CiFLABSOLUTIONS

CIF Fusion Series

Wood Casework Specifications rev 24.11.04

SECTION 12 35 53: WOOD CASEWORK

PART 1 - GENERAL

Summary: The following specification is written to provide the level of design expectation of the owner and architect in regards to the quality/functionality of the product and installation for the wood casework.

1 1. SECTION INCLUDES

A. Furniture: Provide and install all wood casework, furniture and benches; which may include, but is not limited to: wood casework, countertops, reagent shelves, tables, standards, filler panels, scribes, knee space panels, accessories, utility space framing, utility space closure panels between base cabinets and at exposed ends of utility spaces, laboratory sink cutouts and sinks, cup sinks, cup drains, strainers, overflows, sink outlets, miscellaneous wall shelving, overhead service carrier or tiles and miscellaneous items of equipment as listed in the specifications or as shown on drawings. Work includes all laboratory furniture depicted on drawings or listed in these specifications unless otherwise noted as “Not in Contract” (NIC) within the drawings, equipment schedule or said specifications.

B. Plumbing Fixtures: Furnish, deliver and install the fixtures at service outlets that are either listed in these specifications, depicted in drawings or identified in the equipment schedule as being affixed to laboratory casework. Installation is to be “hand tight” only, final connection is by others.

C. Electrical Service Fixtures: Furnish, deliver and install the electrical service fixtures that are either listed in these specifications, depicted in drawings or identified in the equipment schedule as being affixed to laboratory casework. Installation is to be “hand tight” only, final connection is by others.

D. Sink Bowls and Cup-sinks Integral with Countertops: Furnish, deliver and install all sinks bowls, cup-sinks and tail pieces (if shown or specified) at locations that are listed in these specifications, depicted in drawings, or identified in the equipment schedule. Sinks and

cup-sinks are to be installed within the countertop with final connection to the drain piping system by others

1.2 RELATED SECTIONS

A. Division __ LEED Requirements
B. Division 06 Section: “Rough Carpentry” for blocking within walls to adequately support casework
C. Division 06 Section: “Finish Carpentry”/Millwork.
D. Division 11 Section 53 00, “Laboratory Equipment”
E. Division 12 Section 36 00, “Countertops”
F. Division 22 Section 40 00, “Plumbing Fixtures”
G. Related Work to be Performed by Others:
    1. Final connection to service lines of all plumbing and electrical fixtures attached to laboratory casework or furniture

1.3 REFERENCES

A. ANSI/Hardwood Plywood Veneer Association Manual
B. ANSI-A135: for all hardboard.
C. ANSI-A161.2-1998: performance for fabricated high-pressure decorative laminate countertops.
D. ANSI-A208.1-2009: for Mat-Formed Wood Particleboard
E. ANSI-A112.18.1m-1989: for fixtures and water service.
F. ANSI Z359.1-1998: for safety eyewashes and equipment.
G. ASSE Standard 1001: for vacuum breakers
H. ASTM B88 and ANSI/NSF 61: for plumbing.
I. AWI Standards Edition 1, 2009: for woodwork standards.
J. BHMA A156.9: for Grade-1 hinge requirements.
K. CAN/CSA b.125.M89 Canadian Standards: for fixtures and water service.
L. National Electrical Code, Article 352-B: for surface nonmetallic raceway.
M. NEMA 3 LD – 2005: for performance requirements of high pressure laminates.
N. SEFA 8 Recommended practices for cabinet construction.
O. UL-5A: for raceway listed for electrical wiring.
P. UL 94 V-0: for raceway systems

1.4 DEFINITIONS

A. “Barrel Hinge” is a hinge composed of two plates attached that are attached to abutting surface.

B. “Concealed hinge” is any hinge that has no components visible from the outside of the cabinet.

C. “Concealed Portions of Casework” surfaces that are not visible after installation; Bottoms of cabinets are less than 24 inches above finished floor; Tops of cabinets are 80 inches or more above finished floor (and are not visible from an upper level); Stretchers, blocking

and/or components that are concealed by drawers; Corners that are created by tall, wall, or base cabinets and shall be considered concealed.
* OPTIONAL: Note that for the purpose of maintaining modular casework all cabinet ends will be considered exposed.

D. “Eased” is a process of providing a slight radius on door and drawer fronts of a cabinet.

E. “Exposed surfaces” are surfaces that are visible when: Drawer fronts and doors are closed; Cabinets and shelving are open or behind clear glass doors; Bottoms of cabinets are seen 42 inches or more above the finished floor; Tops of cabinets are seen below 80 inches above finished floor, or are visible from an upper floor or raised area after installation. OPTIONAL (Please see Modular Casework note under C. above)

F. "False Fronts" are nonfunctional fronts attached to particular units that mimic drawer box fronts to create an uninterrupted visual image of an elevation.

G. “FSC” is the term used for Forest Stewardship Council, required to achieve the LEED credit for certified wood.

H. “Full Flush Overlay” is casework design that requires the AWI reveal of 1/8” between all individual door and drawer components within a cabinet. There is a 1/16” reveal at the edge of door and drawer components to the edge of the cabinet to maintain a 1/8 reveal on adjacent cabinets. STANDARD for CiF Lab Solutions E-Line Series

I. “Reveal Overlay” is casework design that requires the reveal of 1/8” between all individual door and drawer components within a cabinet. There is a 3/8” reveal at the edge of door and drawer components to the edge of the cabinet to maintain a ¾” reveal on adjacent cabinets. OPTIONAL for CiF Lab Solutions E-Line Series

J. “Laboratory Casework Contractor/Manufacturer” is defined as the manufacturer and/or manufacturer’s representative that is to provide and install the laboratory casework, equipment, and accessories listed under the specifications, laboratory equipment schedule and/or illustrated on drawings.

K. “NAUF” is the term used for “no added urea formaldehyde”. This is required when no part of the wood product or any product on the entire can contain added urea formaldehyde in the production of the products. This is critical to LEED point criteria and if specified must be followed explicitly or complete building failure will occur.

L. “Square edge” is a 90 degree angle with an eased edge on the door and drawer front. Square edge requires the adjusting of the drawer head to align the individual cabinets in an elevation (during installation).

M. “Reveal” is the measurement between individual door and drawer components on the face of a cabinet.

N. “Semi-exposed” surfaces that are visible when: Opaque doors are open or drawers are extended on door/drawer combination cabinets; Bottoms of cabinets more than 24 inches and less than 42 inches above finished floor.

O. “Service Fixtures” are laboratory gas, air, and vacuum cocks; hot, cold and reagent water faucets; remote control valves, electrical receptacles (with necessary flush mounting hardware), fluorescent and/or incandescent light fixtures , light switches and/or motor switches for fume hoods and other items which serve as an operational part of the equipment.

P. “Service Lines” are the necessary piping and drain lines for laboratory gas, air and vacuum as well as hot, cold and reagent grade water that conveys the respective services from building roughing through floors or walls through equipment to the previously defined service fixtures. Also includes conduits, junction boxes, conduit fittings, wire disconnect switches and fuse or circuit breakers necessary to conduct electrical services from building roughing in floors or walls through equipment to service fixtures.

1.5 SYSTEM DESCRIPTION

A. Cabinet and Casework Area Design: LEED REQUIREMENTS- Cabinet- All TFM (Thermally Fused Melamine), and Composite Core Plywood to be Ultra-Low Emitting (ULEF) and shall be FSC certified, regardless of Project LEED Requirements. Further, components included in this section are subject to specific LEED and or owner/architect/consultant requirements for environmental and or health goals. The owner requires that all manufacturers follow the criteria required for LEED without deviation or clarification. Please refer to Division ___ for LEED requirements that may include any or all of the following:

   1. Credit MR 4.1 and 4.2 Recycled Content
   2. Credit MR 7. Certification of wood products (i.e. FSC).
   3. Credit IEQ 4.4. Urea Formaldehyde shall not be added to any product or raw material.
   4. Credit IEQ 4.1. The use of sealants and adhesives within the finished product.

B. Fronts to be flush overlay with reveal of 1/8” between all individual door and drawer components within a cabinet. There is a 1/16” reveal at the edge of door and drawer components to the edge of the cabinet to maintain a 1/8” reveal on adjacent cabinets. All faces to have a SEFA-8 (Scientific Equipment Furniture Association) compliant finish for Chemical Resistance.

C. Doors and drawer fronts are to be slightly eased at all edges.

D. No exposed fasteners are allowed without prior approval of the architect or lab planner.

E. Cabinet elevations will be built in symmetrical sizes as required to fill the area.

F. Maximum filler size is 4” and must be balanced and on each end of wall to wall elevations.

1.6 SUMBITTALS

A. Shop Drawings:
   1. Comply with Division 1
   2. Submit 3 sets of laser quality, 11x17 shop drawings consisting of:
      a. Finish, hardware, construction options selection sheet
      b. Small scale floor plan showing casework in relation to the building.
      c. Large scale elevations and plan views.

d. Cross-sections; service runs; locations of blocking within walls (blocking is done by others); rough-in requirements and, sink centerlines.

3. Drawings should include data and details for construction of the laboratory casework as well as information regarding the name, quantity, type and construction of materials (such as hardware, gauges, etc.), that will be used to complete the project.
4. The manufacture or purchaser of any equipment prior to approval by the owner's representative will be undertaken at the manufacturer's risk.
5. Field Measurements: In instances in which casework is indicated to fit to other construction, dimensions are to be verified by field measurements before fabrication and reflected on shop drawings.

B. Samples:

1. Sample cabinets upon request: 1 base and/or 1 wall cabinet as selected by owner/architect
2. Stain and Finish Samples
   a. A minimum of five (5) standard manufacturer's samples, constructed of the same material from which the casework will be constructed, stained and clearly identified, should be submitted to the architect for color selection.
   b. Stain and finish samples will be retained by the owner's representative.

1.7 QUALITY ASSURANCE

A. Design Data/Test Reports: Manufacturer shall submit test data and design criteria which are in compliance with the project specifications. Testing of safety devices and performance criteria shall be performed by a 3rd party validator.

B. Certificates: All certifications required in the specifications should be submitted with the original submittal package under separate cover. Certificates must be provided with the signature of a qualified individual of the supplier.

C. Qualification of Bidder/Manufacturer: The following list of information should be provided to the Architect at least ten (10) days prior to the bid opening:

1. List of manufacturing facilities
2. A list of five (5) installations of comparable stature completed within the past 3 years

D. Regulatory Requirements

1. Reference Standard: The ensuing specifications are based on the design of CiF Lab Solutions E-Line Series wood casework.
2. Source Limitations: All casework, including countertops, sinks, service fittings and accessories, should be obtained from a single source to ensure consistency in project delivery.

E. Mock-Ups

1. Area mockups shall be as indicated on the shop drawings. Mockup areas must be priced for disassembly and reassembly and used within the project.

1.8 DELIVERY, STORAGE AND HANDLING

A. Packaging, Shipping, Handling and Unloading Packaging: Products should have packaging adequate enough to protect finished surfaces from soiling or damage during shipping, delivery and installation.

B. Delivery: Casework delivery should only take place after painting, utility rough-ins and related activities are completed that could otherwise damage, soil or deteriorate casework in installation areas.

C. Handling: Care, such as the use of proper moving equipment, experienced movers, etc., should be used at all times to avoid damaging the casework. Until installation takes place, any wrapping, insulation or other method of protection applied to products from the factory should be left in place to avoid accidental damage.

D. Acceptance at Site: Casework will not be delivered or installed until the conditions specified under Part 3, Installation section of this document have been met.

E. Storage: Casework should be stored in the area of installation. If, prior to installation, it is necessary for casework to be temporarily stored in an area other than the installation area, the environmental conditions shall meet the environmental requirements specified under the Project Site Conditions article of this section.

F. Waste Management and Disposal: The supplier of the laboratory casework is responsible for removing any waste or refuse resulting from the installation of, or work pertaining to laboratory casework; thereby leaving the project site clean and free of debris. Trash container/s to be provided by others.

1.9 PROJECT SITE CONDITIONS

A. Building must be enclosed (windows and doors sealed and weather-tight);

B. An operational HVAC system that maintains temperature and humidity at occupancy levels must be in place; Relative humidity must be regulated and stable between 25% and 55% per AWI standards before products are brought on site, throughout project completion and with the site moving forward while the building is in use by the owner.

C. Ceiling, overhead ductwork and lighting must be installed; prior to the delivery and installation of the casework.

D. Site must be free of any further construction such as “wet work.”

E. Required backing and reinforcements must be installed accurately and the project must be ready for casework installation.

1.10 WARRANTY

A. Furnish a written warranty that Work performed under this Section shall remain free from defects as to materials and workmanship for a period of three (3) years from date of acceptance. Defects in materials and workmanship that may develop within this time are to be replaced without cost or expense to the Owner. Defects include, but are not limited to:

1. Ruptured, cracked, or peeling veneer

2. Discoloration or lack of finish integrity
3. De-lamination of components or edge banding
4. Slippage, shift, or failure of attachment to wall, floor, or ceiling
5. Warping or unloaded deflection of components
6. Failure of hardware

B. The warranty specifically does not cover any product or hardware, which has been incorrectly installed, including poor climate conditions, exposed to excessive loads or abuse.

C. The warranty is in effect while the product is being used as it was intended and owned by the original purchaser of the products and services covered.

D. All non-casework items supplied, but not manufactured at CiF Lab Solutions shall be covered under the original manufacturer's warranty.

PART 2– PRODUCTS

2.1 MANUFACTURERS

A. Basis-of-Design Product: CiF Lab Solutions 53 Courtland Avenue, Vaughan, ON, Canada L4K3T2

B. Substitution Limitations:

1. Substitutions will be considered only when other manufacturers submit substitution requests in accordance with procurement substitution and/or substitution procedures, or provide a comparable product with the following support information detailed below:
    a. Written documentation stating specification compliance regarding construction, materials, and standard of quality and manufacturing techniques.
    b. Note all deviations to the drawings and/or specifications in writing.
    c. Provide the Architect with a full-scale base cabinet not less than ten days prior to bid date. The sample shall represent typical construction and materials for the product the casework manufacturer proposes, meeting the quality standards set forth by this specification. The sample may be impounded by the owner and retained until completion of the casework installation.
    d. The owner, or its designated representative, reserves the right to reject any proposal that in his opinion fails to meet the criteria established by this specification. Such a decision shall be final.

C. Approved

1. _____
2. _____

* NOTE: Manufacturer's that are listed as basis of design or approved, are still obligated to hold ALL specification requirements as called out in this document. There will be NO EXCEPTIONS in materials or fabrication permitted that have not been requested in writing and responded to with approval, during an RFI period prior to bid.

2.2 MATERIALS

A. Wood Casework: Laminate case bodies on ANSI-grade M2 particleboard with plywood door and drawer faces with standard reconstituted veneer or optional natural wood veneers (no liner, vinyl, or foil covered boards allowed)

1. Case bodies and shelves: **Antique White**, **Gray**, **Almond**, **Black** thermally fused melamine TFM laminate on Grade M2 particle core. Cabinet liner, vinyl covered board, foil board and cold pressed laminate are not acceptable.
2. Door and drawer fronts: Reconstituted premium straight-grain wood veneer or optional Natural Wood Veneers. All veneer to be from one manufacturer to ensure consistency in color and grain characteristics.
3. Door and drawer front edging" 3mm hardwood to match door veneer.
4. Case bodies and shelving edging: 3mm PVC edging. Color to match case body.

B. Material for construction for Casework Body, Interior shelving and Doors/Drawer Heads:

1. Cabinet ends, bottoms, shelves and backs shall be fabricated of premium ¾" Thermally fused melamine TFM laminate.
2. Door and drawer fronts shall be fabricated of premium reconstituted straight-grain veneer to be fabricate using ¾" 3ply particle core plywood panels
3. Door and drawer fronts shall be fabricated of premium natural wood veneer using ¾" 3ply particle core plywood panels with one of the following veneer types: AA Red Oak (Plain Sliced or Rift Cut), AA White Maple (Plain Sliced or Quartered), AA White Oak (Plain Sliced or Rift Cut), A Birch (Plain Sliced or Quartered), AA European Steamed Beach (Plain Sliced or Quartered), Natural Bamboo, or Caramelized Bamboo. Book or Slipped Matched. Manufacturer shall follow the verbiage in ANSI Standard HP-1-2004 paragraph 3.3.3. - OPTIONAL
4. Semi Exposed door and drawer backs to be HPVA grade 1
5. Semi Exposed base cabinet backs and wall case backs to be white hardboard
6. Semi-exposed base cabinet backs and wall case backs to be Thermally fused melamine TFM laminate on ½" particle core. Color to match case body – OPTIONAL
7. Semi-exposed tall case backs to be Thermally fused melamine RFM laminate on ½" particle core.
8. Exposed backs of all open base, wall and tall cabinets shall be ½" thermally fused melamine TFM laminate.
9. Cabinet liners, vinyl covered boards, foils or other similar materials are not acceptable on any components.
10. Glass shall be tempered, 6mm thick for unframed doors and framed doors

11. Glass shall be laminated, 6mm thick for unframed doors and framed doors - OPTIONAL

C. Hardware

1. Pulls shall be nominal 4” wire type. Finish shall be brushed chrome STANDARD/ stainless steel OPTIONAL. Drawers over 24” wide to receive two pulls. Mount drawer pulls horizontally. Mount door pulls vertically STANDARD / horizontally OPTIONAL
2. Hinges shall be institutional type 2 3/4’’, 5-knuckle steel hinge, wrap around design Finish to be brushed chrome / stainless steel / black epoxy coated.
3. Hinges shall be full overlay, 170° opening, concealed type, incorporating a self-closing feature. Mounting plate shall provide three-way adjustment in door alignment. OPTIONAL
4. Hinges shall be an institutional grade, three knuckle steel hinge, with a 270 degree opening, zinc finished and complete with cover cab – OPTIONAL
5. Provide two hinges on doors up to 36" in height, three hinges on doors over 36" in height, and 4 hinges on doors over 60” in height
6. Door catches: Adjustable type, spring activated nylon roller catches. Note: Door catches not required with the 3 Knuckle and concealed self-closing hinges.
7. Elbow catches shall be spring actuated and come complete with strike plate. Provided where locks occur in hinged double door units.
8. Drawer slides shall be full extension, ball bearing type equal to Accuride model #3832, full extension series. File drawer slides shall be equal to the Accuride model #4034, 150lb, full extension – STANDARD.
9. Drawer slides shall be 100 lb rated, epoxy coated, self-closing slides with captive roller and positive in-stop. File drawer slides shall be full extension. OPTIONAL
10. Locks: 5 disc tumbler cam locks with offset cam and removable core. Exposed face chrome plated. Keying: [Select - keyed alike or in groups per room with master key or keyed differently with security panels.] STANDARD
11. Locks: 5 pin tumbler cam locks with offset cam and non-removable core. Exposed face chrome plated. Keying: (Select – keyed alike or in groups per room with master key or keyed differently with security panels.) OPTIONAL
12. Framed Glass Doors: Locks shall be plunger type sliding showcase locks. Tempered Glass STANDARD / Laminated Safety Glass OPTIONAL.
13. Sliding Framed Glass Doors: Locks shall be ratchet type sliding showcase locks. Tempered Glass STANDARD / Laminated Safety Glass OPTIONAL.
14. Sliding Unframed Glass Doors: Locks shall be ratchet type sliding showcase locks. Tempered Glass STANDARD / Laminated Safety Glass OPTIONAL.
15. Adjustable seismic shelf supports shall be double pin, plastic locking type, able to accommodate both ¾” and 1” thick shelves.
16. Adjustable steel shelf supports shall be bright zinc plated angle type, ½’’ wide. Pin shall be ¼’’ x ⅜” long pin. OPTIONAL

17. Levelers shall be Hafele #637.30.941 with protective cap #637.02.090. (NOTE: This option requires holes in the bottom of the cabinet for access to adjust height and include a black rubber plug insert) - OPTIONAL

18. Label holders shall be formed steel (3 ½" x 1 ¾") with satin chrome finish. - OPTIONAL

19. Number plates: Aluminum with anodized finish, black numerals. Number plates will be shipped loose for on-site installation. - OPTIONAL

D. Countertops

1. Epoxy Resin Countertops: Countertops are to be flat, black, 1" thick with beveled, rounded top, front edge and all corners, with 1" thick, 4" high applied backsplash/curbs (unless otherwise noted), constructed of the same material and located at the rear of tops and on end returns. Ends of countertop to be square. Backsplash/curbs shall be bonded to top surface to form a square joint. Joints are to be sealed water-tight with corrosion resistant could. Front overhangs should be equal to 1" at cabinet fronts and side overhangs at exposed units shall be ¾", with a drip groove on the underside ½" from the edge. Tops should be manufactured of one piece and cut to the maximum lengths possible. Fabricate with factory cutouts for sinks and with butt joints assembled with silicone.

2. Phenolic Resin Countertops: Countertops are to be 1" inch thick with 3/4 "thick, 4"high curbs (unless otherwise noted), constructed of the same material and located at the rear of tops and on end returns. Overhangs should be equal to 1"at cabinet fronts and exposed ends with a drip groove on the underside 1/2 "from the edge. Tops should be manufactured of one piece and cut to the maximum lengths possible. Installation should take place without any field cutting or drilling. Holes and cutouts should be provided as necessary for equipment, service fittings and fixtures. Size of openings should be verified prior to making openings.

3. Plastic Laminate Countertops and Curbs: Particleboard core material for plastic laminate surfaced countertops is to be 1" thick industrial grade, 45 pound density particleboard for dry areas and 1" thick moisture resistant (MR) particle board for wet areas. Fabrication shall be with horizontal grade laminate surface with a backer sheet. Edges shall be edged with 3mm PVC edge banding.

4. Stainless Steel Countertops: Where countertops and/or curbs are noted on drawings as being "Stainless Steel," construction shall consist of 16 gauge type 302/304 or type 316 stainless steel. Exposed surfaces shall have #4 satin finish

E. Sinks

1. Molded Epoxy Resin Drop-In Sinks: Sinks shall be of epoxy resin modified and compounded with selected materials and designed to provide the same performance requirements as specified for the epoxy resin countertops. Sinks shall be non-glaring black color.

2. Stainless Steel Sinks: As an option to epoxy resin sinks, provide stainless steel sinks constructed of 16 gauge type 304 stainless steel of equivalent or comparable sizes. Exposed surfaces shall have #4 finish. To be used with plastic laminate tops.

3. Sink Sizes: Sizes and model numbers shall be as designated on the drawings.

2.3 FABRICATION

A. Base Units

1. Cabinet ends shall be ¾" TFM board, with a waterproof plywood base tongue and grooved to the bottom edge for protection against dampness.
2. Front top rail: ¾" x 3 ¾" TFM board, fastened to cabinet ends with fluted dowels – STANDARD
3. Full sub-top: ¾" TFM board, full-depth of cabinet fastened to cabinet ends with fluted dowels – OPTIONAL
4. Rear top and bottom support rails: ¾" x 3 ¾" TFM board, fastened to cabinet with fluted dowels.
5. Intermediate rails (always supplied for locking cabinets) shall match front rail materials and construction – OTHERWISE OPTIONAL
6. Cabinet base to be a separate applied veneer core plywood base. (Waterproof marine grade- OPTIONAL)
7. Cabinet bottoms: ¾" TFM board set flush ad fastened to cabinet ends with fluted dowels.
8. Cabinet backs: Cabinet backs in exposed cabinets shall be fabricated of ½" TFM board. Cabinet backs in semi-exposed cabinets shall be fabricated of one-piece ½" white tempered hardboard. Backs are not provided on drawer units. Cabinet backs are to be removable for access to pipe space
9. Vertical dividers: Full height dividers and half height dividers shall be 1 ½" TFM secured to bottom, front top rail and rear top rail with dowels and screws.
10. Adjustable shelves shall be set on double pin, plastic seismic locking shelf supports at 1¼'' spacing. Front edges of shelves shall be edge banded. Shelves shall be full depth in standard cupboards and in open units. Adjustable shelves on base cabinets 36'' and smaller shall be ¾'' thick. Adjustable shelves on cabinets over 36'' wide shall be 1'' thick. All shelving in open cabinets shall be 1" thick (regardless of cabinet size)
11. Adjustable shelves shall be set on steel pin type shelf supports at 1¼" spacing. Front edges of shelves shall be edge banded. Shelves shall be ¾ depth in standard cupboards and full depth in open units. Adjustable shelves in base cabinets up to 36'' wide shall be ¾" thick. Adjustable shelves on cabinets over 36'' wide shall be 1'' thick. All shelving in open cabinets shall be 1" thick (regardless of cabinet size)- OPTIONAL
12. Drawer Construction: Drawer box back, front and sides to be of ½'' Baltic Birch, 9 ply hardwood plywood and shall be finished with the same laboratory grade finish as applied to the cabinet. Use dovetail joinery on all four joints. Drawer bottom shall be ¼'' white thermo-fused melamine faced hardboard and shall be grooved into all four sides of the drawer box and glued into position. Drawer body will be affixed to drawer front by screws. - STANDARD

13. Doors and drawer fronts shall be ¾" particle-board with premium straight-grain reconstituted veneer or natural wood veneer with desired cut, vertically-matched per cabinet.

B. Wall and tall cases

1. Case ends shall be ¾" TFM board. Floor case ends shall have a ¾" x 3" waterproof plywood base tongue and grooved to the bottom edge for protection against dampness.
2. Tops of wall and tall cases: 1" TFM board fastened to ends with fluted dowels.
3. Bottoms of wall cases: 1" TFM board fastened to cabinet ends with fluted dowels.
4. Bottoms of tall cases: ¾" TFM board fasted to cabinet with fluted dowels
5. Exposed backs on wall and tall cabinets shall be ½" low-pressure laminate on ½" particle core.
6. Semi-exposed wall case backs shall be white hardboard – STANDARD. (½" Thermally fused melamine TF laminate- Optional)
7. Backs shall be stapled and glued into rebates on back edge of ends.
8. Fixed center shelves on tall cases shall be 1" thick and shall be fastened to ends with fluted dowels.
9. Adjustable shelves shall be set on double pin, seismic plastic locking shelf supports at 1¼'' spacing. Front edges of shelves shall be edge banded. Shelves shall be full depth in standard cupboards and full depth in open units. Adjustable shelves on cabinets 36'' and smaller shall be ¾'' thick. Adjustable shelves on cabinets over 36'' wide shall be 1'' thick. All shelving in open cabinets shall be 1" thick (regardless of cabinet size)
10. Adjustable shelves shall be set on steel pin type shelf supports at 1¼'' spacing. Front edges of shelves shall be edge banded. Shelves shall be ¾ depth in standard cupboards and full depth in open units. Adjustable shelves on cabinets 36'' and smaller shall be ¾'' thick. Adjustable shelves on cabinets over 36'' wide shall be 1'' thick. All shelving in open cabinets shall be 1" thick (regardless of cabinet size) OPTIONAL

C. Doors

1. Solid Doors
   a. Full Flush overlay construction doors shall be fabricated of ¾'' 3 ply particle core plywood. Vertically-matched per cabinet
   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 shall be flush overlay construction, OPTIONAL, molded and shaped to accept 5mm thick glass on wall and floor cases.
   b. Glass to be retained with an extruded vinyl molding, designed so that glass can be replaced without tools.

c. Sliding doors shall be as hinged solid door except doors shall slide in a top channel and with a nylon wheel operating on an inset plastic track.

d. Provide two hinges on all doors up to 36" in height and a minimum of three hinges on any doors exceeding this height.

e. Glass shall be held in place with a removable brown plastic retainer to facilitate change of damaged glass.

3. Unframed Sliding Glass Doors

a. 6mm tempered glass with all edges ground. Top and bottom of the glass doors shall be set in extruded aluminum shoe with nylon wheel assemblies.

b. Provide silencer guides fitting on top of glass panel for smooth and noiseless operation.

c. Pulls shall be ground into sliding glass door.

D. Tables Metal

1. Metal - Table frames will be all welded construction, powder-coated steel, 2” x 2” , 16 gauge with levelers. Tables over 48” wide to have stretcher rails for additional leg support.

E. Tables Wood (Optional)

1. Wood – standing height table aprons shall be not less than ¾’’ x 4 ⅝” solid hardwood, machined to receive metal corner blocks and bolted to 2 ¼” x 2 ¼” solid hardwood legs. Drawers shall be constructed and finished as cabinet drawers.
2. Wood – Sitting height table aprons shall not be less than ¾” x 3 ¾” solid hardwood, machined to receive metal corner blocks and bolted to 2 ¼” x 2 ¼” solid hardwood legs. Drawers shall be constructed and finished as cabinet drawers.
3. Wood ADA height table front apron rail shall be ¾” x 2” solid hardwood, back and side apron rails shall be ¾” x 3 ¾” solid hardwood, machined to receive metal corner blocks and bolted to 2 ¼” x 2 ¼” solid hardwood legs.
4. All tables shall come equipped with leveling devices and black PVC shoes.
5. Finish is to match cabinet doors and drawer fronts.

2.4 FINISHES

A. Door and Drawer front finish

1. Exposed and semi-exposed interior surfaces of cabinets receive the full finishing process consisting of stain coat (if applicable), two sealer coats and two top coats, applied by UV roller coat process. Interiors of drawer cabinets and unexposed cabinet ends may have sealer coats only (unless otherwise specified)
2. Finish is to be AWS System 9 UV Curable urethane, complying with AWI Premium Grade, regardless of grade specified for casework

3. Finish shall comply with SEFA-8 standards. Third-party written certification is to be available on request.
4. Solvent applied coatings are not acceptable and will not be considered. Manufacturer shall supply documentation that waste generated during the finishing process is a non- hazardous material.
5. Tinted sealer will not be acceptable. Separate stain coat is required to ensure color consistency after sanding.
6. Cloudy or muddy finishes are not acceptable.
7. All machining of parts for hardware, etc. is to be completed prior to finishing
8. Finish steps to include (with sanding between steps as applicable):
    a. Stain or wash coat (as applicable)
    b. Sealer with B-stage curing (to gel)
    c. Sealer with full cure
    d. First top coat with B-stage curing (to gel)
    e. Second top coat with full cure

B. Case Body Finish:
    1. TFM shall be resin impregnated laminate thermally fused to both sides of the core material.
    2. Cabinet liner, vinyl covered board, foil board or laminates that are cold pressed are not acceptable.

PART 3 - EXECUTION

3.1 INSTALLERS

A. Installer Qualifications: For installation and maintenance of units, an authorized representative of the casework manufacturer required for this project.

3.2 EXAMINATION

A. Site Verification of Conditions: Casework will not be delivered or installed until the following conditions have been met:

B. Building must be enclosed (windows and doors sealed and weather-tight);

C. An operational HVAC system that maintains temperature and humidity at occupancy levels must be in place; Relative humidity must be regulated and stable between 25% and 55% per AWI standards before products are brought on site, throughout project completion and with the site moving forward while the building is in use by the owner.

D. Ceiling, overhead ductwork and lighting must be installed;

E. Site must be free of any further construction such as “wet work.”

F. Required backing and reinforcements must be installed accurately and the project must be ready for casework installation.

NOTE: In the event that any of the specified requirements for installation are not present at the time of requested delivery, the general contractor or owner must provide the casework manufacturer with a letter of deviation that releases the manufacturer from any responsibility or liability from any damage to the products resulting from the unfavorable building conditions.

3.3 INSTALLATION

A. Casework Installation:

1. Casework should be set with components plumb, straight and square, securely anchored to building structure with not distortion. Concealed shims should be used as required.
2. Cabinets in continuous runs should be fastened together with joints flush, uniform and tight with and alignment of adjacent units not to exceed 1/16 of an inch.
3. Wall casework should be secured to solid material, not lath, plastic or gypsum board.
4. Top edge surfaces should be abutted in one true place. Joints are to be flush and should not exceed 1/8 of an inch between tops units.
5. Casework and hardware shall be adjusted and aligned to allow for accurate connection of contact points and efficient operation of doors and drawers without any warping or binding.

B. Countertop Installation:

1. Countertops are to have been fabricated in lengths according to drawings, with ends abutting tightly and sealed with corrosion resistant sealant.
2. Tops will be anchored to base casework in a single true plane with ends abutting at hairline joints with no raised edges at joints.
3. Joints shall be factory prepared having no need for in-field processing of top and edge surfaces.
4. Joints should be dressed smoothly, surface scratches removed and entire surface cleaned thoroughly.

C. Cleaning

1. Ensure all products are unsoiled and match factory finish. Remove or repair damaged or defective units.
2. Clean all finished surfaces, including drawers and cabinet shelves, and touch up as necessary.
3. Countertops should be cleaned and free of grease or streaks.

D. Protection:

1. Counter tops and ledges should be protected with 1/4 inch ribbed cardboard or plastic covering of 6mm thickness.

END OF SECTION