" shelves will be 1" thick edged with the 1/8" hardwood on one edge.
- D. Base Cabinet Construction:
 - 1. Bored, doweled, dadoed, glued and screwed construction.
 - 2. Cabinets are enclosed without the use of common partitions.
 - 3. Full horizontal top frame is bored, doweled, glued, and reinforced with pocketed wood screws.

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4. Backs are recessed and encapsulated into dadoed end panels then screwed into the top and bottom case members.
 5. Enclosed toe space 3" x 4" high is provided, with toe rail bored, doweled, and glued to end panels.
 6. Shelves are supported on heavy-duty, laboratory grade, locking, twin pin plastic shelf clips which fit into holes drilled into the case end panels for maximum stability and adjustability.
- E. Wall and Upper Cabinet Material:
1. End panels are ¾" hardwood plywood with exposed edge edged with 1/8" solid wood.
 2. Tops and bottoms are 1" hardwood plywood with exposed edge edged with 1/8" solid wood.
 3. Adjustable shelves are 1" hardwood plywood with exposed edge edged with 1/8" solid wood.
 4. Exposed interior backs panels are ¾" hardwood plywood.
 5. Unexposed interior backs panels are ¾" hardboard with wood grain melamine face.
 6. Exterior hanger rails are ¾" x 4" hardwood plywood.
- F. Wall and Upper Cabinet Construction:
1. Top and bottom panels are bored, doweled, and glued to the end panels
 2. Shelves are supported with heavy duty laboratory standard grade double pinned plastic shelf clips.
 3. Backs are recessed and let into dadoed end panels, screwed to top and bottom panels.
 4. Top and bottom exterior plywood hanger rails are bored, doweled, and glued to the end panels and screwed to the top and bottom panels.
- G. Tall Case Material.
1. End panels are ¾" hardwood plywood with exposed edge edged with 1/8" solid wood.
 2. Top panels are 1" hardwood plywood with exposed edge edged with 1/8" solid wood.
 3. Bottom panels are 1" hardwood plywood with exposed edge edged with 1/8" solid wood.
 4. Adjustable shelves are 1" hardwood plywood with exposed edge edged with 1/8" solid wood.
 5. Exposed interior and exposed exterior back panels are ¾" hardwood plywood.
 6. Unexposed interior and exterior back panels are ¾" hardboard with wood grain melamine face..
- H. Tall Cabinet Construction:
1. Top and bottom panels are bored, doweled, and glued to the end panels
 2. Shelves are supported with heavy duty laboratory standard grade double pinned plastic shelf clips.
 3. Backs are recessed and let into dadoed end panels, screwed to top and bottom panels.
 4. Two horizontal exterior cross rails are provided on the back of the cabinet.
 5. Enclosed toe space 3" deep x 4" high is provided, with toe rail bored, doweled, and glued to end panels.
- I. Drawer Box Material
1. Drawer front is ¾" thick hardwood plywood edged on 4 sides with 1/8" solid wood.
 2. Drawer box front, sides, and back are ½" 9-ply hardwood plywood.
 3. Drawer bottom is ¾" hardwood plywood .
- J. Drawer Box Construction
1. All four corners of the drawer box are dovetailed and glued.
 2. Top edges of the drawer box are radiused.
 3. Drawer bottom is let in on four sides.
- K. Open Frame Table Material
1. Solid wood rails – ¾" x 4"
 2. Solid wood legs, one piece - 2 ¼" square – with leveling glide
- L. Open Frame Table Construction
1. Double steel corner brackets attached to solid wood rails with wood screws
 2. Double steel corner brackets secured to legs with (2) 5/16" through bolts

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2.2 CABINET HARDWARE

- A. Hinges:
 - Steel, Institutional type, 5 knuckle, ground hospital tip
- B. Pulls:
 - Solid metal, 4" wire
- C. Door Catches
 - Polyethylene friction roller with spring, metal strike plate, zinc coated
- D. Drawer Slides
 - 1. Epoxy coated steel with heavy duty nylon ball bearing rollers, 100 lb. load capacity.
 - 2. Self-closing with positive stop to prevent accidental removal
- E. Locks:
 - 1. Laboratory grade, cylinder cam lock, with 5 disk tumbler mechanism
 - 2. 200 available key changes with different, master and grandmaster keying systems possible
- F. Shelf Clips:
 - Laboratory grade twin pin polycarbonate
- G. Leg Shoes:
 - Molded black polyethylene, with open bottom

2.3 COUNTER TOPS / SINKS / ACCESSORIES

- A. Epoxy Resin:
 - 1. 1" thick, molded from a modified epoxy resin.
 - a. Color: Black
 - 2. Exposed edges and corners are eased with a slight radius.
 - 3. A drip groove is provided on the bottom surface in areas where sinks are installed.
 - 4. Curbs (back splashes and end splashes) are 4" high and are loose and applied in the field.
- B. Epoxy Sinks:
 - 1. Molded in one piece from modified epoxy resins.
 - 2. Drop in style.
 - 3. Non glaring black.
 - 4. All Inside corners are coved and the bottom is dished to the outlet location.
 - 5. Sink outlets are polypropylene with 1 ½" NPS threads.
- C. Pegboards:
 - 1. 1" thick modified epoxy resin.
 - 2. Removable polypropylene pegs.
 - 3. Optional stainless steel drip troughs with drain outlet and hose.

2.4 SERVICE FIXTURES

- A. Electrical Components
 - 1. Receptacles are 3 wire grounded, 20 A, 125 V AC, with Plastic Cover Plates and steel boxes .
 - 2. All receptacles are G.F.I. type with LED indicator light.
 - 3. Components conform to UL Standard 943 Class A.
- B. Plumbing Service Fixtures that comply with SEFA 7.
 - 1. Gas, Air, and Vacuum service:
 - a. Turret Body: Forged brass with polished chrome plated finish

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- b. Valve: Quarter-turn open/close with chrome plated brass ball and molded TFE seals
 - c. Handle: Chrome plated forged brass lever with color coded index disc
 - d. Inlet: 3/8" IPS mounting shank (assembled), locknut and washer. 3/8" NPT male inlet
 - e. Outlet: 3/8" NPT female outlet with removable ten serration hose end
2. Single Service Water Fixture:
- a. Body: Forged brass with polished chrome plated finish
 - b. Valve: Self-contained compression valve unit with replaceable stainless steel seat
 - c. Handle: Forged brass four-arm handle with color-coded index disc. (Blade handle at ADA locations)
 - d. Gooseneck: 6" rigid gooseneck
 - e. Vacuum Breaker: Integral vacuum breaker to prevent backflow. Vacuum breaker has replaceable seat and ultra light float cup to resist spilling at low flow.
 - f. Inlet: 3/8" NPT male inlet. Furnished complete with lock nut and washer (assembled)
 - g. Outlet: 3/8" NPS female outlet with removable ten serration hose end.
3. Mixing Faucet Fixture for Hot and Cold Water:
- a. Body: Forged brass with polished chrome plated finish
 - b. Valve: Self-contained compression valve units with replaceable stainless steel seat
 - c. Handle: Forged brass four-arm handles with color-coded index disc. (Blade handles at ADA locations)
 - d. Gooseneck: 6" rigid gooseneck
 - e. Vacuum Breaker: Integral vacuum breaker to prevent backflow. Vacuum breaker has replaceable seat and ultra-light float cup to resist spilling at low flow
 - f. Inlet: 1 3/16" male shank with (2) 3/8" OD flexible copper tubes. Furnished complete with lock nut and washer (assembled)
 - g. Outlet: 3/8" NPS female outlet with removable ten serration hose end
4. Double Service Fixture:
- a. Body: Forged brass with polished chrome plated finish
 - b. Water Valve: Self-contained compression valve units with replaceable stainless steel seat
 - c. Handle: Forged brass four-arm handles with color-coded index disc. (Blade handles at ADA locations)
 - d. Gooseneck: 6" rigid gooseneck with 3/8" NPS female outlet and removable ten serration hose end
 - e. Vacuum Breaker: Integral vacuum breaker to prevent backflow. Vacuum breaker has replaceable seat and ultra-light float cup to resist spilling at low flow
 - f. Gas, air, vacuum valve: (2) lab ball valves of forged brass with lever handle and integral ten serration hose end
 - g. Inlets: (2) 3/8" NPT male shanks. Furnished complete with lock nuts and washers (assembled)

PART 3 EXECUTION

3.1 INSPECTION

- A. Verify that all Jobsite Conditions are met as listed in section 1.5 "PROJECT CONDITIONS FOR DELIVERY AND INSTALLATION."
- B. Advise General Contractor if these conditions are not met.
- C. Coordinate the delivery and installation with the General Contractor and / or Owner.

3.2 INSTALLATION

- A. Installation of casework and equipment to be plumb, level, true and straight. Use concealed shims as required.
- B. When laboratory casework butts against other work or walls scribe and cut fillers for accurate fit.
- C. All caulking to be done by other trade.
- D. If needed make adjustments to casework and hardware for smooth operation of doors and drawers, with no warp or bind.
- E. Hand off all plumbing / electrical / or various other items to the appropriate subcontractors for assembly and installation.

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END OF SECTION