

**SECTION 06 41 00
CUSTOM CASEWORK**

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 specification sections, apply to work in this section.
- B. Millwork and custom casework including cabinetry, countertops, and shelving
- C. Millwork and casework hardware and accessories

1.2 REFERENCES

- A. ASTM E84 – Standard Test Method for Surface Burning Characteristics of Building Materials
- B. AWI – Quality Standards
- C. BHMA A156.9 – Cabinet Hardware
- D. A-A-1936 – Federal Specification; Adhesive, Contact
- E. NEMA (National Electric Manufacturer's Association) LD3 – High Pressure Decorative Laminates
- F. ALSC - PS 20 – American Softwood Lumber Standard

1.3 SUBMITTALS

- A. Shop Drawings: Submit Shop Drawings in accordance with Section 01 33 00.
 - 1. Indicate quality grade, materials, species, construction, sizes, shapes, quantities, locations, and conditions of adjoining work.
 - 2. Indicate items in related or dimensional position with sections or details shown either full size or 3" = 1'-0" scale.
 - 3. Indicate required field measurements beyond control of mill.
 - 4. Indicate the allowable uniformly distributed loads for shelving.
- B. Samples: Submit manufacturer's full range of sample colors, textures, and patterns of plastic laminate for Architect's selection.
- C. Installation Instruction: Provide installation instructions and lists of replacement parts for all hardware and accessories.
- D. Product Data: Provide product data for all hardware and accessories.
- E. Key Schedule:
 - 1. Provide lock and key schedule for lockable cabinets.
 - 2. Coordinate key schedule with Section 08 71 00 Door Hardware.
- F. Certification: Submit certifications by treating plant that pressure treatment materials comply with governing ordinances.

1.4 QUALITY ASSURANCE

- A. Millwork and casework fabricator shall have a minimum 5-years previous experience of successfully completed comparable work.
- B. Lumber Grading:
 - 1. Lumber Grading Rules and Wood Species in accordance with Voluntary Product Standards PS 20
 - 2. Grading rules of Southern Pine Inspection Bureau (SPIB) apply to materials furnished.
- C. Fire Hazard Classification: Comply with required NFPA, ANSI, and UL surface burning characteristics for plastic laminates, lumber, and plywood.
- D. Perform work in compliance with AWI standards.

1.5 MOCK-UP

- A. Prepare mock-up under provisions of Section 01 40 00.

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- B. Provide full size base cabinet and upper cabinet of each type indicated, in specified finish with hardware installed.
- C. Owner shall inspect units to ascertain quality and conformity to AWI Standards.
- D. Units will establish a minimum standard of quality for this work.
- E. Vendor may use undamaged approved units as part of the work.

1.6 FIELD MEASUREMENTS

- A. Design and fabricate units based upon field conditions and measurements.
- B. Verify field measurements are included in shop drawings.

1.7 PRE-INSTALLATION CONFERENCE

- A. Convene a pre-installation conference after site inspection and prior to commencement of work.
- B. Discuss any items that may alter fabrications or intended installation and determine acceptable conclusions.

1.8 COORDINATION

- A. Coordinate work with plumbing, mechanical, electrical, and other trades for rough-in work and installation of adjacent and associated components.

1.9 ENVIRONMENTAL REQUIREMENTS AND PROTECTION

- A. Section 01 60 00 - Material Equipment and approved equals: Environmental conditions affecting products on site.
- B. Immediately prior to, during and after installation of work of this section, maintain the same temperature and humidity conditions in building spaces as will occur after occupancy.
- C. Protect work from damage until final acceptance.

PART 2 PRODUCTS

2.1 QUALITY GRADE

- A. Materials and Fabrication: Provide premium grade construction and finishing in accordance with AWI "Quality Standards", conforming to Section 400B - Laminate Clad Cabinets.
- B. Design Type: Reveal overlay design in accordance with AWI Architectural Casework - General Details, except as otherwise specified and detailed.

2.2 CABINET MATERIALS

- A. Sub-base Material:
 - 1. Provide millwork or casework plywood cores of Hardwood Plywood "veneer core" with no-added-Urea Formaldehyde adhesives.
 - 2. Use ¾" thick, 9-ply closed-grain hardwood plywood typical unless noted otherwise.
 - 3. Use ¼" thick hardwood plywood at cabinet backs and drawer bottoms.
- B. Adhesive: Provide type II, CS 35 or as recommended by plastic laminate manufacturer.
 - 1. Adhesives shall be low VOC meeting USGB LEED for Schools requirements for low VOC.
- C. Plastic Laminate: High-pressure laminate, General Purpose Grade, NEMA LD3, GP-50 by Formica, Nevamar, or Wilson Art.
 - 1. Exposed horizontal surfaces: Use 0.050" thick, matte finish.
 - 2. Exposed vertical surfaces: Use 0.030" thick, matte finish.
 - 3. Provide GP 42 for post forming: Use 0.042" thick, matte finish.
 - 4. BK 20 for concealed backing: Use 0.020" thick, matte finish, vertical grade, white unless otherwise indicated.
 - 5. Architect and the District's Design Coordinator shall select the Color and pattern, which may determine the laminate manufacturer.
- D. Finish Hardware Items: Provide following items of finish hardware with millwork:

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1. Drawer Glides: No. 8400 Extension Slides by Knappe & Vogt Mfg. Co.
 - a. Equal products to Knappe & Vogt produced by Accuride and Blum are acceptable.
 2. Shelf Standards and Supports (recessed in cabinets): No. 255 Standard and No. 256 Supports by Knappe & Vogt Mfg. Co., Natural aluminum finish.
 - a. Equal products to Knappe & Vogt produced by Accuride and Blum are acceptable.
 3. Doors: 1 pair heavy-duty institutional hinges, Stanley HT1592, US28.
 - a. 1 catch, Stanley 41 Series.
 - b. 1 pull, Stanley 4483, US28.
 - c. Equal products to Stanley produced by Grant and Hettich America are acceptable.
 4. Drawer Pulls: Stanley 4483, US28. Equal products to Stanley produced by Grant and Hettich America are acceptable.
 5. Drawer Locks: Schlage CL 888R or Olympus 888IC cabinet drawer lock, US26D, complete with strike plate.
 - a. Provide locks with Interchangeable Core Schlage cylinders keyed to the existing Facility Master Key System as directed by Owner.
 6. Door Locks: Schlage CL 777R or Olympus 777IC cabinet door lock, US26D, complete with strike plate.
 - a. Provide locks with Interchangeable Core Schlage cylinders keyed to the existing Facility Master Key System as directed by Owner.
 - b. Provide one elbow catch per pair doors.
 7. Cabinet locks keyed to the facility shall be coordinated with the Hardware Supplier of section 08710 who shall provide the locks.
 8. Master key:
 - a. Master key doors and drawers of cabinetry in each room with each other and the main entrance room door.
 - b. Use a Schlage Everest D245 or Schlage 1456 restricted keyway as directed by owner.
 - c. Equal products to Schlage produced by Olympus are acceptable.
 9. Silencers: Use neoprene type with self-adhesive at all cabinet doors.
 - E. Glazing: Provide clear, tempered glass for glazed doors and openings in cabinetwork, ¼" thick unless otherwise indicated or approved.
 - F. Accessories: Provide adhesives, concealed fasteners, nuts, bolts, screws, pins, washers, and etc of type and size to suit application and severity of use.
 1. Provide finished grommets for holes and cut-outs
 - G. Miscellaneous: Provide shims, blocking, etc. as required for complete installation.
- 2.3 FABRICATION
- A. General:
 1. All exposed cabinet edges shall be beveled or rounded to prevent sharp edges or corners.
 2. All counter tops exposed to room or student access have beveled or rounded edges, and exposed corners rounded with minimum ½" radius.
 - B. Fabrication Workmanship:
 1. Construct millwork items in accordance with specified quality grade of reference standards, except as otherwise specified or detailed.
 2. Construct millwork items using materials specified for plastic laminate finish.
 - C. Milling:
 1. Fabricate and assemble work at mill as complete as practicable.
 2. Deliver ready to assemble and set in place.

3. Machine sand all work at mill and deliver free of machine or tool marks or defects that will show through finish.
- D. Plastic Laminate Tops, Panels, Cabinet Shelving, and All Exposed Surfaces:
 1. Use plywood substrate as specified.
 - a. Particleboard, hardboard, and flake-board are not acceptable.
 2. Glue tops and panels under pressure using Type II water-resistant adhesive.
 - a. Glue plastic, core, and backing sheet in one operation after applying edge bands.
- E. Fabricate finished tops and edges from one continuous sheet of plastic laminate.
 1. Make corners and joints hairline.
 2. Slightly bevel arises.
- F. Ease the edges of millwork as required to eliminate sharp edges.
- G. Backsplash and Aprons:
 1. Square edge, direct bond cover, and full returns.
 2. Make corners and joints hairline.
- H. Door and Drawer fronts shall be $\frac{3}{4}$ " thick.
- I. Provide plastic laminate finish on all exposed surfaces of doors, drawers, countertops, splashes, etc. of cabinets.
 1. Shelves shall be finished on all sides and edges.
 2. Cabinet interiors to be melamine finish unless otherwise noted.
- J. Construction: Construct each unit or cabinet in one section where practical, or construct in largest practical sections to facilitate ease of handling and installation.
 1. Cabinet constructed in more than one section, ship trim and scribe strips loose at field joints.
 2. Locate counter butt joints minimum 2' from sink cutouts.
- K. Finish Hardware: Fit drawer guides and cabinet-mounted shelf standards at mill.
 1. Ship other finish hardware items loose for installation at job site.
- L. Glazing: Install glazing at mill to the greatest extent practical.
 1. Field glazing shall be with dry type glazing gaskets sized to eliminate gaps and prevent loose glazing installations.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Examine surfaces for conditions that would prevent quality installation of millwork.
- B. Verify that grounds and blocking are in place to support millwork.
- C. Do not install on defective conditions, doing so shall indicate acceptance of site conditions and require you to correct any defects.

3.2 INSTALLATION

- A. General:
 1. Install all millwork items, plumb, level and true (within $\frac{1}{16}$ " in 10'), in accordance with drawing details and shop drawings.
 2. Do not install trim until backs and unexposed edges have been back primed.
 3. Provide cutting, fitting, fabricating, erecting, wedging, bracing, blocking, nailing, and securing of items of rough woodwork throughout, including miscellaneous furring, grounds, blocking, and nailers.
 - a. Build-in items where indicated on Drawings or where required for attachment of finish and other work.

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4. Provide 4" high backsplash and end splashes at all locations where countertops abut walls.
 5. Fully bed backsplashes and end splashes to top and each other with Dow Corning #786 mildew resistant silicone sealant.
 6. Offsets: Offsets in plane on work surfaces and counters shall be negligible and no more than 1/32" at other abutting materials.
- B. Cabinets:
1. Install cabinets plumb with countertops level to within 1/16" in 10'.
 2. Level the base cabinets to within allowable tolerances.
 3. Accurately scribe and fit scribe strips, trim strips, and filler panels to irregularities of adjacent surfaces, maximum gap opening 0.025".
 4. Secure cabinets permanently to floor using anchors spaced at maximum of 30" o.c., minimum of two for each unit while maintaining 3/4" clearance between the back of cabinet and the exterior wall.
 5. Bolt adjoining cases together, maximum width of joints 1/32".
 6. Fasten tops to bases with screws driven through base cabinet top frame into bottom of countertop.
 7. Scribe all backsplashes and aprons and caulk.
 8. Blocking, Bucks, and Nailers: Install plumb, level and true with joints flush, fastened securely in place.
 9. Furring and Stripping: Install plumb and level, shim to provide true finish surface.
 10. Install color-matched sealant at unfinished joints with other materials.
 11. Install wall-shelving standards on solid backing or with toggle bolts into steel studs or masonry or TEK screws into concrete.
 - a. Do not install wall-shelving standards into gypsum wallboard only.
 - b. Space standards as required to support indicated loading but not less than 5-plf based on shelf material provided.
 12. Do not install cabinetry or millwork closer than 24" to ceilings in fully sprinklered buildings or such that installation obstructs any fire sprinkler head.
- 3.3 ADJUSTING AND CLEANING
- A. Adjust doors, drawers, hardware, fixtures, and other moving or operating parts to function smoothly and correctly.
 - B. On completion of installation, touch up marred or abraded finished surfaces and wipe down surfaces to remove fingerprints and markings, and leave in clean condition.

END OF SECTION