

SECTION 12345 – LAMINATE LABORATORY CASEWORK AND FURNISHINGS

PART 1 GENERAL

1.01 RELATED DOCUMENTS

Drawings and general provisions of contract, including General and Supplementary Conditions and Division-1 Specification apply.

1.02 QUALIFICATIONS

- A. All laboratory equipment covered by this specification and the relevant project drawings shall be furnished by a single source to facilitate coordination between the various manufacturers and eliminate divided responsibility.
- B. Equipment Contractor shall submit a list demonstrating the completion of at least ten (10) projects of equal or greater size than this project and that have been in service for five (5) years or longer.
- C. Those seeking to bid, other than the supplier of the specified products must apply for approval at least seven (7) days prior to bid opening. Full-sized samples of wall, base, and tall cabinets along with relevant specifications must be submitted to the architect.

1.03 QUALITY ASSURANCE

- A. Basis of Design and Quality –
Labscape™ Systems Casework and Technical Product of industrial and educational casework as distributed by:

Longo Associates, Inc.
100 Hilltop Road
Ramsey, NJ 07446
Telephone: (201) 825-1500
Fax: (201) 825-4784

1.04 WORK BY EQUIPMENT CONTRACTOR

- A. Furnishing, delivering to the jobsite, uncrating, setting in place, leveling and securing all casework and equipment listed in the specification or equipment schedule and/or shown on the drawings.
- B. Furnishing plumbing fixtures and fittings only as defined by specifications or noted on project drawings and/or as included in manufacturer's standard model number. Assembling and securing fixtures to casework and equipment shall be by the Plumbing Contractor as part of their final connections.
- C. Furnishing electrical service fixtures as defined by specification or noted on project drawings and/or included in manufacturer's standard model number. Assembling or securing fixtures to casework and equipment shall be by the Electrical Contractor as part of their final connections.
- D. Furnishing and installing sink bowls and cup sinks, complete with required overflows, plugs and strainers as called for in the specifications, equipment list and/or shown on the drawings.
- E. Furnishing and installing filler panels and scribes as required for finished installation.

- F. Furnishing and installing locks at doors and drawers when specifically noted in the specifications or project drawings. (If locks are not noted or called for, they will be excluded from Equipment Contractor's scope of work).
- G. Removal of all debris, dirt, and rubbish accumulated as a result of installation of this equipment, leaving premises broom clean and orderly. Debris and rubbish to be deposited in dumpsters provided by General Contractor.

1.05 WORK BY OTHERS

- A. Plumbing Work
Service rough-ins, shut-off valves, internal piping, support brackets, or final connection to plumbing fixtures (Service fixtures, when provided, are installed by the Plumbing Contractor.)
- B. Electrical Work
Service rough-ins, junction boxes, internal conduit and wiring, support brackets, or final connection to electrical fixtures. (Electrical receptacles, when provided, are installed by Electrical Contractor.)
- C. Sink Drains
Waste rough-ins, hubs, vents, adapters, internal piping, support brackets, traps, tailpieces, or final connection to sink outlet.
- D. Fume Hood Duct Work, Fans, and Blowers
Exhaust and supply duct, fans, exhaust stacks, mounting brackets, adapters, safety disconnects, magnetic starters, conduit and wiring to fans or final connection to equipment.
- E. Offsite Storage
Should site conditions not be ready for storage of product, and said product has been delivered as requested by Contractor, then offsite storage shall be provided at no cost to this Sub-Contractor. The General Contractor will reimburse this Sub-Contractor any cost related to moving product from Offsite Storage to Site.
- F. Appliances, Data Outlets, Wall-Mounted Chalkboard and Tack Boards
Chalkboards and tack boards are provided when they are an integral part of the Labscape product.
- G. Locks
Except where specifically called for.
- H. Demolition Work
- I. Caulking Between Tops, Walls, Battens, and Equipment
All caulking to be by General Contractor.
- J. Framing or Reinforcements
Any framing or reinforcement of walls, floors, and ceilings required to support the equipment provided under this section, including but not limited to threaded rods, uni-strut, and plaster grounds shall be provided and installed by the respective trade. Equipment supplier shall provide detailed drawings showing types and locations of required blocking and securement apparatus.
- K. Performance Bond
Not supplied unless specifically required by law or contract documents.
- L. Furnishing, installing, and connecting of all vents, revents, steam fittings and special plumbing fixtures or piping to meet local codes, even though not specifically called for in the specifications and/or shown on the drawings.
- M. Furnishing and installation of all rigid or flexible conduit, wire, pulling of wire, fittings, special electrical equipment and accessories including boxes, receptacles; flush plates sent loose. Included are those in box curbs or tops which are not installed at Equipment Contractor's

plant due to inconvenience of shipping. Wiring and connection of switch to fume hood lights and blower motors.

- N. Furnishing any miscellaneous materials generally classified as maintenance or supply items.
- O. Providing protection and security by General Contractor during and after laboratory equipment installation.
- P. Hoisting or elevator service
General Contractor to provide these services at equipment locations above ground floor.

1.06 SUBMITTALS

Submit the following in accordance with General Conditions of contract specifications.

- A. Product data for each type of casework, hardware and accessories specified.
- B. Shop drawings for countertops showing sizes, shapes, edge and backsplash profiles, cutouts for plumbing fixtures and methods of joining.
- C. Shop drawings for casework showing location and size of each type of casework, accessories, materials, finishes, hardware types and locations, and filler panels. Include fully dimensioned plans, elevations and sectional details of all equipment included in this specification. Shop drawings shall show the construction and interface of all equipment included in this specification.
- D. Samples for initial selection purposes of manufacturer's color charts showing the full range of colors, textures and patterns for each type of material included in this specification.
- E. Samples for verification purposes must be based on the following specifications and not a "manufacturers standard" product. Manufacturer will be allowed to submit only one (1) set of samples for approval. Samples not meeting the following specification will be grounds for rejection of bid. Upon request of the Architect/Owner, samples must be submitted within thirty (30) days and may be held until project completion. Samples that may be required are as follows:

1.08 MAINTENANCE AND OPERATING INSTRUCTIONS

This Contractor shall include in its bid, the cost of providing a technically qualified representative for a period of one (1) day to thoroughly instruct the Owner's personnel in correct procedures of operating and maintaining this contract.

1.09 GUARANTEE

A. Labscape warrants all materials and labor for manufacture of casework to be free of all defects for a period of one (1) year from the date of substantial completion. The Buyer's remedy for defects in manufacture or installation shall be limited to repair or replacement of the defective part. This warranty does not cover defects arising out of normal wear, physical abuse, or acts of God. The warranty shall not apply unless proper environmental and humidity levels are maintained at all times. Proper humidity level is defined as optimum moisture content within a 40 to 70 percent range. The Buyer shall give written notice to the Warrantor promptly after the discovery of any defective condition and within the period of warranty. It is agreed and understood that this warranty shall apply only to those defective conditions of which Warrantor has been given notice during the period of warranty.

B. THERE ARE NO WARRANTIES EXPRESSED OR IMPLIED EXCEPT AS LISTED HEREIN. LABSCAPE MAKES NO WARRANTY OF MERCHANTABILITY, NOR OF FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT IS LABSCAPE LIABLE FOR SPECIAL, INCIDENTAL, CONSEQUENTIAL OR PUNITIVE DAMAGES.

PART 2

2.01 Workmanship- General:

- A. All exposed exterior cabinets surfaces (except open interiors) to be GP-28 high pressure plastic laminate, color as selected from casework manufacturer's standard lines, both solid colors and wood grains available. Laminate surface and backer to core under controlled conditions, to assure a premium lamination. Both face and back of panel to be laminated at the same time to assure a flat balanced panel. Methods requiring heat are not allowed; "contact" methods of laminating are not allowed.
- B. All parts machined for accurate fit and assembled with hardwood dowels and adhesives to result in true, square, level and plumb units.
- C. Verify dimensions of other trades and equipment to be built into casework.
- D. End panels shall be doweled to receive bottom and top. Back panel shall be fully housed into cabinet sides, top and bottom to insure rigidity and a fully closed cabinet.
- E. Drawer bottom on all regular drawers shall be 1/2" thick. Drawer fronts and backs to be 3/4" thick doweled into 1/2" sides. Drawer bottoms to be stapled and screwed into front back and sides.
- F. Rear of cabinet back to receive a continuous bead of elastic hot melt adhesive to add to unit body strength and develop a moisture seal.
- G. Scribe all tops to wall and other adjoining vertical surfaces.
- H. Cabinets to be fitted to walls with scribes as needed.

2.02 Materials

- A. Laminated Plastics/Finish
 - 1. High pressure plastic laminate, GP-28 for exterior cabinet surfaces shall meet NEMA standards for vertical grade.
 - 2. Color Selection Available
 - A. Textured finish vertical surface grade from Formica, Nevamar or Wilsonart standard stock colors consisting of both wood grain patterns and solid colors.
 - B. Cabinet faces to be one color. Finished end panels to be same color as cabinet face from standard color selection.
 - C. Direction of wood grain to be vertical on door, end panels and exposed back; horizontal on drawer faces, aprons and top rail.
 - D. *Specifier to indicate maximum number of cabinet colors for this project.
 - 3. Plastic Laminate Balancing Sheet: CL-20 high pressure cabinet liner with textured surface (color matched to Melamine color selected) shall be used to balance door and drawer face are finished end face.
 - 4. Counter Top High Pressure Plastic Laminate:
 - A. High pressure plastic laminate satin, or textured finish .050 thickness. Color as selected from manufacturer's stock standard patterns and solid colors.

B. Heavy gauge neutral colored backing sheet for balanced construction.

5. Melamine Thermoset Decorative Panels:

A. Decorative melamine resin impregnated laminate permanently bonded to substrate.

B. The following agency requirements, standards and tests shall apply: American Laminators Association (ALA) 1988, NEMA LD3-1985.

C. Melamine for semi-exposed cabinet interiors of all open cases without doors.

D. **Wall cabinet bottoms to be finished color of face laminate.**

***(SPECIFIER SELECT)**

E. One of the following melamine colors:

Almond
Fog
Folkstone
White

B. High Performance Particle Board Core:

1. Particle board shall be an industrial grade, fine surface, three layered board, with a minimum of 47 lbs./ cu. Ft. density and a moisture content of 6-8%.

C. Hardboard:

Hardboard shall conform to the standard set forth by ANSI/ AHA A135.4-1988 (American National Standard/ American Hardboard Associations) tempered hardboard shall be class one (1) tempered two sides, with manufacturer's standard brown finish.

D. Edging:

1. Solid, high impact, purified, color thru, acid resistant, PVC edging machine applied with hot melt adhesives, automatically trimmed for uniform appearance.

***(SPECIFIER SELECT)**

2. Flat Edge design for cabinet body in color-matched PVC or matching plastic laminate when PVC match is not available.

***(SPECIFIER SELECT)**

3. Flat Edge design for cabinet door/drawer in color-matched PVC.

(OR)

***(SPECIFIER SELECT)**

4. 3mm thick PVC, high impact, purified color-thru, PVC edging machine-applied with hot melt adhesives, automatically trimmed on both long sides and, all corners radiused 3mm for uniform appearance, buffed for consistent design. To be used on door/drawer front edges. Color to be selected from manufacturer's standard selections.

E. Hardware

1. Hinges:

***(SPECIFIER SELECT)**

- A. Heavy duty, five knuckle ¾" inch institutional type hinge. Hospital tip, tight pin feature with all edges eased. Hinge to be wrap around type of tempered steel .095 inch thick. Each hinge to have nine screws, two 5mm x 13mm and seven #7, 5/8 inch FHWS to assure positive door attachment.

IW-301RC	Chrome
IW-302RA	Almond
IW-303RB	Black
IW-303RG	Gray
IW-303RW	White

(OR)

- B. IW-306BS Totally concealed 125 degree clip hinge of heavy gauge metal, self closing, fully adjustable and with hinge manufacturer's lifetime material replacement guarantee.
- C. IW-307BW Totally concealed 170 degree clip hinge of heavy gauge metal, self closing, fully adjustable and with hinge manufacturer's lifetime material replacement guarantee.
- D. Two hinges per door to 36" in height. Three hinges per door to 60" in height. Four hinges per door to 80" in height and Five hinges per door over 80" in height.

***(SPECIFIER SELECT)**

2. Pulls:

The following options are available:

A. Dull Chrome 4" wire projecting type	IW-310C
B. Almond powder coated 4" wire projecting type	IW-311A
C. Black powder coated 4" wire projecting type	IW-312B
D. Gray powder coated 4" wire projecting type	IW-313G
E. White powder coated 4" wire projecting type	IW-314W
F. Almond ABS plastic semi-recessed type	IW-315A
G. Black ABS plastic semi-recessed type	IW-316B
H. Gray ABS plastic semi-recessed type	IW-317G
I. White ABS plastic semi-recessed type	IW-318W

3. Sliding Door Hardware

- A. Frameless ¼" glass sliding doors double track roller assembly. IW-325
- B. 13/16 inch sliding doors Top mounted track with dual roller hangers, with vertical adjustments. IW-330
- C. Frameless ¼ inch hardboard sliding doors Aluminum door panel track. IW-335

4. Drawer Slides:

- A. Standard drawers. IW-340
- B. File Drawer slides. IW-345

Durable epoxy coated steel profiles, bottom mounted, self-close/ stay closed action. Captive nylon rollers, both front & rear. Minimum 100 lbs. Load test. Slides have lifetime manufacturer's material replacement guarantee.

- C. Knee/Pencil Drawers: IW-346
METABOX epoxy coated two inch high steel drawer slides.

5. Catches:

Heavy duty roller type catch used on all doors with five knuckle hinges. IW-350

6. Adjustable Shelf Supports

Heavy duty double pin design with anti tip-up restraints for both $\frac{3}{4}$ inch and 1 inch shelves. Design to include keel to retard shelf slide-off. Poly-carbonate material.

7. Wardrobe Rod:

Chrome steel $\frac{1}{16}$ inch rod, supported by chrome flanges. IW-363 Rod and IW-364 Flange.

*(SPECIFIER SELECT)

8. Coat Hooks:

- A. All purpose hook in a traditional design Satin Chrome Finish IW-351
- B. Ceiling hook Satin Chrome Finish IW-352
- C. Single Wardrobe hook Satin Chrome Finish IW-353
- D. Double Wardrobe hook Satin Chrome Finish IW-354
- E. Other coat hooks available upon request.

9. Molded Tote Trays:

A. High impact polyethylene with card holders. Color: Tan

- B. Sizes:
9-1/2"W x 3-1/2" H X 19"L or
13-1/4"W x 3-1/2"H X 19"L

10. Locks:

To be disc tumbler type. Keyed alike, keyed different and Master keyed. Dull chrome finish.
IW-365 Door Lock
IW-366 Drawer Lock

F. Detailed Requirements for Cabinet Construction

1. Sub-base:

- A. Cabinet Sub-Base: To be separated and continuous (no cabinet body sides to floor), semi-concealed fastening to cabinet bottom. Ladder-type construction of front, back and intermediates to form a secure and level platform to which cabinets attach. All material in contact with floor to be exterior grade veneer core plywood.

2. Cabinet Top and Bottom-Wall and Base.

- A. Base cabinet bottoms to be $\frac{3}{4}$ inch thick.
 - B. Solid sub-top to be $\frac{3}{4}$ inch melamine for all base cabinets.
 - C. **Exterior exposed wall cabinet bottoms** to be $\frac{3}{4}$ inch thick high performance particle board with **High Pressure Laminate on exposed surface** and CL-20 high pressure laminate on semi-exposed surfaces.
3. Cabinet Ends:
- A. Melamine both sides of $\frac{3}{4}$ inch particle board. Holes drilled for adjustable shelves at 32mm on center.
 - B. Exposed exterior cabinet ends to be laminated with GP-28 High Pressure Plastic Laminate and opposite side laminated with CL-20 high pressure laminate.
4. Fixed and Adjustable Shelves:
- A. Melamine both sides of particle board. Leading exposed edge of shelves to be edged with Flat Edge PVC, in matching color
 - B. All exposed shelves for open wall cubbies and mailboxes to be $\frac{3}{4}$ inch thick melamine.
 - C. Library Stack shelving to be 1 inch thick melamine.
 - D. Thickness of melamine shelves
 $\frac{3}{4}$ inch standard shelving up to 30 inches wide. 1 inch shelving over 30 inches wide.
(STRONGLY RECOMMEND ADDING A VERTICAL DIVIDER IN ALL CABINETS WIDER THAN 36 INCHES).
5. Cabinet Backs:
- A. Standard cabinet back to be $\frac{1}{2}$ inch thick melamine for use on all cabinets with and without doors.
6. Doors and Drawer Fronts:
- A. Plastic Laminate doors and drawer fronts to be $\frac{13}{16}$ inch thick for all hinged and sliding doors. Core material to be $\frac{3}{4}$ inch thick, 47 lb. density particle board bonded on exterior with High Pressure Plastic Laminate GP-28 with CL-20 High Pressure Laminate on interior face. Drawer fronts and hinged doors are to overlay the cabinet body. Maintain a maximum $\frac{1}{8}$ inch reveal between multiple drawer fronts within the cabinet.
 - B. Some designs available with $\frac{1}{4}$ inch thick tempered hardboard sliding doors.
7. Drawers:
- A. Drawer fronts shall be applied to separate drawer body components sub-front.
 - B. Sides of drawers to be $\frac{1}{2}$ inch thick melamine with $\frac{3}{4}$ inch thick front and back.
 - C. Exposed top edge to be Flat Edge PVC, in matching color.
 - D. Drawer slides shall be doweled to receive front and back, machined square and held under pressure while glued and pinned together.

- E. Drawer bottom to be 1/2 inch thick melamine.
- F. All drawers shall have roller guides as specified.

8. Door/Drawer Spreaders:

Provide a minimum 3/4" x 4 1/2 x full width cabinet body spreader immediately behind all door/drawer and multiple drawer horizontal joints to maintain exact body dimensions, and close off reveal. Front edge to be Flat Edge PVC or matching plastic laminate. **All file drawer units to have full depth 3/4 inch thick dust panels.**

G. Counter Tops:

High pressure plastic laminate bonded to 1 1/8 inch thick particle board core, (Countertops where sinks occur shall be 3/4 inch thick exterior grade hardwood plywood with built-up edge, a minimum of four feet each side of sink) underside to be properly balanced with heavy gauge backing sheet. Edges to be high pressure plastic laminate to match horizontal surface color. Furnish counter tops in design as shown on drawings. Provide continuous tops of counter type cabinets fixed in a line.

3.00 Execution

3.01 Coordination

- A. Coordinate work of this selection with related work of other sections as necessary to obtain proper installation of all items.
- B. Verify site dimensions of cabinet locations in building prior to fabrication.

3.02 Installation

- A. Shop drawings and installation instructions furnished by the manufacturer shall be strictly adhered to. Mechanics making the installation shall be experienced in this type work and capable of the highest quality of workmanship. Installers must be manufacturer certified.
- B. Countertops shall be installed flush against the wall. Provide clear sealant at top and around ends of counter tops where they meet wall surfaces, where counters have sinks and where required for sanitation.
- C. The contractor for the work of this section shall cut all openings in countertops for sinks or other items required. Cut to size from template furnished by supplier of sinks or sinks on job.
- D. The installer of the casework shall make use of filler stations and scribe panels to fit casework into specified dimensions.

3.03 Field Quality Control

- A. All defective workmanship of damaged components shall be corrected, repaired or replaced, as requested by the Architect, without further cost to the owner.
- B. General Contractor is responsible for protection of casework from damage by other trades upon completion of installation by casework supplier.

3.04 Adjustment:

- A. Provide all door bumpers, drawer slides, locks, etc. after installation to provide proper operation.

3.05 Cleaning

- A. Exposed surfaces, edges and cabinet interiors shall be cleaned and all construction and installation marks removed prior to acceptance by owner.
- B. Supplier of this equipment shall be responsible for the immediate removal and disposal of all cartons, debris, scraps, sawdust, etc., and leave spaces clean and all casework ready for owner's use.