

# **HLF FURNITURE CASEWORK** **ARCHITECTURAL SPECIFICATIONS**

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## **MANUFACTURED CASEWORK -- SECTION 12325**

### **PART 1-SCOPE**

#### **1.01 RELATED DOCUMENTS**

1. The provisions of the General Conditions, Supplementary Conditions, and the sections included under Division 1, General requirements, are included as a part of this Section as though bond herein.
2. Reference Standards
  1. ANSI Standards: American National Standards Institute, Inc.; 11 west 42<sup>nd</sup> Street, New York, NY 10036, 212-642-4900.
  2. ASTM Standards: American Society for Testing and Materials; 1916 race Street, Philadelphia, PA 19103.219-299-4540
  3. NEMA Standards: National Electrical Manufacturers Associates: 2101 L Street NW, Suite 300. Washington, DC 20037, 202-457-8400.

#### **1.02 SUMMARY OF WORK INCLUDED**

1. Provide labor, materials, and equipment necessary for the complete installation of casework shown on the drawings, specified herein, or listed in the schedule following this Section.
2. This work includes special and modified stock design preassembled units for installation as movable fixed or built-in, as noted on the drawings or listed in the schedule.
3. Work Not Included: rubber or vinyl base, general millwork, blocking within walls, floors or ceilings required for reinforcement and support, stainless steel sinks and fittings, and electrical outlets.
4. Installation of manufactured casework by the General Contractor (excluding millwork items 06200) is prohibited unless approved by the casework manufacturer and the (Owner), (Architect), (Interior Designer), (Engineer).

#### **1.03 DEFINITIONS**

1. Exposed: Any surface visible when doors and drawers are closed, including bottoms of cases more than 4 feet (122 cm) above floor and visible members in open cases or behind glass doors.
2. Semi-exposed: Any exterior surface subject to view, including members behind opaque doors like shelves, dividers, or interior faces of ends, drawer bodies and bottom, back faces of doors, backs of movable cabinets, or tops of cases 6' – 6" (198 cm) or more above the floor.
3. Concealed: Any surface not usually visible after installation.
4. Unexposed: Any surface or part permanently kept from view.

#### **1.04 SUBMITTALS**

1. Shop drawings shall show size, shape, and type of materials used, with plans and elevations of each assembly of casework.
2. Submit samples of materials, hardware, finishes, colors, and construction methods.
3. Submit manufacturer's technical product data and installation instructions.
4. The manufacturer/supplier is responsible for making field measurements to insure proper fit of casework items.

## 1.

### **1.05 QUALITY ASSURANCE**

1. All work performed shall conform to the ordinances and regulations of all applicable federal, state, and local building and safety codes.
2. For purposes of designating type and quality for the work under this section, drawings and specifications are based on products manufactured or furnished by manufacturers listed.
3. To insure uniformity and coordination of finish, color, design, construction, hardware, and other refinements, all components, materials, and accessories shall be provided by a single source manufacturer.
4. Defective workmanship or damaged components shall be corrected, repaired or replaced as requested by the (Architect), (Interior Designer), Engineer), without further cost to the owner.
5. Manufacturer Qualifications: At least 5 years experience in the manufacturer and installation of the type of casework specified.
6. Installer Qualifications: At least 3 years experience in the installation of the type of the casework specified.

### **1.06 DELIVERY, STORAGE, AND HANDLING**

1. Casework shall be protected in shipping. Replace any cabinets or panels damaged in transit.
2. Protect casework for dampness during and after delivery. Do not store or install casework in building until concrete, masonry, drywall, plaster and any wetwork is dry.
3. Store casework systems in an environment with a minimum ambient temperature of 55 °F, and a relative humidity between 50% and 60%.
4. Store panels face-to-face in a horizontal position.
5. Protect finished installation from damage by water, heat, and other causes until final acceptance.

### **1.07 WARRANTY**

1. The entire installation has a five (5) year material and labor warranty supplied by the manufacturer. The warranty shall cover repair or replacement, without cost to owner, of items which become defective within the five (5) year period. Damage to the casework caused by improper operation or misuse is not covered by this warranty...
2. Panels have manufacturer's standard Lifetime Warranty against delamination.
3. Hardware has manufacturer's standard Lifetime Warranty.
4. Contractors to provide (Owner), (Architect), (Interior Designer), (Engineer) with a written warranty at completion of the project in accordance with Section (01700), (01740) of the project manual.

## **PART 2 – PRODUCTS**

### **2.01 MANUFACTURERS**

1. Provide Manufactured casework or casegoods equal to HLF Furniture, Inc. as manufactured by HLF Furniture, Inc.; 44001 Van Bom Rd, Belleville, MI 48111, USA, 734-697-3000, FAX: 734-697-3008.
2. Products of other nationally recognized casework manufactures may be considered equal to HLF Furniture, INC.; when a written substitution request is submitted not less than 10 days prior to bid opening. Manufacturers must show evidence of financial stability, plant facilities, and catalogs. A full-size sample with hardware is required for approval.

2.

**2.02 WORKMANSHIP – GENERAL**

1. Machine parts for accurate fit and assemble with appropriate fastenings and adhesives in true, square, level, and plumb units. Cabinet parts shall be accurately machined and bored using automatic machinery for a premium grade joint construction to insure consistent sizing of modular components.
2. Fabricate casework to ensure durable and rigid units and to permit plumb and level site installation with tight joints between sections.
3. Verify dimensions of other trades to be built into casework.
4. Provide removable or false panels, or grommets for access concealment of heating or plumbing fixtures, inserts, appliances, out boxes, and other fixtures and fittings.
  1. Verify locations of cutouts from on-site dimensions.
  2. Prime paint or seal contact surfaces of cut edges.
5. Scribe tops and backsplashes to walls and other adjoining vertical surfaces.
6. There shall be a minimum scribe with cabinets at end walls unless shown otherwise.

**2.03 MATERIALS**

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Plastic laminate is manufactured by pressing melamine resin impregnated pattern paper over layers of phenolic resin impregnated kraft paper and bonded at pressures exceeding 1000 psi (179 kg/sq cm), at temperatures in excess of 280 °F (138 °C). The back is sanded to maintain a uniform thickness and to facilitate bonding.

The wear surface is made up of clear melamine and pattern paper while the Kraft paper backing is added to facilitate handling in sheets. When plastic laminate is factory fused directly to the panel it eliminates most kraft paper without reducing the durability of the plastic laminate.

When comparing plastic laminate, look at the surface thickness and wear resistance of the surface and not the overall thickness.

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1. High pressure plastic laminate: NEMA LD#-1991, GP28 grade, for exterior cabinet surfaces.
    - Wear Resistance: . . . . . 400 Cycles
    - Scuff Resistance: . . . . . No effect
    - Impact Resistance: . . . . . 30"
    - Dimensional Change: . . . . . Length 1.1 % (max)  
Cross 1.4% (max)
    - Boiling Water Resistance: . . . . . No effect
    - High Temperature Resistance: . . . . . Slight effect
    - Radiant Heat Resistance: . . . . . 125 seconds
    - Conductive Heat Resistance: . . . . . No effect
    - Stain Resistance: 1-23 . . . . . No effect  
24-29 . . . . . Moderate effect
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Thermally Fused Melamine Laminate has better wear characteristics and may be used for exterior surfaces.

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2. Thermally fused Melamine Laminate: NEMA LD-3-1991 and ALA 1988,; antibacterial and aseptic.
  - Wear Resistance: . . . . . 600 Cycles
  - Scuff Resistance: . . . . . No effect
  - Boiling Water Resistance: . . . . . Slight to no effect
  - High temperature Resistance: . . . . . Slight to no effect
  - Radiant Heat Resistance: . . . . . 165 seconds
  - Conductive Heat Resistance: . . . . . No effect
  - Stain Resistance: 1-23 . . . . . No effect  
24-29 . . . . . Minor effect
  - Cigarette Burn Resistance: . . . . . 520 seconds

**3.**

3. Color shall be selected by (owner), Architect), (Engineer), (Interior Design), from manufacturers standard color palette.
  1. Semi-exposed interior: manufacturer's standard.
  2. Exposed interior: to match exterior or as selected by architect.
  3. Exposed Exterior: as selected by Architect.
  4. Concealed Exterior: manufacturer's standard
  
4. Backing sheet for concealed surfaces conforming NEMA standards for GP28 vertical grade or CL20 cabinet grade.
  
5. Manufactured Wood Particle Composite Panels (MWPCP) conforming to the Commercial Standards CS-236-66 Type 1, (CS1B2), ANSI A 208.1-1989, Grade 1-M-3, or ASTM D1037-87.

- Fire Rating, ASTM . . . . .	Class C
- Density, lb. per cu. ft. . . . .	45
- Moisture Content, maximum % . . . . .	7
- Internal Bond, psi . . . . .	80
- Dimensional charge, lengthwise. . . . .	0.35%
. . . . .	.035%
- Flexural Strength, psi lengthwise . . . . .	2100
psi crosswise . . . . .	2400
- Modules of Elasticity, psi . . . . .	350000
- Screw Holding, lbs, #10 surface . . . . .	275
#10 end grain . . . . .	25
- flatness, maximum warpage, 96" length . . . . .	0.375
(10 mm in 2440 mm)	
maximum warpage, 48" width	
(7 mm in 1220 mm)	
  
6. Exposed edge material:
  1. 3mm PVC: Solid, high impact, purified color thru, acid resistant, Polyvinyl chloride (PVC), machine applied with hot melt adhesives and automatically trimmed, buffed, and machined for uniform appearance.
  
7. Acoustical Composite Panels conforming to ANSI A208.1-1978, Grade 1-M-3.

- Fire Rating, ASTM E-84 . . . . .	Class 1
- Density, lbs per cu. ft. . . . .	18
- Expansion, maximum % . . . . .	0.06
- NRC . . . . .	0.50
  
8. Hardboard used in casework conforms to ANSI A135.4 Class 1 tempered, smooth 2 sides, whether exposed or semi-exposed.
  
9. Plywood and hardwood shall be kiln dried to 6% moisture content. Cabinet grade plywood shall be utilized where specified.

## 4.

### 2.04 HARDWARE

1. Panel Assembly System:
  1. Permanent: Cabinets are joined with dowel pin construction under controlled case clamp conditions utilizing machined panels with matching holes.
2. Pulls: Accurately positioned on drawer and door fronts and securely mounted with two machine screws through panel.
  1. 96 mm "D" pull.
3. Hinges:
  1. Institutional heavy duty, five knuckle 2-3/4" institutional type hinge. Mill ground, hospital tip, tight pin feature with all edges eased. Hinge to be full wrap around type of tempered steel .095" thick.

**OR**

  2. Concealed Grass 110 degree self closing
4. Drawer slides:
  1. Epoxy coated metal, nylon roller slides with lifetime guarantee.
    1. 100 – pound static load capacity (BHMA/ANSI Testing)
    2. 60 mm parallel self closing action.

**OR**

  2. Accuride slides with rail disconnects and lifetime guarantee. Steel rails with two dimensional independent adjustment. Permanently lubricated polymer or steel ball bearings.
    1. Box Drawer: 2037 series with built-in stops.
      - Dynamic load capacity: 50 lbs.
      - Static load capacity: 75 lbs.
    2. File drawer to 24" (610 mm) wide: 4017 series with built-in stops and 1 ½" over travel.
      - Dynamic load capacity: 110 lbs.
      - Static load capacity: 135 lbs.
    3. Lateral drawer to 42" (1070 mm) wide: 417 series with built-in stops and 1 ½" over travel.
      - Dynamic load capacity: 130 lbs.
      - Static load capacity: 155 lbs.
5. Locks: Cylinder type, diecast, with five pin tumblers. Each lock is furnished with two milled brass keys. Locks can be master keyed to multiple series if required. All locks have field replacement cores.
6. Adjustable Shelf Support System:
  1. Shelf support clips for adjustable shelves ¾" and 1 1/8" thick shall be injected molded nylon. Support clips shall incorporate integral molded lock tabs to retain shelf from tipping or inadvertently being lifted out. Support clip shall have double pin engagement into precision bored hole pattern in cabinet vertical members.
    1. Clips shall have a molded ridge which shall provide pressure against edge of shelving to maintain positive pin engagement. Clip shall provide means for permanent attachments for shelf. Static test load must exceed 200 lb. per clip.
  2. Or
  2. 5mm nickel plated metal supports. Paddle stopped.
  3. Dividers that are ¼" thick shall be fully adjustable and retained with injection molded nylon clip. Clip shall trap divider to eliminate lift out.
  4. All adjustable shelves and dividers shall be adjustable on 32 mm (1 1/4") centers.
7. Wire and cable grommets: manufacturers' standard plastic (black) to match cabinets.
  1. Grommets:
    1. 2.4" diameter
    2. 2.4 x 6.0" oval
    3. 2.4 x 3.0" oval pop-up
8. Catches: Heavy duty spring loaded large roller type.
  1. Each door shall have a single catch mounted at the bottom edge.
  2. Catch strike plates shall be injection molded nylon, with an integral molded engagement ridge strike plate shall also provide a wide face bumper insuring a positive door stop.

## 5.

### 2.05 ACCESSORIES

1. Suspended file rails: 14 gauge steel file suspension rails, black epoxy coat for all file drawers. Mounted with nylon corner clips and sliders.
2. Miscellaneous Accessories:
  1. Keyboard trays:
    1. Slide out tray, non-tilting, no rotation.
    2. Articulated, non-tilting, 180° rotation.
  2. Pencil drawer: Manufacturers standard.
  3. Task light:
    1. 24" black, rocker switch, octron bulb, 9' cord.
    2. 48" black, rocker switch, octron bulb, 9' cord.
  4. Wire management: See catalog.
  5. TV/Monitor pull-out tray: Black.

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Other accessories are available- see manufacturers catalog. Many accessories can be combined to create useful work spaces.

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3. Provide accessories in manufacturers standard colors to match cabinets as selected by the (Owner), (Architect), (Engineer), (Interior Designer) from manufacturers standard selection.

### 2.06 CONSTRUCTION

1. Drawings are intended to establish guidelines for acceptable composition, quantity, and appearances.
2. Exposed and concealed cabinet and countertop surfaces are laminated to seal surfaces against moisture.
3. Panels constructed from laminated stock and edge banded with (PVC).
  1. Cabinet panels shall be equipped with 3/16" (5mm) diameter holes drilled 1 1/4" (32mm) on center and 1 1/2" (37mm) from face to facilitate adjustable shelving, drawers, system hardware and accessories. Finish look shall be flush type with 5/32" (4mm) reveals at the panel joints.
    1. Side and shelf panels: 3/4" (19mm)
    2. Back panels (exposed): 3/4" (19mm)
    3. Front panels (doors, drawer fronts, face panels): 3/4" (19mm)
4. Adjustable shelves, less than 36" in length, shall be 3/4" thick. Shelves 36" long and over, and all adjustable shelves in wall cabinet and bookcases shall be 1 1/8" thick. Front edge of shelf shall be finished with a high impact, ridge PVC extrusion in a color to match shelf surface and cabinet interior.
5. Drawers shall be full box design with a separate front.
  1. Drawers shall be 1/2" (13mm) thick sides doweled together and 1/4" (6mm) bottom panel captured in groove on all 4 sides. Drawers shall be full box construction with a separate face.
6. Fully concealed support base 4" (100mm) high and 3/4" (19mm) thick WMPCP base fabricated with two continuous runners with bridging at 24" (610mm) on center.
7. Work Surfaces:
  1. Plastic laminate countertops shall be surfaced with general purpose .050 thick plastic laminate meeting NEMA spec. LD3-1991. Countertop cores shall be 1 1/8" full thickness 45 lb. density industrial grade particleboard. Exposed edges shall be covered with the same laminate as top surfaces. Plastic laminate countertops shall include backing sheet on underside.
  2. Acid-resistant laminate tops shall be constructed with CHEMSURF acid resistant plastic laminate. Countertop cores shall be 1 1/8" full thickness 45 lb. density industrial grade particleboard. Exposed edges shall be covered with the same laminate as top surfaces. Tops shall have backing sheet on the underside.

**6.**

**PART 3 – EXECUTION**

**3.01 CASEWORK INSTALLATION**

1. Casework shall be installed in accordance with reviewed shop drawings and manufacturers written instructions to insure satisfactory installation and highest quality workmanship.
2. All casework is set straight to line, true, square, plumb. Level and ready to receive tops.
3. Worktops and Countertops shall be installed and assembled on-site with the use of concealed screws on bases such as base cabinets, pedestals or columns.

**3.02 ADJUSTMENT**

1. Adjust door catches, drawer slides, and other moving parts after installation to provide proper installation.
2. End cabinets placed against corners where they tee into other cabinets or obstacles shall be provided with chain or bracket stops on the inside of the doors to prevent the door handles from hitting the obstruction.

**3.03 CLEANUP**

1. Upon completion of work, remove from the premises all rubbish and other accumulated materials not caused by other trades and leave the work area in a clean and orderly condition acceptable to the (Owner), (Architect), (Engineer), (Interior Design)
2. Remove dirt with a damp cloth and/or soap and water. Stubborn dirt may be removed with non-flammable chlorinated solvents, or solvents such as lacquer thinner, M.E.K., or contact adhesive solvent. Do not use harsh abrasive cleansers.
3. Repair small scratches and surface blemishes or replace prior to final completion.

**3.04 MAINTENANCE**

1. Plastic laminate is a durable, serviceable surface that with minimal care provides years of worry free use. Everyday cleaning requires no more than a soft wipe with a damp sponge. Should dirt build up, wash surface with mild dishwashing liquid in warm water. Rinse clean with warm water and dry with a soft cloth. If this fails, use an all-purpose cleaner or bathroom cleanser (follow manufacturer's instruction), rinse with warm water and dry with a clean soft cloth.