

SECTION 12323

MANUFACTURED PLASTIC LAMINATE CASEWORK

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes laboratory wood casework, countertops, fixtures and accessories.
- B. Related Sections include the following:
 - 1. Division 11 Section "Laboratory Fume Hoods" for manufactured laboratory fume hoods.
 - 2. Division 12 Section "Manufactured Table Systems" for manufactured steel tables.
 - 3. Division 12 Section "Painted Steel Laboratory Casework" for manufactured laboratory casework and countertops.
 - 4. Division 12 Section "Stainless Steel Laboratory Casework" for manufactured laboratory casework and countertops.
 - 5. Division 12 Section "Manufactured Wood Casework" for manufactured wood casework and countertops.
 - 6. Division 15 Section "Plumbing Fixtures" for sink units mounted in countertops.

1.2 SUBMITTALS

- A. Product Data: For each type of product indicated. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.
- B. Shop Drawings: For cabinets and countertops. Include plans, elevations, details, and attachments to other work. Show materials, finishes, filler panels, hardware, edge and backsplash profiles, cutouts for plumbing fixtures, and methods of joining countertops.
- C. Samples for Selection: Manufacturer's color charts showing the full range of colors, textures, and patterns available for each type of material indicated.
 - 1. Plastic laminate for countertops, 4 inches square.
 - 2. Phenolic material for countertops, 4 inches square.
 - 3. Epoxy resin material for countertops, 4 inches square.
 - 4. One unit of each type of exposed hardware.
- C. Maintenance Data: For countertops and finishes to include in maintenance manuals specified in Division 1.

1.3 QUALITY ASSURANCE

- A. Manufacturer Qualifications: A firm experienced in manufacturing plastic laminate cabinets for laboratory use and with a record of successful in-service performance.
- B. Source Limitations for Cabinets: Obtain laboratory casework, including tops and accessories, through one source from a single manufacturer.

1.4 COORDINATION

- A. Coordinate layout and installation of blocking and reinforcement in partitions for support of laboratory casework.
- B. Obtain templates for sink cutouts with plumbing contractor.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Do not deliver laboratory casework until painting, utility roughing-in, and similar operations that could damage, soil, or deteriorate casework have been completed in installation areas.
- B. Protect finished surfaces from soiling and damage during handling and installation. Keep covered with polyethylene film or other protective covering.

1.6 PROJECT CONDITIONS

- A. Environmental Limitations: Do not install laboratory casework until construction in spaces is complete and ambient temperature and humidity conditions are maintained at the levels indicated for Project when occupied for its intended use.
- B. Established Dimensions: Where laboratory casework is indicated to fit to other construction, establish dimensions for areas where casework is to fit. Coordinate construction to ensure that actual dimensions correspond to established dimensions. Provide fillers and scribes to allow for trimming and fitting.
- C. Field Measurements: Where laboratory casework is indicated to fit to existing construction, verify dimensions of existing construction by field measurements before fabrication and indicate measurements on Shop Drawings. Provide fillers and scribes if necessary.
- D. Field Measurements for Countertops: 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.

1.7 WARRANTY

- A. General Warranty: Special warranty specified in this Article shall not deprive Owner of other rights Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by Contractor under requirements of the Contract Documents.
- B. Special Warranty: Written warranty, executed by manufacturer agreeing to repair or replace components of table systems that fail in materials or workmanship within specified warranty period.
 - 1. One year from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS AND PRODUCTS

- A. Manufacturers: Subject to compliance with requirements, provide products by the following:

1. New England Laboratory Casework Co., Inc. 781-932-9980. www.newenglandlab.com email info@newenglandlab.com

- B. Products: Subject to compliance with requirements, provide the following products:
1. Arlington Series.

2.2 CABINET MATERIALS

- A. Exterior Exposed Surfaces: As follows:
1. [High-pressure decorative laminate.] [Thermoset decorative panels (melamine).]
- B. Plastic Laminate: High-pressure decorative laminate complying with NEMA LD 3, Grade VGS.
- C. Thermoset Decorative Panels: Medium-density particleboard complying with ANSI A208.1, Grade M-2; with surface of thermally fused, melamine-impregnated decorative paper complying with LMA SAT-1.
- D. Cabinet liner, vinyl covered board, foils or other similar materials are not acceptable on any components.

2.3 CABINET CONSTRUCTION

- A. Face Style: Flush overlay; door and drawer faces cover cabinet body members or face frames with only enough space between faces for operating clearance.
- B. Face Frames: Frameless.
- C. Base Units
1. Cabinet Ends: 3/4" melamine particleboard with 1 mm thick PVC edge. Provide a 3/4" x 3" water resistant fir plywood base, tongue and grooved to bottom edge for protection against dampness. Exposed cabinet ends shall be [high pressure laminate] [melamine] finish.
 2. Front top rail: 3/4" x 4" melamine particleboard with 1 mm thick PVC edge, fastened to cabinet ends with locking double mechanical fasteners.
 3. Rear Bottom Support Rails: 3/4" x 4" melamine particleboard, fastened to cabinet with dowels.
 4. Rear Top Support Rails: 3/4" x 9" melamine particleboard, fastened to cabinet with dowels.
 5. Toe Space Rail: 3/4" x 4" water resistant fir plywood fastened to cabinet ends with pocket screws to form a 4" high x 2" deep toe space.
 6. Cabinet Bottoms: 3/4" melamine particleboard with 1 mm thick PVC edge, set flush and fastened with dowels.
 7. Cabinet Backs: Removable one piece 1/4" melamine covered medium density fiberboard on all cupboard units. Backs are white in color. Backs are not provided on drawer units.
 8. Vertical Dividers: Provide full height dividers and half height dividers of 1 1/2" melamine particleboard secured to bottom, front top rail and rear top rail with dowels and screws. Exposed edges to be edgebanded with 1 mm PVC
 9. Shelves: 3/4" melamine particleboard with 1 mm thick PVC edge on front, on metal pin type shelf supports at 1-1/4" spacing. Provide full depth shelves in standard cupboards and open units. Construct shelves over 36" from 1" melamine particleboard.
 10. Drawer Construction:
 - a. [Blum Metabox system with 1/2" melamine bottom and back. Exposed top edge of back to be edged with 1 mm thick PVC. Drawer bottoms to be 1/2" melamine covered particleboard.]
 - b. [Drawer Construction: Fabricate drawer box back, front and sides of 1/2" 9 ply hardwood plywood and finish with a laboratory grade clear finish. Use dovetail joinery on all four

joints. Provide 1/4" birch plywood drawer bottom and groove into all four sides of the drawer box and glued into position. Fix drawer body to drawer front with screws.]

11. Door and Drawer Fronts: 3/4" [high pressure laminate] [melamine] particleboard banded on all sides with 3mm thick PVC edge in one of the standard colors. Provide full overlay construction.
12. Horizontal Intermediate Rails: (Front) when specified on drawings, provide 3/4" x 4" melamine particleboard, exposed edge 1 mm thick PVC, fastened with glued dowels.

D. Wall and Floor Cases:

1. Case Ends: 3/4" melamine particleboard with 1 mm thick PVC edge on exposed edges. Provide floor cases with a 3/4" x 3" waterproof plywood base, tongue and grooved to bottom edge of end for protection against dampness.
2. Tops of Wall and Floor Cases: 3/4" melamine particleboard with 1 mm thick PVC edge on exposed edge, fastened to ends with dowels.
3. Bottoms of Wall Cases: 3/4" thick melamine particleboard with 1 mm thick PVC edge on exposed edge, set flush and fastened to cabinet ends with dowels.
4. Bottoms of Floor Cases: 3/4" melamine particleboard with 1 mm PVC edgebanding, fastened to cabinet with dowels.
5. Backs: 1/2" melamine particleboard to match cabinet color. Rabbet back into cabinet so as to be fully captured on all four sides.
6. Fixed Center Shelf on Floor Cases: 1" melamine particleboard on all open, hinged and sliding door cabinets. Fasten fixed center shelves to ends with dowels.
7. Adjustable Shelves: 3/4" melamine particleboard with 1 mm thick PVC edge on exposed front edge. Set on metal pin type shelf supports at 1 1/4" spacing.
8. Tall Case Doors: For additional strength and ease of operation, all doors for tall cabinets shall be split doors, each being half height.

E. Doors:

1. Solid Doors:
 - a. Full overlay construction: 3/4" [high pressure laminate] [melamine] particleboard, banded on all edges with 3mm thick PVC edge in one of the standard colors.
 - b. Provide two hinges on all doors up to 36" in height and a minimum of three hinges on any doors exceeding this height.
2. Framed Glazed Doors:
 - a. Hinged Doors: Full overlay construction: 3/4" solid wood door laminated both sides with high pressure laminate and molded and shaped to accept 3 mm. thick tempered glass on wall and floor cases. Retain glass with an extruded vinyl molding, designed so that glass can be replaced without tools. Provide 3mm PVC edgebanding on outside edge of door to match the door and drawer fronts. Provide 1 mm PVC edgebanding on inside edge of frame.
 - b. Sliding Doors: Doors shall slide in top channels and with a nylon wheel operating on an inset plastic track.
 - c. Provide two hinges on all doors up to 36" in height and a minimum of three hinges on any doors exceeding this height.
 - d. Hold glass in place with a removable clear plastic panel retainer to facilitate changing of damaged glass.
3. Unframed Sliding Glass Doors:
 - a. 6 mm. tempered glass with all edges ground, set in extruded aluminum shoe with nylon wheel assemblies and top and bottom extruded aluminum track.
 - b. Provide rubber bumpers at fully opened and closed door position.
 - c. Provide silencer guides fitting on top of glass panel for smooth and noiseless operation.
 - d. Provide plastic finger pull adhered to glass.

2.4 HARDWARE

- A. Wire Pulls: Provide brushed chrome US26-D wire pulls. Mount drawer pulls horizontally. Mount door pulls [vertically] [horizontally].
- B. Hinges:
 - 1. [Full overlay, 170° opening, concealed type, incorporating a self-closing feature. Mounting plate to provide three-way adjustment in door alignment. Provide Blum No. 71T6580 with Blum No. 174H7100E mounting plate.
 - 2. [Institutional type 2-1/2", 5-knuckle steel hinge wrap around design.
 - a. Provide [brushed chrome] [stainless steel] finish.
 - 3. Provide two hinges on doors up to 36" in height, three hinges on doors over 36" in height.
- C. Drawer Slides:
 - 1. [Provide self closing drawer slides that are integral to the epoxy coated metal drawer side and operate on a nylon roller with ball-bearing wheel. Provide a mechanism for horizontal and vertical adjustment of drawer faces. Provide a double stop to prevent accidental removal when drawer is fully extended. Provide Blum Metabox.
 - 2. [75 LB rated, epoxy coated, self closing slides, No. 230M Series by Blum.
 - 3. [Zinc, epoxy coated, nylon roller, ball bearing type, model No. FR5000, full extension series as manufactured by Fulterer.
- D. Elbow catches: Spring type with strike, where locks occur in hinged double door units.
- E. Door catches: adjustable type, spring activated nylon roller catches. Note: cannot be used with Blum self-closing hinges.]
- F. Locks: 5 pin (disc) tumbler cam locks with offset cam. Exposed face chrome plated.
 - 1. Keying: [Keyed alike.] [Keyed in groups per room with master key.]
- G. Sliding Door Tracks: Provide EPCO Hardware set #11.
- H. Steel Shelf Pins: Provide KV #346.
- I. Track for Sliding Glass Doors (unframed): Provide EPCO Hardware set #14.
- J. Levelers: Provide Hafele #637.30.941 with protective cap #637.02.090.
- K. Label holders: Formed steel finished to complement other cabinet hardware. 1" x 2-1/2", screw installed.
- L. Number plates: Aluminum with anodized finish, black numerals. Pinned in place.

2.5 LAMINATE

- A. Acceptable Manufacturer: Wilsonart International, 2400 Wilson Place, P. O. Box 6110, Temple, TX 76503-6110
- B. Standard Decorative Laminate - Vertical Surface Type:
 - Wilsonart Type 335, having the following physical characteristics:
 - 1. Sheet thickness: 0.028 inch nominal (0.71 mm)
 - 2. Exceeding performance requirements of NEMA LD 3 current revision

- Grade VGS and VGP.
3. Surface burning characteristics in accordance with ASTM E 84; unbonded.
 4. Patterns and Finishes: Indicated on drawings.

WORK SURFACES

- C. Plastic Laminate Work Surface: 1-1/8 inch thick medium density particleboard core with .050 inch thick high-pressure laminate on top surface, phenolic backer sheet, and [self-edge] [3 mm PVC] [90 degree bullnose] [180 degree bullnose] edge treatment. Laminate color as selected by the Architect from manufacturer's standard options.
- D. Epoxy Resin Work Surface: 1 inch thick, [Black,] [Grey,] [Graphite,] [Tan,] [Dark Khaki,] factory molded of DURCON modified epoxy-resin formulation, uniform mixture throughout full thickness with smooth, non-glare finish. Finish edges with a [1/8 inch bevel] [3/16 inch radius] and drip groove.
- E. Phenolic Work Surface: [3/4 inch] [1 inch] thick solid phenolic resin sheet. Color as selected by Architect from manufacturer's standard options.
- F. Stainless Steel Work Surface: Type 304 stainless steel tops and working surfaces with #4 finish, unless otherwise specified. Provide 16 gauge stainless steel on all exposed surfaces, reinforced on the underside by 16 gauge galvanized steel channels, so spaced as to prevent twisting, oil-canning or buckling. Form exposed edges of tops into a 1 1/4" thick channel shape. Form splash rails and curbs from the same sheet as the top or so welded thereto that they form integral parts thereof. Form top edges of curbs and splash-backs into a channel shape. Where stainless steel sinks are supplied, weld the sink bowl to the top so as to form an integral part thereof. Grind all welds smooth and polish to a uniform satin finish over the entire exposed top and sink assembly. Do not solder sinks, curbs or splash rails to the top. Mechanical joints or field joints, where made necessary by size, shall be a tight butt joint of the top surfaces, reinforced and held in alignment with steel reinforcements. After fabrication and polishing, give the surfaces of the tops a strippable protective coating to protect the tops during shipment and installation. Coat the underside of tops and sinks with a sound deadener.
- G. Butcher Block Work Surface: Rock-hard, edge grained laminated maple, electronically bonded together utilizing controlled pressure and resin adhesives.
 1. Thickness: [1-3/4 inch.] [2-1-4 inch.] [3 inch.]
 2. Edge Style: [Straight.] [Radius edge.] [Bullnose edge.]

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas, with Installer present, for compliance with requirements for installation tolerances, location of reinforcement, and other conditions affecting performance of wood laboratory casework installation.
 1. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Install plumb, level, and true; shim as required, using concealed shims. Where laboratory casework abuts other finished work, apply filler panels for accurate fit, with fasteners concealed where practical.

- B. Base Cabinets: Set cabinets straight, plumb, and level. Adjust subtops within 1/16 inch (1.5 mm) of a single plane. Fasten cabinets to utility-space framing, partition framing, wood blocking, or reinforcements in partitions with fasteners spaced 24 inches (600 mm) o.c. Bolt adjacent cabinets together with joints flush, tight, and uniform. Align similar adjoining doors and drawers to a tolerance of 1/16 inch (1.5 mm).
 - 1. Where base cabinets are not installed adjacent to walls, fasten to floor at toe space with fasteners spaced 24 inches (600 mm) o.c. Secure sides of cabinets to floor, where they do not adjoin other cabinets, with not less than 2 fasteners.
- C. Wall Cabinets: Hang cabinets straight, plumb, and level. Adjust fronts and bottoms within 1/16 inch (1.5 mm) of a single plane. Fasten to hanging strips, masonry, partition framing, blocking, or reinforcements in partitions. Fasten each cabinet through back, near top, at not less than 24 inches (600 mm) o.c. Align similar adjoining doors to a tolerance of 1/16 inch (1.5 mm).
- D. Install hardware uniformly and precisely. Set hinges snug and flat in mortises, unless otherwise indicated. Adjust and align hardware so moving parts operate freely and contact points meet accurately. Allow for final adjustment after installation.
- E. Adjust casework and hardware so doors and drawers operate smoothly without warp or bind. Lubricate operating hardware as recommended by manufacturer.

3.3 INSTALLATION OF TOPS

- A. Field Jointing: Where possible, make in the same manner as shop jointing using dowels, splines, adhesives, and fasteners recommended by manufacturer. Prepare edges to be joined in shop so Project site processing of top and edge surfaces is not required. Locate field joints where shown on approved Shop Drawings.
- B. Secure epoxy tops to cabinets with epoxy cement, applied at each corner and along perimeter edges of not more than 48 inches (1200 mm) o.c.
- C. Abut top and edge surfaces in one true plane, with internal supports placed to prevent deflection. Provide flush hairline joints in tops using clamping devices.
 - 1. Where necessary to penetrate tops with fasteners, countersink heads approximately 1/8 inch (3 mm) and plug hole flush with material equal to top in chemical resistance, hardness, and appearance.
- D. Provide required holes and cutouts for plumbing and electrical fixtures.
- E. Carefully dress joints smooth, remove surface scratches, and clean entire surface.
- F. Provide scribe moldings for closures at junctures of top, curb, and splash, with walls as recommended by manufacturer for materials involved. Match materials and finish to adjacent casework. Use chemical-resistant, permanently elastic sealing compound where recommended by manufacturer.

3.4 ADJUSTING AND CLEANING

- A. Adjust casework and hardware so doors and drawers are centered in openings and operate smoothly without warp or bind. Lubricate operating hardware as recommended by manufacturer.
- B. Clean casework on exposed and semiexposed surfaces. Touch up factory-applied finishes to restore damaged or soiled areas.

- C. Protection: Provide 6-mil (0.15-mm) plastic or other suitable water-resistant covering over countertop surfaces. Tape to underside of countertop at minimum of 48 inches (1200 mm) o.c.

END OF SECTION 12323