

Specifications



Section 12300 – Manufactured Casework

ARTICLE I. PART 1 GENERAL

1.01 CONDITIONS AND REQUIREMENTS:

- A. The General Conditions, Supplementary Conditions and Division 1 – General Requirements apply.

1.02 SECTION INCLUDES:

- A. Manufactured composite panel base and wall cabinets.
- B. Countertops and backsplashes.
- C. Casework hardware.
- D. Service fittings and outlets.

1.03 RELATED SECTIONS

- A. Rough carpentry – Wood blocking to support casework.
- B. Electrical – Electrical installation of electrical item should be completed by contractor according to local and state codes.
- C. Mechanical contractor should connect sinks, strainer, traps, and outlets according to local and state codes.
- D. Base molding not in scope.

1.04 REFERENCES:

- A. American National Standards Institute (ANSI):
 - 1. ANSI A208.1-2009, Mat-Formed Wood Particleboard.
- B. American Society for Testing Materials (ASTM):
 - 1. ASTM D1037, Test Method for Physical Properties for 3/4 inch Panel.
 - 2. ASTM E-84, Test Method for Surface Burning Characteristics of Building Materials.
- C. National Electrical Manufacturers Association (NEMA):
 - 1. NEMA LD3-2005, Test Standards for High Pressure Laminate (HPL).
- D. American Laminators Association (ALA):
 - 1. ALA 1992, Performance Standards for Thermoset Decorative Panels (or TFM).
- E. Composite Panel Association
 - 1. CPA ECC 4-11 Standard for Eco-Certified Composites and California (CARB) Airborne Toxic Control Measure 93120



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1.05 DEFINITIONS:

- A. Exposed: Exterior surfaces, including edges, backs of hinged doors, interior of cabinets, or behind glass doors and interior shelves.
- B. Concealed: Exterior surfaces subject to view such as drawer bodies, cabinet interiors on cabinets with doors and interior shelves.
- C. Unexposed: Surfaces and parts permanently concealed from view.
- D. Visible: Surfaces and parts visible after installations.

1.06 SUBMITTALS:

- A. Submit under provisions of Section 01340.
- B. Shop Drawings: Indicate casework locations, large-scales plans, elevations, cross sections, rough-in and anchor placement dimensions and tolerances, clearances required, and relationship to adjoining surfaces.
- C. Product Data: Provide component dimensions, configurations, construction details, joint details, and attachments, utility and service requirement and locations, and shape and type of materials used.
- D. Samples: Submit two (2) samples of each material, hardware, and finish specified.
- E. Samples: Submit two (2) samples of manufacturer's available range of colors and patterns for selection.
- F. Manufacturer's installation instructions: indicate special installation requirements.
- G. List of installations done with product constructed per the specifications herein.
- H. Manufacturer's catalog: Submit catalog of manufacturer's standard components. Product catalog(s) must contain units for storage (closed and open), based cabinetry, overhead cabinetry, work surfaces, seating high pedestals, form slots and mail slots and other products commonly used in casework installations of an institutional or office nature.

1.07 QUALITY ASSURANCE

- A. Provide casework manufactured by a single manufacturer.

1.08 QUALIFICATIONS:

- A. Manufacturer: Company specializing in manufacturing the Products specified in this section with minimum of ten (10) years documented experience in manufacturing product as specified herein, with in-house manufacturing with CNC machines.
- B. Installer: Company specializing in performing the work of this section with minimum three (3) years documented experience and approved and trained by manufacturer.

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- 1.09 MOCK-UP:
- A. Provide mock-up if required under provisions of Section 01400.
 - B. Provide full size base and wall cabinet complete with drawers, door, adjustable shelf and countertop.
 - C. Locate where directed.
 - D. Mock-up may not remain as part of the work.
- 1.10 DELIVERY, STORAGE AND HANDLING:
- A. Deliver, store, protect and handle products to site under provisions of Section 01600.
 - B. Accept casework on-site. Inspect on arrival for damage.
 - C. Protect from dampness during and after delivery. Do not expose casework to extreme changes in humidity.
 - D. Do not store or install casework in buildings until concrete and other wet work is completely dry.
 - E. Store casework in an environment with ambient temperature of 72°F with relative humidity between 25 and 85 percent.
 - F. Store casework panels face to face in horizontal position. Do not store on damp or wet surfaces.
- 1.11 FIELD MEASUREMENTS:
- A. Verify that field measurements are as indicated in drawings.
- 1.12 SEQUENCING:
- A. Sequence work under provisions of Section 01010.
 - B. Sequence installations to ensure utility connections are achieved in an orderly and expeditious manner.
- 1.13 COORDINATION:
- A. Coordinate work under provisions of Section 01039
 - B. Coordinate casework installation with size, location and installation of service utilities.
- 1.14 WARRANTY:
- A. Provide limited lifetime warranty in accordance with Conditions of Sale document.
 - B. Warranty: Included coverage against defects in material and workmanship on casework and hardware. **Warranty does not cover the following conditions:**



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1. Wear under normal usage
 2. Exposure to extreme heat or moisture
 3. Alterations
 4. Abuse
 5. Improper installation or maintenance
- C. Labor: Limited lifetime warranty on all parts and labor.
D. Limited lifetime warranty on delamination.

1.15 PRODUCT OPTIONS:

- A. Substitutions for specified products will be processed under provisions of Section 01630.
- B. Submit substitution requests prior to the submittal of product data. Substitutions requests received after review of product data will be rejected.

ARTICLE II. PART 2 PRODUCTS

2.01 GENERAL:

- A. Materials specified are for clarity of description and as a standard of.

2.02 MANUFACTURED UNITS:

- A. Manufactured Casework as manufactured by:
AMCASE[®], Inc.
2880 Ridgewood Park Dr.
Winston-Salem, NC 27107
888.396.9060 (toll free)
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2.03 MATERIALS:

- A. Manufactured Wood Particle Composite Panels.
 1. Physical properties when tested in accordance with ASTM D1037.
 - a. Density: 49 lb/ft³.
 - b. Internal Bond: 65 lb/in².
 - c. Modulus of Rupture: 1900 lb/in².
 - d. Modulus of Elasticity: 290,000 lb/in².
 - e. Hardness: 500 lbs Janka
 - f. Screw Holding, Face: 225 lbs.

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- g. Screw Holding, Edge: 180 lbs.
- h. Thickness Tolerance: $\pm 0.005''$
- i. Length/Width Tolerance: $\pm 1/16''$
- j. Squareness Tolerance: $\pm 1/8''$
- k. Flame Spread Rating: ASTM E-84; Class 3 (C)
- l. Moisture Content: Eight (8) percent maximum.
- 2. Qualifications and Certifications.
 - a. Potential for 5 LEED credits: 4.1, 4.2, 5.1, and 5.2 in Materials and Resources; 4.4 in Indoor Environmental Quality
 - b. SCS Certified, minimum of 90% recycled wood fiber
 - c. ECC Certified; Specification CPA ECC 4-11, CARB Third Party Certifier TPC-1
- B. Edge Material: Solid, high-impact, rigid, acid resistant PVC that is GREENGUARD Indoor Air Quality (IAQ) Certified. PVC edge is machine applied with hot melt adhesive and automatically trimmed, buffed and corner chamfered edges for 1 mm edges and corner radiused for 3 mm edges.
 - 1. Drawer fronts and doors are edged with 3 mm PVC edgeband.
 - 2. All edges, including visible edges of sides and shelves and concealed edges are edged with 1 mm PVC.
 - 3. Work surfaces and backsplashes receive 3 mm PVC edge or HPL sanitary edge.
- C. Unexposed Wall and Base Ends: Plastic surfaced and edgebanded on all edges with 1 mm PVC.
- D. Thermoset Decorative Panels (or TFM): NEMA LD3-2005 and ALA 1992; melamine, antibacterial, and aseptic having the following performance characteristics.
 - 1. Paper Weight: No less than 80 g/m^2 .
 - 2. Wear Resistance: Solid Color, 600 cycles; Woodgrain, 200 cycles.
 - 3. Scuff Resistance: No effect.
 - 4. Conductive Heat Resistance: No effect.
 - 5. Radiant Heat Resistance: 165 seconds.
 - 6. Boiling Water Resistance: Slight to No Effect.
 - 7. High Temperature Resistance: Slight to No Effect.
 - 8. Stain Resistance: No effect by stains 1-23 and moderate effect by stains 24-29.
- E. Skeleton Panels; Provide as follows:
 - 1. Cabinets must be modular in design.
 - 2. All drawer, mail slots, panels, sides, back, top, bottom, and toe are 3/4 inch, 19 mm shelf construction.

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- F. Drawers: Sides constructed of epoxy coated 16-gauge steel. Fabricate drawer bottom and back from 5/8 inch multi-density melamine covered top and bottom. Drawer back is edged on top with 1 mm PVC. File drawers 30 to 36 inches wide and up are constructed of 1/2 inch birch plywood side panels and back panel, and 1/4 inch hardboard bottom panel.
- G. Work surface HPL Tops: 1-1/8 inch thick with 3 mm PVC edge and backer for a balanced panel. Solid Surface worktops available in 1 and 1-1/2 inch thickness. Phenolic worktops available in 3/4 and 1 inch thickness.
 - 1. HPL
 - 2. Chemical Resistant Plastic Laminate
 - 3. Solid Surface
 - 4. Phenolic
 - 5. Epoxy
- H. High Pressure Laminates Offered: Arborite[®], Formica[®], Nevamar[®], Wilsonart[®].
- I. Recessed Toekick: Fully recessed four (4) or nine (9) inch high and 3/4 inch thick manufactured wood fiber composite panel base with four (4) levelers per cabinet with 2-1/4 inch height adjustment from inside of cabinet.
- J. Fasteners and Anchors: Types, sizes, material and finish as required for conditions of use.
 - 1. Wood Screws: 3/4 inch, No. 10 Flathead Phillips.
 - 2. Cabinet Attachment Screws: 13 mm eurocrew.
 - 3. Use of nails is not recommended.
 - 4. Anchors: As required for substrate condition and adequate anchorage of casework.

2.04 HARDWARE

A. Panel Assembly Pins:

- 1. Die cast zinc cam and solid galvanized steel screw pin KD fasteners for connections of tops and floors to side panels and fixed shelves, designed to be two (2) times stronger than glue and dowel construction and allowing for easy disassembly for replacement of damaged panels.
- 2. Die cast zinc cam and solid galvanized steel screw pin KD fasteners for connections of backs to side panels, designed to be two (2) times stronger than glue and dowel construction and allowing for easy disassembly for replacement of damaged panels.

B. Pulls:

- 1. Wire pull available in brushed nickel and matte black finishes.
- 2. Flat Arch pull available in brushed nickel and matte black finishes.



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3. Arch pull available in brushed nickel and matte black finishes.
 4. Button Arch pull available in brushed nickel and matte black finishes.
 5. 11 inch Arch pull available in brushed nickel and matte black finishes.
- C. Hinges: Exposed knuckle, nickel coated or black zinc die cast.
1. Self-closing overlay type; open 270 degrees maximum; provide reveal to match standard cabinet reveals (4 mm).
 2. Provide (2) hinges per door minimum on sizes up to 48 inches high, and three (3) hinges per door on sizes up to 84 inches high.
 3. Fasten hinges to door by boss/screw fasteners and to side panels with mounting plate and 13 mm screws.
- D. Drawer Slides: 100 pound capacity drawer slide system having following characteristics:
1. Dynamic Load Capacity: 75 pounds.
 2. Static Load Capacity: 100 pounds.
 3. Epoxy coated steel in white.
 4. Parallel self-closing action.
 5. 16-gauge steel construction.
- E. Locks: Furnish each lock with two (2) keys, keyed to space where casework is located, master keyed or submaster keyed upon request in nickel or black.
- F. Adjustable Shelf Fastener:
1. Base cabinets and shelves: Nickel-plated steel spoon pin; plug-fit support for 5 mm diameter holes.
 2. Wall cabinets: Black plastic shelf clip; plug-fit support for 5 mm diameter holes.
- G. Wire/Cable Grommets: Manufacturer's standard 2-1/4 inch and 3-1/4 inch diameter in white, gray, and black.
- H. Provide miscellaneous hardware in manufacturer's standard selection.
- I. Wall Unit/Cabinet Mounting Bracket and Attachment Rail: Concealed galvanized steel wall mounting bracket allowing vertical and front-to-back adjustment.
1. Vertical alignment to be 1/2 inch. Front-to-back adjustment to be 3/8 inch.
 2. Load bearing capacity to be 143 pounds per bracket. Minimum two (2) brackets per cabinet.
 3. Access to adjustment screws through 11 mm x 30 mm opening in the back panel. Cover hole with 11 mm plastic cover cap in white.
 4. Cabinet Attachment Rail: Galvanized steel, continuous 96-inch strip.
 5. Filler Strip: Compressible Filler Strip in gray used to obscure wall hanging brackets and rail from side view. Strips up to 60 inches long with adhesive backer.



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- J. Connecting Screws: Galvanized steel 5 mm wide x 30 mm long sleeve connected with a nickel-plated steel 11 mm fastening screw at each end with raised head and cross-slot Z, size 2.
- K. Brackets and Standards: Double-tracked 14-gauge steel uprights, wall mounted types; formed from a single piece of 16-gauge steel without any upturn at end of bracket; dry mist epoxy polyester powder finish in white.
- L. Heavy Duty Furniture Leveler: Adjustable steel leveler with separate die cast cylinder and free spinning base with load capacity of 200 pounds per leveler. Provide minimum of four (4) per cabinet. Leveler adjusts 2-1/4 inches using an Allen wrench. Levelers accessible through 10 mm diameter hole in bottom of cabinet. Provide plastic caps for each leveler hole in black or white.

2.05 ACCESSORIES:

- A. Provide accessory items as required including, but not limited to, individual casework locks and pencil drawers.
- B. Provide accessories in manufacturer's standard colors to match casework; color as selected by Architect.

2.06 FABRICATION

- A. Fabricate casework panels from a sandwich of melamine resin impregnated materials (minimum 80 g/m² density paper), thermally fused to dense wood core, then edgeband with PVC on all edges. Please note physical properties of panels have increased with this process when compared to raw particle board. Panels should have the following physical properties before edgeband is applied when tested in accordance with ASTM D1037:
 - 1. Internal Bond: 90 lb/in².
 - 2. Flexural Strength:
 - a. Lengthwise, 2400 lb/in².
 - b. Crosswise, 2400 lb/in².
 - 3. Modulus Elasticity:
 - a. Lengthwise, 450,000 lb/in².
 - b. Crosswise, 425,000 lb/in².
 - 4. Screwholding:
 - a. #10 Surface, 300 lb.
 - b. #10 End Grain, 200 lb.
 - 5. Flatness: Warpage not to exceed 3/8 inch over 96 inch length or 1/4 inch over 48 inch width.



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- B. Fabricate sides, fronts, and shelves from 3/4 inch material.
- C. Fabricate backs from 3/4 inch thickness material; full overlay on sides.
- D. Fabricate work surfaces from 1-1/8 inch thickness material with 3 mm PVC banding on four (4) edges or sanitary edge (self-edge) with same material.
- E. Equip panels with 5 mm diameter holes drilled 32 mm on center and 37 mm from face to facilitate adjustable shelving, drawers, system hardware and accessories.
- F. Accurately machine and bore cabinet parts for premium quality grade joinery construction utilizing automatic machinery to insure consistent sizing of modular components.
- G. Fabricate casework to ensure durable and rigid units and to permit plumb and level site installation with tight joints between sections.
- H. Fasten work surface tops to bases with concealed screws of sufficient length through brackets or top shelf provided at top insides of bases. Seal cutouts and exposed edges.
- I. Provide cutouts with appropriate grommets for 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. Cutouts must be routed, not sawed.

ARTICLE III. PART 3 EXECUTION

3.01 EXAMINATION:

- A. Verify existing conditions under provisions of Section 01039.
- B. Verify that openings are ready to receive work.
- C. Verify adequacy of support framing anchors.
- D. Verify that required utilities are available in proper locations and ready for use.
- E. Beginning of installation means installer accepts existing surface conditions.

3.02 INSTALLATION:

- A. Install casework, components and accessories in accordance with manufacturer's instructions.
- B. Use anchoring devices to suit condition and substrate materials encountered.
- C. Set casework items plumb and square.
- D. Install casework attachment rails on wall along entire length of wall to facilitate installation of wall cabinets.



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- E. Hang wall mounted casework on attachment rails. Level and adjust wall casework using adjustment capabilities of wall unit mounting brackets.
- F. Assemble and install work surface tops on-site with use of concealed screws on bases such as base cabinets, pedestals or columns.
- G. Scribe to abutting surfaces and align adjoining components. Apply matching filler pieces where casework abuts dissimilar construction.
- H. Repair small scratches and surface blemishes on units using manufacturer's supplied touch-up materials or replace units as required.

3.03 ADJUSTING:

- A. Adjust work under provisions of Section 01700.
- B. Adjust doors, drawers, hardware, fixtures, and other moving or operating parts to function smoothly.

3.04 CLEANING:

- A. Clean work under provisions of Section 01710.
- B. Clean casework, counters, shelves, glass, legs, hardware, fittings, and fixtures.
- C. Remove dirt with damp cloth and soap and water. Remove stubborn dirt with non-flammable chlorinated solvents or solvents such as: lacquer thinner, M.E.K., or contact adhesive solvent if area is ventilated sufficiently to prevent build-up of fumes and noticeable odors. Do not use harsh abrasive cleaners.

3.05 PROTECTION OF FINISHED WORK:

- A. Protect finished work under provisions of Section 01500.
- B. Do not permit finished casework to be exposed to continued construction activity.
- C. Protect finished casework from damage by water, heat and other causes until final acceptance.
- D. Replace casework exhibiting warpage, surface discoloration, and damage at no additional cost to owner.

