LEONARD PETERSON & CO., INC.
WOOD LABORATORY FURNITURE SPECIFICATIONS
CENTURY LINE
2011

PART 1: GENERAL REQUIREMENTS:

1.01 PRODUCT:

1. Wood laboratory casework and equipment covered by this specification and/or equipment schedule, and accompanying drawings to be the product of one manufacturer or dealer thereof and shall be supplied under his direction to eliminate divided responsibility, unless directly called out in Contract Documents to be of another manufacturer or dealer thereof.

    A. The manufacturer's catalog and model numbers listed on the drawings and/or in equipment schedule are those of Leonard Peterson & Co., Inc., Auburn, Alabama, except where noted otherwise.
    B. Refer to details and/or equipment schedule for location of materials to be provided. Although not necessarily shown on details or listed in schedule, casework supplier must provide all materials necessary (i.e. finished ends, finished backs, fillers, scribes, etc.) to make for a complete installation.

2. Bidders must be prepared to show the following proof of their ability to perform under this contract. Failure to meet requirements and qualifications will be sufficient cause for rejection of any or all bids.

    A. Minimum of ten (10) years' experience in the manufacture of wood laboratory casework and equipment.
    B. Minimum of twenty (20) completed installations of equal size and requirements which can be inspected prior to award of contract.
    C. Financial and technical resources of sufficient scope to insure prompt and satisfactory performance in the production and delivery of all equipment specified.
    D. Financial and technical resources of sufficient scope to insure prompt and satisfactory installation and/or connection of the equipment and casework that is part of this specification.

3. The owner reserves the right to reject the manufacturer or subcontractor proposed for this Section of Work if, such manufacturer or subcontractor cannot meet the requirements of these specifications or has a past record of poor performance. Rejected manufacturer shall be replaced by another who's product complies with the requirements of this specification.

4. Equipment may be inspected by the owner at the equipment manufacturer's plant prior to shipment. Any equipment failing to meet with these specifications and approved shop drawings will be rejected. All rejected equipment must be promptly replaced at no cost to the owner.

1.02 STANDARDS OF QUALITY:

1. The prime intent of this specification, applicable drawings, and equipment schedule is to show and define the essential minimum requirements as to the quality of materials, construction, finish and overall workmanship to be supplied, providing an installed project that will be functional, provide long life with a minimum of maintenance and be operationally safe. Equipment offered differing from that specified or shown on the drawings cannot be considered unless ample proof is submitted in the form of complete drawings and samples, prior to bid which indicates all essential requirements of the specifications are strictly adhered to. Acceptance of any deviations or changes to be made in writing in the form of an addendum for all qualified bidders.

2. The owner, or his designated representative, reserves the right to reject proposals offering equipment which do not meet the standard of quality established by these specifications. Any such decision will be considered final and not subject to further recourse.

1.03 DESCRIPTION OF WORK REQUIRED (Scope):

1. Wood laboratory casework and equipment as specified herein and/or as scheduled, or as noted on the drawings is to be furnished, delivered, and installed in the location required by the drawings, and left ready for installation and connection of plumbing fixtures and electrical fixtures by others.

2. In general, casework, equipment, service fixtures and related work shall include:

   A. Furnishing, delivering to the building, uncrating, setting in place and leveling all casework and equipment listed in this specification or equipment schedule and/or shown on the drawings.
   B. Furnishing plumbing fixtures and fittings as defined in this specification, complete with tank nipples and lock nuts for mounting fixtures and fittings to tops or curbs. Fixtures shall be furnished assembled, tank nipples loose, in properly marked cartons for installation and final hook up or connection by others. Nipples for water (except deionized water) and gases to be brass.
   C. Furnishing electrical service fixtures directly attached to the casework or equipment as called for in this specification, equipment list and/or shown on the drawings. Fixtures shall be furnished assembled in properly marked cartons for installation and final hook up or connection by others. Duplex electric boxes located in cabinetry or aprons shall be installed at the factory by the equipment manufacturer.

D. Furnishing of sink bowls and cupsinks, complete with required sink supports, overflows, and outlets with plugs and strainers, as called for in this specification, equipment schedule and/or shown on the drawings. Units shall be assembled and installed by casework contractor. Separate outlets shall not exceed four inches in length. Outlets shall be furnished less couplings or tail pieces required to connect to the drain piping system. Installation of outlets by others.

E. Furnishing with specified fume hoods, all service fixtures, fittings, remote control rods, escutcheon plates, valve handles and nipples. Service fixtures shall be furnished assembled in properly marked cartons for installation and final connection by others.

F. Furnishing with specified fume hoods, all electric fixtures and fittings, light fixtures, light switches, fan switches and pilot lights outlined. Light fixtures shall be installed in the hoods. Items shall be furnished assembled and mounted where practical, ready for final hook up by others. Wiring is not included in this work unless otherwise listed.

G. Furnishing and installing countertops as shown on the drawings, of the size and shape required on all laboratory casework.

H. Remove all debris, dirt and rubbish accumulated as a result of installation of this equipment, leaving premises broom clean and orderly.

I. Final Adjustment: It is recognized that wood doors and drawers will swell and stick because of unusually high ambient moisture in new construction work. Casework installer shall during the first year return after final inspection to make any final adjustments to drawers and doors to eliminate sticking or other problems. Any doors or drawers which cannot be corrected shall be replaced (see Part 3 - Execution).

1.04 DEFINITIONS:

1. SERVICE FIXTURES are defined as gas, air and vacuum cocks; hot and cold water faucets; safety shower and eyewashes. Service fixtures also include electrical convenience outlet boxes and single or multiple A.C. receptacles.

2. SERVICE LINES are defined as gas, air, vacuum, hot and cold water piping, fittings and shut-off valves necessary to carry respective services from rough-in outlets in the walls or floors to service fixtures. Service lines also include all conduits, junction boxes, conduit fittings and wire necessary to carry electrical services from building rough-in outlets in floors and walls to service fixtures.

3. “OTHERS” are defined as separate and independent contractors who have no connection whatever with the casework and laboratory equipment mentioned in these specifications except to complete “Work by Others”.

1.05 RELATED WORK PERFORMED BY OTHERS OR SPECIFIED ELSEWHERE:

1. Mounting of service fixtures, installation of sink outlets, connections of service fixtures to rough-ins, duct work installation and materials required for same or to support same to be furnished and/or installed by others. See mechanical, electrical and plumbing portions of specifications.

2. Furnishing and installing of all reinforcements for wall, floors, and ceilings to adequately support or anchor laboratory equipment.

3. Furnishing fluorescent tubes, light bulbs, and other miscellaneous materials understood and considered to be maintenance or supply items.

4. Furnishing or making available necessary hoisting, elevator service, or unusual equipment required to distribute casework or equipment to its proper locations.

5. Providing protection and security of laboratory furniture and equipment after delivery to job site.

1.06 COORDINATING AND REFERENCES:

1. The work of this specification may require close coordination with the work of other sections of the specifications and/or the work of other trades to obtain the proper sequence of operations and installation of material.

2. Refer to drawings for locations of the various items. Check all drawings and equipment schedule to determine extent of work and special details.

1.07 SHOP DRAWINGS:

1. For approval by owner or architect and for job site use, furnish seven (7) sets of shop drawings showing plans, elevations and rough-ins of all items described in equipment schedule and/or shown on drawings. Provide revised drawings as required. Submittal of complete shop details to be submitted 60 days after award or casework supplier will be considered in default and subject to termination of contract or order.

2. Verify building measurements prior to fabrication and adjust casework accordingly to insure proper fit of all items. Casework manufacturer is to prepare all top details showing joint, hole, sink and other cutout locations.

3. Submit three (3) sets of as-built shop drawings including top details, special construction details and equipment schedules upon completion of project for owners records.

1.08 SAMPLES: (As requested by owner or Architect)

1. Samples to be submitted to and approved by the owner or Architect before proceeding with any of the work. Submit full-size working samples clearly showing the following:
   A. Top construction-as specified.
   B. Drawer construction.
   C. Corner and leg construction.
   D. Cabinet construction.
   E. Door construction.
   F. Cabinet finish.
   G. Hardware.
   H. Plumbing fixtures if other than called out on the Drawings.
   I. Sink construction-as specified.

2. Owner or architect will furnish contractor with sample approval in writing.

1.09 WARRANTY:

1. Furniture shall be provided with a 10 year Warranty covering materials and workmanship of casework product furnished..

   Materials or components specified by the owner or architect by trade or brand name shall be warranted by the supplier to the extent of the manufacturer's warranty for such materials or components furnished.

Part 2: WOOD AND LABORATORY FURNITURE:

2.01 GENERAL:

1. Casework shall be traditional lipped design and be constructed in accordance with the best woodworking practices of the cabinet making industry. First class quality of casework shall be established by use of proper machinery and finishing procedures, tools, fixtures and skilled workmanship.

2. Units to incorporate blind mortised and tenoned type construction with all joints glued and screwed together, making each unit rigid and self-supporting. Doweled casework construction or face frame millwork type construction is not acceptable.

3. The following outlines minimum material and construction standards. Products meeting or exceeding these minimum standards will be acceptable.

2.02 MATERIALS:

1. Materials used for construction of cabinets, cases and tables shall be:

   A. All exposed solid wood parts shall be Northern grown red oak, clean

and free from defects. All interior solid wood shall be sound hardwood. All lumber to be kiln dried to a uniform moisture content of 6 percent.

B. Oak, birch or maple plywood shall be veneer core in thicknesses as specified, balanced construction, having face veneers not less than 1/28" in thickness. Exposed oak veneers shall be plain sliced (rotary cut not acceptable) selected for color - grade A-2. Semi-exposed and unexposed veneers shall be birch, maple or oak unselected for color. No particle board will be acceptable for veneer cores except as core material in fully hardwood banded doors and leg panels.

C. Medium Density Fiberboard (MDF) is a fiberboard product made of softwood fibers compressed and cured under high temperature and pressure into a homogeneous stable panel with a density of 44 to 48 pounds per cubic foot. Panel thicknesses are obtained by a single pressing.

D. Tempered Hardboard is a panel manufactured from inter-felted lignocellulosic fibers which are consolidated under heat and pressure in a hot press to a density of 50-55 pounds per cubic foot. Both sides of the panel are smooth. Panel face is comprised of a layer of more highly refined aspen wood fibers that provide a superior finishing surface. Surface and strength properties are further enhanced by the addition of a drying oil to both sides, which is subsequently baked. This “tempering” process provides improved surface, modulus of rupture, internal bond (PTS) and water properties. No formaldehyde binders are used in tempered hardboard panels.

E. Glass to be 1/8" or 7/32" thick float glass without imperfections and with unmarred surfaces. Safety glass, where called for, shall be 7/32" combination safety glass.

F. Glues shall be water resistant, with gluing done in presses, clamps and jigs.

2.03 CONSTRUCTION:

1. Base cabinets and case units to be of lipped style construction having drawer heads and hinged doors with radius edges, overlapping cabinet and case openings on all edges. Units shall be integral, completely factory assembled and finished. Cabinets constructed with flush interiors having no offsets, to maximize drawer and cupboard space and for ease of cleanability. Face frame constructed cabinets or cases, or cabinet construction featuring drawers which operate on side or bottom mounted slides, are not acceptable. Cabinets shall be constructed so that hinges fasten to solid lumber. Cabinets to be assembled using blind mortised and tenoned (or rabbeted) joints, glued and screwed together in accordance with the best cabinet makers methods. Cabinet or casework featuring pinned or doweled construction is not acceptable. All exposed joints shall be closely fitted and tight showing no open joints when cabinet in finished. All exposed corners rounded to a radius of at least 3/16".

2. Materials to be used for cabinet and case parts shall be:

A. Solid Oak Hardwood:
Exposed rails of top and intermediate frames.
Facers (exposed edges) of finished ends, finished backs, unfinished ends, partitions, bottoms, and shelves.
Glazed door frames, table aprons or rails, table legs, drawer heads, and case headers.

B. Solid Hardwood:
Internal cabinet frame members, cross rails in table aprons, drawer sides and backs.

C. Oak Plywood:
Exposed ends, partitions, bottoms, backs and shelves. Doors and file drawer heads.

D. Birch or Maple Plywood:
Semi-exposed or unexposed ends, partitions, bottoms, shelves, drawer sides and backs. Case tops and framed book compartment bottoms.

E. Tempered Hardboard (fiber board):
Unexposed cabinet and case backs, drawer bottoms, book compartment bottoms, and security panels.

3. Base Cabinet Construction:

A. Exposed ends, 3/4" oak plywood with 3/4" wide x 1-1/4" thick oak facer.
Unexposed ends, minimum 5/8" birch or maple plywood with 3/4" wide x 1-1/4" thick oak facer.
Interior of sides machined for frame(s) and bottom, and bored for shelf support clips when required.

B. Top frames, 1" thick rectangular made of 4 pieces with center rail added on sections over 24" in length.
No part of cabinet frames to be less than 1-3/4" in width.
Frames assembled with tongue and grooved joints, with joints being glued together.
Ends of frames tenoned and bored for blind assembly with glue and reinforced with screws to cabinet walls. Depending upon cabinet style frames shall be grooved to receive partitions.

C. Bottoms, 3/4" thick plywood with 3/4" wide x 3/4" thick oak facer. Ends of bottoms tenoned and bored for blind assembly with glue and reinforced with screws to cabinet walls. Depending upon cabinet style bottoms shall be grooved to receive partitions.

D. Intermediate frames, 3/4" thick rectangular made of 4 pieces with center rail added on sections over 24" in length for added frame rigidity and to receive grooves for vertical partitions.
No part of cabinet frames to be less than 1-3/4" in width.
Frames assembled with tongue and grooved joints, with joints being glued together.
Ends of frames tenoned and bored for blind assembly with glue and

reinforced with screws to cabinet walls. Depending upon cabinet style frames shall be grooved to receive partitions.

E. Partitions, 3/4" thick plywood with 3/4" wide x 3/4 " thick oak facer. Partitions to be machined for frames and/or bored for shelf clips. Top and bottom ends of partitions to be machined for assembly with glue and reinforced with screws into cabinet frames or bottoms.

F. Interior Cupboard Backs, ¼" thick shall be removable without the use of tools. Exposed finished backs on mobile, free standing or island units ¾" thick faced on exposed edges with solid oak. Units up to 8' long requiring finished backs shall be provided with one piece backs and shipped assembled to cabinets.

G. Shelves, ¾" thick plywood faced with minimum ¾" wide x 1/8" (3mm) thick oak banding on exposed edge(s).
Shelves shall mount on double pinned nylon shelf clips adjustable on 1-1/4" centers fitting into bored holes in cabinet ends or partitions. Each clip has a rated 400 pound weight capacity.

H. Drawer heads (fronts), 13/16" thick solid oak secured to minimum 7/16" thick solid hardwood (beech, maple or oak) or 11-ply unidirectional birch plywood drawer sides and backs.
Fronts secured to sides with interlocking lap joints and back fully grooved into sides. Joints glued and pinned. 1/4" bottoms shall be fully grooved into drawer fronts, sides and backs and secured with glue. Drawer heads over 8" in height may be furnished in 5-ply 13/16" thick lumber core plywood with sliced oak faces.
Drawers to fit into fully boxed or framed compartments providing top, bottom, and side guiding of drawers. Drawer guides subject to warpage, breakage and corrosion, and the use of drawer slides is not acceptable. Drawers provided with pulls and drawer stops as described under Hardware. Drawers over 24" wide to have 2 pulls and 2 stops.

I. Security panels, 1/4" thick tempered hardboard fully grooved into cabinet frames. Security panels provided between all drawers or drawers and cupboards having locks which are keyed differently.

J. Doors, 13/16" thick 5-ply hardwood framed having solid cores with hardwood cross bandings, and with oak veneered faces.
Paired cabinet doors to have matched grain pattern.
Doors shall be furnished with hinges, pulls and catches as described under Hardware.

K. Base cabinets have recessed toe space 4" high x 2-1/2" deep. Toe board made of 3/4" thick water resistant plywood.

4. Wall, Upper, and Tall Case Construction:

A. Exposed ends for units 48" or less in height shall be 3/4" thick oak plywood with 3/4" wide x 1-1/4" thick oak facer. Exposed ends of units over 48" high shall be 1" thick oak plywood with 1" wide x 1-1/4" thick oak facer.
Unexposed ends for units 48" or less in height shall be 5/8" thick birch plywood with 3/4" wide x 1-1/4" thick oak facer. Unexposed ends for

units over 48" high shall be 3/4" thick with 1" wide x 1-1/4" thick oak facer.
Interior of sides machined for top and bottom, and bored for shelf support clips.

B. Tops, 3/4" thick hardwood plywood furnished with oak header rail minimum 3/4" thick x 2-1/2" high. Header rail and tops tenoned and bored for blind assembly with glue and reinforced with screws to cabinet walls. (Case tops provided without header rails not acceptable.) Depending upon style of case, top shall further be provided with semi-concealed track located behind header to receive sliding doors.

C. Bottoms for hanging wall cases and counter mounted cases 1" thick hardwood plywood with 1" wide x 3/4" thick oak facer.
Floor mounted cases furnished with 3/4" thick plywood bottoms with 3/4" wide x 3/4" thick oak facer.
Ends of bottoms to be tenoned and bored for blind assembly with glue and reinforced with screws to cabinet walls.
Depending on style of cases, bottoms shall further be furnished with aluminu tracks to receive sliding doors.

D. Shelves, for hanging wall cases and countermounted cases, ¾" thick plywood faced with ¾" wide x 1/8" thick oak banding on exposed edge(s). Shelves for tall storage cases, 1" thick plywood faced with 1" wide x 1/8" thick oak banding on exposed edge(s).
Shelves mount on double pinned nylon shelf clips adjustable on 1-1/4" centers fitting into bored holes in cabinet ends or partitions.

E. Backs, 1/4" thick secured into unit ends, top, and bottom. Backs provided with 3/4" thick x 4" high batten strips behind case backs for reinforcement and through which hardware shall be attached, for securing cases to walls. Exposed backs on Island Units shall be 3/4" thick faced on exposed edges with solid oak 3/4" wide x 3/8" thick.

F. Tall storage cases to be provided with 4" high oak plywood toe rail set flush with face of case to provide added safety from tipping. Toe rail shall be reinforced for rigidity.

G. Hinged panel doors, minimum 13/16" thick up to 48" high and 1" thick over 48" high, 5-ply, hardwood framed, having solid cores with hardwood cross bandings and with oak veneered faces.
Paired case doors to have matched grain pattern.
Doors up to 48" high shall have 1 pair of hinges and 1 catch.
Doors over 48" high shall have 1-1/2 pair of hinges and 2 catches as described under Hardware.

H. Sliding panel doors of similar construction to hinged panel doors. Doors shall receive machined pulls recessed into door faces and operate on non-ferrous metal tracks. Doors up to 30" high shall be furnished with and operate on self-lubricating plastic slides. Doors over 30" high shall be furnished with and operate on ball bearing sheaves.

I. Hinged glazed doors, minimum 13/16" thick up to 48" high and 1-1/16" thick over 48" high. Glazed doors shall be made of solid hardwood (plywood not acceptable) with rails mitered at corners,

grooved and glued together with all joints reinforced with dowels.
Minimum width of all rail styles shall be 2-1/2".
Doors up to 48" high shall have 1 pair of hinges and 1 catch.
Doors over 48" high shall have 1-1/2 pair of hinges and 2 catches.
Glass shall be 1/8" double strength and set with wood molding.
Doors shall be furnished with hinges, pulls and catches as described under Hardware.

J. Sliding glazed doors, of similar construction to hinged glazed doors. Doors receive machined pulls recessed into door faces and operate on non-ferrous metal tracks. Doors up to 30" high shall be furnished with and operate on self-lubricating plastic slides. Doors over 30" high shall be furnished with and operate on ball bearing sheaves.

5. Apron and Table Frame Construction:

A. Apron and table frames made of solid hardwood. Exposed rails minimum 3/4" thick x 4-3/4" high solid oak grooved for acceptance of cross rails and corner blocks

B. Reinforcing cross rails shall be solid hardwood, grooved, glued and screwed into front and back rails.

C. Apron and table rail corner blocks, for attachment of legs are 13 gauge formed plated steel grooved and screwed into aprons.

D. Legs, solid oak, minimum 2-1/4" square and furnished with specially designed bolt which passes through leg having exposed head conforming to corner rounding and furnished with washer and nut for secure attachment behind corner block.
Depending upon table type, legs shall be provided with leg shoes or adjustable glides, as described under Hardware.

E. Leg stretchers, where required, shall be not less than 1" x 2-3/4" mortised and tenoned into legs and secured with bolts.
Cross stretchers shall be of similar construction, tenoned into stretchers and secured with bolts.

F. Book compartment bottoms furnished in either 22 gauge black powder coated formed steel, tempered welded fiber, or birch or maple plywood depending on style of unit in which compartment occurs.

G. Panel legs, for attachment of aprons, to be 1-1/4” thick constructed of hardwood plywood having top and bottom concealed solid hardwood bands. Exposed edges faced with solid oak minimum ½” thick.

6. Cabinet, Case and Table Features:

A. Exposed edges and corners of cabinets, case walls, case bottoms, toe spaces, case tops, table aprons, table legs, table stretchers, finished backs, etc., shall be rounded minimum 3/16".

B. Joints between unfinished cabinet or case ends shall be chamfered, providing a neat V-joint when placed against cabinets that are joined together.

C. Fillers or scribes to be mounted flush with face of cabinet walls or ends. Fillers and scribes to be chamfered same as cabinet walls

providing neat V-joint when placed against cabinet faces or walls.

D. Cabinet assemblies shall be factory assembled as they are to be installed on job site, inspected for conformance to details and uniformity in workmanship and overall appearance. Units shall be properly marked for re-assembly on job site.

7. Cabinet Finish:

A. After assembly of cabinets but prior to the application of wood finish, exposed cabinet and case parts shall be sanded smooth and loose fibers and dust removed.

B. Exposed cabinet and case parts then receive an application of stain. Excess stain shall be removed by wiping with wood wool and/or cloth, and parts shall be allowed to thoroughly dry.

C. After drying, exposed parts, cabinet and case interiors, drawers and doors shall receive a double coat of clear resinous wood sealer. Exposed cabinet parts, drawers, doors, and cupboard and case interiors shall then receive a double coat of clear, chemical resistant synthetic varnish. Between all applications of sealer and varnish, cabinet parts shall be lightly sanded and wiped. The resulting exterior finish shall be semi-gloss and provide and acid, alkali, solvent, water and abrasive-resistant surface. (Note: Interior of all cupboards and interior and exterior of all drawer bodies and tops of all cases shall be varnished having smooth surfaces.)

2.04 HARDWARE:

1. Drawer and door pulls are extruded, bar-type, dull finish aluminum 4-1/2" long and 1/2" wide overall. Each pull is held in place by two No. 10 flat head machine screws (washer head or pan head screws not acceptable) on 4" centers. Screw heads are countersunk. Pulls are provided on all hinged base cabinet doors and drawers, hanging wall cabinets and counter mounted cabinets requiring same for proper function.

2. Latching handles, dull chrome plated die cast zinc alloy approximately 4-1/4” in length in streamlined design. Handle operates with one-quarter turn. Paired door cases have latching handle on right door and dummy handle on left door. A 3-point latching system provides positive engagement at top and bottom of door with 5/16” diameter tapered epoxy coated steel rods engaging in case top and bottom and latch plate engaging behind left door or into side wall of case depending upon design. Latching handles are provided on all tall case doors over 48” high.

3. Hinges, butt style, 5-knuckle institutional type, of dull finished stainless steel, 2-1/2" by 3-1/8", unequal winged, tight pinned and with wing thickness of .081". Each hinge shall be secured by seven No. 7 flat head screws. Surface mounted hinges shall not be acceptable. Doors hung with paired hinges shall

be capable of supporting 175 pounds at 12” from pivot point of hinges with no distortion of hinges or degradation of casework. Hinged doors up to 48” high furnished with 1 pair of hinges. Hinged doors over 48” high furnished with 1-1/2 pair of hinges.

4. Drawer stops are of non-corroding material and semi-automatic in design, to prevent accidental removal, but allow easy removal of drawers.

5. Shelf clips are double pin type made of nylon having anti-tipping seismic feature. Each clip is capable of supporting 400 pounds.

6. Catches for hinged doors are spring loaded, nylon roller type, designed for quiet operation. Cabinets with locked paired doors have elbow catches inside left-hand doors. Cabinet and case doors provided with 2 catches, one at top and one at bottom, where elbow catches are not furnished.

7. Base molding pliable black vinyl, 1/8" thick by 4" high with top edge rounded. Molding shall be secured with self-stick or applied waterproof adhesives. Formed stainless steel caps are fastened to exposed corners. Exposed cabinet work to be provided with base molding unless otherwise specified.

8. Leg shoes, molded black vinyl 2-1/2” high. Legs provided with shoes, also furnished with semi-concealed plated metal angle clips to secure legs to floor when desired.

9. Drawer and hinged door locks, except tall case doors, are dead bolt style, heavy-duty, five tumbler, of non-ferrous metal and master-keyed having 3/8" bolt throw and single bitted style keyway. Barrel and back plate of locks are riveted together; lock bolts shall be non-removable (locks with cams held in place with machine screws or nuts are not acceptable). Locks are secured to rear of drawer and door fronts with flat head screws.
   Each lock furnished with one non-ferrous key when keyed alike and two non-ferrous keys when keyed differently.
   Locks furnished as indicated on details or as is standard with catalog descriptions unless otherwise specified.
   Latching handles shall be provided with locks where required. Locks shall be keyed to same master key as locks provided for drawer and hinged door cabinets.

10. Number plates are oval-shaped and made of non-ferrous metal with black numerals. Plates shall be secured with brads (self-stick number plates are not acceptable). Number plates furnished only when specified.

11. Glides, for table legs, are black nylon minimum 1-3/4" in diameter. Glides adjustable on 3/8" diameter x 1-1/2" plated stem.

12. Support rods, 3/4" diameter aluminum with the upper ends rounded and the lower ends tapered to fit support rod plates. Support rod plates shall be made of aluminum secured into table top with heavy brass nut. Cross bars shall be made of 3/4" diameter aluminum with rounded ends and provided with clamps.

13. Label holders, to be furnished in brushed stainless steel attached to drawer heads or doors with brads or screws. Label holders shall have a 1” x 2” label opening.

2.05 COUNTERTOPS:

1. General:

   A. Countertops constructed per specification covering particular type.
   B. Except stainless steel and plastic laminate, tops having sinks provided with drip grooves cut into underside of exposed edges.
   C. Adhesives or fasteners to be provided for securing of tops to cabinet work. Such materials to allow for contraction or expansion of tops where necessary.
   D. Tops shall be 1" thick unless otherwise specified and provided with 4" high curbs where tops abut walls, columns, case ends, etc.

2. Types:

   A. **SELF-EDGED PLASTIC LAMINATE TOPS** are 1” thick, constructed by cementing 1/16” thick laminated plastic (Wilson Art) to surface and 1/32” thick laminated plastic backing sheet to underside of a one piece medium density fiberboard (minimum 45 pound) subtop. Exposed edges of tops shall have 1/16” thick laminated plastic. Edges applied before lamination of surfaces. Exposed edges and corners shall be eased. Color or pattern of surfaces to be provided as selected.
   B. **PLASTIC LAMINATE TOPS WITH OAK EDGE BANDS** are 1” thick constructed by cementing 1/16" thick laminated plastic (Wilson Art) to surface and 1/32" thick laminated plastic backing sheet to underside of a one piece medium density fiberboard (minimum 45 pound) subtop. Exposed edges of tops minimum 5/16" thick oak, finished to match casework. Oak edges are applied before lamination of surfaces and chamfered back approximately 1/8" before finishing. Color or pattern of surfaces to be provided as selected. Oak edges finished to match casework.
   C. **EDGE GRAIN MAPLE TOPS** are constructed of selected northern grown hard maple, kiln dried and seasoned before fabrication. Top laminations full length, 1" to 1-1/4" wide, and glued together under pressure with water resistant glue. Top, bottom and exposed edges

to be sanded smooth before finishing. Exposed edges and corners to be chamfered back approximately 1/8". All surfaces and edges to be finished natural with transparent conversion varnish finish. Other finishes such as oil shall be provided when so specified.

D. **EPOXY RESIN TOPS** are fabricated from a molded modified epoxy resin that has been especially compounded and cured to provide optimum physical and chemical resistance. Tops have a uniform mixture throughout, and do not depend on a surface coating that can be readily removed by chemical or physical abuse. Tops are non-glaring and black in color. All exposed edges shall be chamfered back approximately 1/8". Counters with integral curbs shall have a molded junction with a 3/4" radius, except around columns and special cutouts, which will have a standard applied mounted curb.

E. **SOLID PHENOLIC** is fabricated from composite panels comprised of multiple layers of selected papers impregnated with special phenolic resins, manufactured under heat and pressure to form a solid black chemical resistant composite throughout the entire thickness of the panel. Tops shall be furnished black in color having black exposed edges honed smooth and exposed corners and edges chamfered back approximately 1/8". Tops shall have a non-glaring surface.

2.06 REAGENT AND UTILITY RACKS:

1. Reagent and Utility Racks, made of solid maple unless otherwise specified. Shelves to be a minimum 3/4" thick. When used for reagent storage, shelves shall be furnished with lips minimum 1/4" high and made of solid maple. Reagent rack standards made of solid maple minimum 1-1/4" thick. Reagent shelves and standards coated with a black acid, alkali and solvent resistant finish. Utility shelves and standards shall be finished natural or stained to match casework with a finish providing acid, alkali and solvent resistance.

2.07 SINKS:

1. Epoxy resin sinks, cupsinks and drain troughs, are cast of black modified epoxy resin having high resistance to chemicals, heat and shock as normally encountered in laboratories. Castings are done in permanent molds producing sinks, cupsinks and drain troughs with all inside corners coved and bottoms dished. Drain troughs, over 6’ in length, furnished in sections for assembly on job site. Sinks and drain troughs furnished with proper supports and caulking.
   Epoxy resin sinks provided with 1-1/2" epoxy resin outlets.
   Tail pieces, traps and drain lines to be furnished by Others unless otherwise noted on details or in equipment schedule.

2. Stainless steel sinks are made of 18 gauge, type 302 (18-8) stainless steel. Sinks are self-rimming, punched to receive basket strainer outlets, and sound deadened. Sink interiors polished to #4 satin finish.
Stainless steel sinks provided with 1-1/2" basket strainer outlets.

3. Sinks shall be installed by Casework Contractor.
Outlets to be installed by Others.

2.08 PLUMBING FIXTURES:

1. Plumbing fixtures furnished in laboratory grade chrome plated brass as manufactured by Water Saver Faucet Company.
Fixtures provided with brass tank nipples complete with locknuts and washers for attachment to countertops.
Water fixtures provided with inline vacuum breakers unless otherwise indicated.
Fixtures supplied assembled (tank nipples loose).

2. Safety shower and eyewash units shall be furnished in make and model numbers listed on the drawings or outlined in equipment schedule as manufactured by Water Saver Faucet Co..

3. Pedestal electric boxes, cast aluminum finished in black textured coating furnished with tank nipples and locknuts for attachment to countertops.
Electrical boxes mounted in table or cabinet aprons shall be steel.
Electric receptacles, switches, etc., shall be specification grade 20 amp and UL approved. Receptacles located within 6'0" of sinks to be G.F.I. type.
Cover plates for receptacles shall be stainless steel.
Mounting of electric boxes in table aprons or cabinet units to be by Casework Manufacturer.

2.09 FUME HOOD SUPERSTRUCTURES:

1. Fume hood superstructures to be as manufactured by BMC Equipment Corp. or Air Master Systems.

2. Fume hoods furnished in style(s) as indicated on details and provided with the following features as required:

   A. Exterior: Cold rolled steel finished in color as selected from manufacturer's standard.
   B. Interior: White Resin-Chem.
   C. Light fixture: Vapor-proof fluorescent re-lampable from outside of Hood.

D. Face: Furnished with bypass grille for constant volume.
E. Sash: Stainless steel glazed with 7/32" safety glass.
F. Exhaust duct collars: 10" diameter for 4’0" hoods.
12" diameter for 5’ and 6’ hoods.
G. Hood countertop: Dished epoxy resin (with 3" x 6" oval cupsink as (required).
H. Fixtures: Furnish as indicated on plans.
I. Air Foil: Stainless steel.
J. Air style hoods to be shipped pre-piped and pre-wired.

3. All fume hoods to have UL 1805 classification.

4. Standard air foil bench hood superstructures to be tested in accordance with current ASHRAE 110-1995 test procedures and perform within the American Conference of Governmental Industrial Hygienists recommendations.

PART 3: EXECUTION:

1. For approval by owner or architect, within 60 days after receipt of order submit shop details showing floor plans, rough-ins and elevations of casework and equipment being supplied. Floor plans with rough-in details to be in 3/16” scale. Elevation drawings to be in 3/8” scale.

2. Prior to fabrication of casework field check project site to assure proper fit of materials being provided. Adjust drawings as necessary to insure proper fit of all casework and equipment to building conditions.

3. Deliver casework only after wet operations are complete and building is closed in, dry and has proper climate control for installation of casework. (Area in which laboratory casework is installed to be maintained between 65° and 75° F. with relative humidity maintained between 45% - 55%.)
If these conditions are not met and maintained, product warranty is void.

4. Install casework in accordance to manufacturers recommended practice by qualified casework installer having a minimum of 3 years experience in the installation of institutional casework.

5. Adjust casework and hardware so that doors and drawers operate smoothly. Lubricate operating hardware as recommended by manufacturer.

6. Advise owner or contractor on procedures and precautions to be taken to protect casework and other materials installed from damage by work performed by other trades.

7. During installation keep job site clean and remove debris on a daily basis. Floors are to be broom cleaned upon completion.

PART 4: EQUIPMENT SCHEDULE:

1. General Notes:

   (Notes to be added as required for specific projects.)

2. List of Equipment:

   (List to be prepared based on items being furnished.)