

SECTION 12 35 53 – LABORATORY CASEWORK, EPOXY COUNTERTOPS, AND ACCESSORIES

PART 1 - GENERAL:

1.1 SUMMARY

- A. Wood Laboratory Casework Table frames.
- B. Work surfaces.
- C. Sinks, drain outlets.
- D. Service fittings.
- E. Accessory items as specified herein.

1.2 RELATED SECTIONS

- A. Division 6: Rough carpentry, blocking within walls to adequately support casework.
- B. Division 9: Furnishing and installation of base molding.
- C. Division 11: Laboratory Fume Hoods.
- D. Division 15: Furnishing and installation of piping, drain line, traps, final connections and setting of sinks and fixtures.
- E. Division 15: Furnishing and installation of exhaust ductwork, transition(s), blowers and equipment, and final connection to fume hood(s).
- F. Division 16: Furnishing and installation of electrical wiring, conduit and/or electrical items and final connections.

1.3 FIELD MEASUREMENTS FOR COUNTERTOPS:

- A. Verify dimensions of countertops by field measurements after base cabinets are installed but before countertop fabrication is complete. Coordinate fabrication schedule with construction progress to avoid delaying the work.

1.4 COORDINATION

- A. Coordinate layout and installation of blocking and reinforcement in walls for support of casework.
- B. Coordinate layout and installation of existing Piping locations.

1.5 PROJECT CONDITIONS

- A. Do not deliver or install wood product until the following conditions are met:
 - 1. Windows and doors are installed and the building is secure and weathertight.
 - 2. Ceiling, overhead ductwork and lights are installed.
 - 3. All painting is completed and floor tile is installed.
 - 4. Interior building temperature to be between 65° F and 80° F, and ambient relative humidity maintained between 25% and 55% prior to delivery, and during and after installation. Frequent and/or excessive changes in temperature and/or humidity levels during casework installation, or once casework is installed, must be avoided to prevent damage to materials.

1.6 SCOPE OF THE LABORATORY CASEWORK SUPPLIER:

- A. Laboratory casework and equipment: Furnish to building, and unpad and/or uncrate, set in place and level all specified casework and equipment.
 - 1. Equipment manufacturer shall be fully responsible for shipping and shall bear shipping expense, retain title during transit, and file damage claims as necessary.

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- B. Clean up: Remove debris, dirt, and rubbish accumulated as a result of delivery of this equipment and leave premises broom clean and orderly.

- C. ADA-Americans With Disabilities Act Requirements: The following special requirements shall be met, where specifically indicated on architectural plans as ADA," or by General Note. To be in compliance with Federal Register Volume 56, No. 144, Rules and Regulations:
 - 1. Countertop height: with or without cabinet below, not to exceed a height of 34 inches A.F.F.,
(Above Finished Floor), at a surface depth of 24 inches.
 - 2. Kneespace clearance: to be a minimum 27 inches A.F.F., and 30 inches clear span width. $\frac{3}{4}$ " inch deep shelving, adjustable of fixed: not to exceed a range from 9 inches A.F.F. to 54 inches A.F.F.
 - 3. Sink cabinet clearances: in addition to F.1., 2. above, upper kneespace frontal depth to be no less than 8 inches, and lower toe frontal depth to be no less than 11 inches, at a point 9 inches A.F.F., and as further described in Volume 6, Section 4.19.
- D. Fillers, scribes, access holes: Provide all necessary fillers and scribes for a complete job. provide all access holes in cabinets and countertops required by mechanical, electrical, and HVAC contractors.

1.8 RELATED WORK GENERAL CONTRACTOR / BY OTHERS:

- A. Service to and within equipment: Furnishing piping system, traps, drainlines, and conduit within equipment, in service turrets or tunnels, through, under or along backs of working surfaces and in reagent racks above countertops.
- B. Setting of plumbing fixtures: Setting of plumbing and accessory fixtures. Troughs and sinks, except the stainless steel drop-in type, shall be installed flush to underside of work surface with sufficient caulking to prevent leakage when working surfaces are installed by the equipment contractor.
- C. Plumbing services: Furnishing, installation and connection of traps, drainlines, sinks, vents, revents, steam fittings and special plumbing fixtures or piping to meet local codes, whether or not specifically called for in the contract documents. (Except in fume hoods.)
- D. Electrical services: Furnishing and installation of rigid and flexible conduit, fittings, and special electrical equipment and accessories, wire, pulling of wire, and wiring and connection of switch to fume hood lights and blower motors. Installation of electrical boxes, receptacles, switches, lights, and flush plates furnished by the electrical contractor. Work shall be in accordance with local codes, whether or not specifically called for in the contract documents. (Except in fume hoods.)
- E. Bracing and supports: Furnishing and installation of all framing and reinforcements of wall, floors and ceilings necessary to adequately support the equipment, and all bucks and plaster grounds required for proper installation of equipment. Casework contractor to direct others as to the type of bracing required and the location needed.
- F. Miscellaneous material: Furnishing of miscellaneous materials generally classified as maintenance or supply items.
- G. Hoisting or elevator service: Provided by General Contractor or OWNER at no charge to the Laboratory Casework Supplier.
- H. Security during and after equipment installation: Protection provided by general contractor.
- I. Base molding 4" high applied to casework furnished and installed by flooring contractor.

1.9 DELIVERY, STORAGE AND HANDLING

- A. Schedule delivery of casework and equipment so that spaces are sufficiently complete that material can be installed immediately following delivery.

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- B. Protect finished surfaces from soiling or damage during handling and installation.
- C. Protect work surfaces throughout the construction period with corrugated cardboard covering the top and securely taped to edges.

1.9.1 SUBMITTALS:

- A. Shop Drawings: Provide large scale plans and elevations of individual and battery casework units, cross sections, rough-in and anchor placements, tolerances and clearances. Indicate relation of units to surrounding walls, windows, doors and other building components.
- B. Product Data: Submit manufacturer's catalog for reference. Provide overall cabinet dimensions, configurations, construction details, joint details, attachment details, and roughing in details as required.
- C. Structural performance requirements: Casework components shall withstand the following minimum loads without damage or permanent deformation to the component or to the casework operation:
 - 1. Steel base unit load capacity: 500 lbs. per lineal foot.
 - 2. Suspended units: 300 lbs.
 - 3. Drawers in a cabinet: 150 lbs.
 - 4. Utility tables (4 legged): 300 lbs.
 - 5. Hanging wall cases: 300 lbs.
 - 6. Load capacity for shelves of base units, wall cases and tall cases: 40 lbs. per square foot, up to 200 lbs.
- D. Product Samples to be submitted for approval (1 each):
 - 1. Worktop construction. 4" x 4" samples of each material.
 - 2. Finish: Samples 3" x 5" of all available standard stain colors and natural finish selected by architect to match an existing finish at jobsite.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Approved manufacturers are:
 - 1. Innovative Laboratory Systems
 - 2. Kewaunee Scientific
 - 3. Mott Manufacturing
 - 4. Wynn O. Jones
- B. Substitutions: Requests for Substitution must be approved by the Architect prior to bidding.

2.2 WOOD CASEWORK DESIGN

- A. All wood casework furniture, interior and exterior veneer surfaces exposed after installation must be stained and finished with multiple coats of chemical resistant acrylic urethane finish (including UV blocker).
- B. Wood option short menu.
 - 1. Cabinet Front and/or Drawer Style: LIPPED OVERLAY "Legacy"
 - 2. Veneer Type: Plain-sliced select RED OAK.
 - 3. Grain Direction: **Vertical Grain Match Required at Drawers and Doors**
 - 4. Cabinet Core (sides & bottom): VENEER CORE PLYWOOD - standard default.
 - 5. Cabinet Top frame: FRONT HORIZONTAL / REAR VERTICAL RAILS - standard default.
 - 6. Intermediate Front rails: WITH – standard default for Legacy Lipped Overlay
 - 7. Intermediate Rear Rails: WITH

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8. Security Panels: WITH SECURITY PANELS INCLUDING FRONT & REAR RAILS ONLY ON LOCKED CABINETS
9. Removable Back Panel - Base Cab Only: ONE-PIECE BEHIND CUPBOARD, OPEN BEHIND DRAWERS - standard default.
10. Drawer Construction, Drawer Height: STANDARD HEIGHT – standard default
11. Drawer Construction : LOCK JOINT, WHITE FINISHED MDF, NO DIVIDER GROOVES - standard default.
12. Drawer Suspension: FULL-EXTENSION, ACCURIDE 3832 – 100LB, ZINC PLATED
13. Shelf Material: WOOD – standard default.
14. Base Cabinet Shelf Depth: HALF DEPTH, 12" SHELF – standard default
15. Shelf Thickness: 3/4 " thick - 65lb rating, 12,15,18,21,24,30" widths; 1" thick - 100lb rating 36,42, 48" widths - standard default.
16. Shelf Clips: PLATED PIN & SOCKET - standard default.
17. Drawer/Door Pull Direction: CONFIGURATION 1 – HORIZONTAL ON DOORS, VERTICAL ON DRAWERS - standard default.
18. Drawer/Door Pulls: RECTANGULAR BRUSHED ALUMINUM
19. Door Hinge: 5-KNUCKLE STAINLESS STEEL
20. Plywood Base: INTEGRAL WITH END PANELS WITH LEVELERS
21. Lock type – All drawers and doors to be furnished with locks. Each student desk to be keyed individually.
22. Catches: ROLLER
23. Label Holders; NONE - standard default.
24. Glass: LAMINATED SAFETY GLASS, 6MM ON ALL UNITS
25. Finish: STANDARD FINISH – standard default

2.3 EPOXY RESIN COUNTERTOPS, SINKS AND PEGBOARDS:

- A. Material: Chemically resistant, durable top of 1' cast material of epoxy resins an inert products, cast flat to a uniform thickness, with a uniform low-sheen black surface.
 1. Backsplash Curbs: Same material as above, 4" high, butt curb design.
- B. Sinks (Provide undermount, Unless Otherwise Indicated):
 1. Epoxy resin sinks, : Integrally molded from modified thermosetting black epoxy resin. Cove inside corners and pitch bottom to threaded drain outlet.
 2. If required sink supports on 11 gauge adjustable 1" x 2"x 1" channel with reagent resistant finish – two channels per sink.
 3. Provide 1 1/2" diameter modified epoxy resin sinkplug. Traps by others.
- C. Pegboards; Fabricated of 1" thick black epoxy resin with white polypropylene pegs and 2" deep full width stainless steel drip trough with outlet. Base of pegs shall be two prong style for mechanical attachment. Do not bond pegs to board.

PART 3 EXECUTION

3.1 CASEWORK INSTALLATION (By Certified Factory Installer Only)

- A. Set casework components plumb, square, and level with no distortion and securely anchored to building structure. Shim as required using concealed shims.
- B. Fasten continuous cabinets together with joints flush, tight and uniform, and with alignment of adjacent units within 1/16" tolerance.
- C. Secure wall cabinets to solid supporting material, not to plaster, lath of gypsum board. Blocking in wall by rough carpentry.
- D. Abut top edge surfaces in one true plane. Provide flush joints not to exceed between top units.

3.2. WORK SURFACE INSTALLATION:

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- A. Where required due to field conditions, scribe to abutting surfaces.
- B. Secure joints in the field, where practicable, in the same manner as in factory, with adhesive of fasteners recommended by manufacturer.
- C. Secure work surfaces to casework and equipment components with material and procedures recommended by the manufacturer.

3.3 SINK INSTALLATION:

- A. Sinks shall be set in chemical resistant sealing compound and secured and supported per manufacturer's recommendations. All others sinks installed by others.

END OF SECTION 10-12345