



SECTION 12 32 16 – MANUFACTURED PLASTIC-LAMINATE-CLAD CASEWORK

PART 1 GENERAL

1.1 ADMINISTRATIVE REQUIREMENTS

- A. Pre-Installation Conference:
1. Attendance: [Architect,] [Owner,] [Contractor,] [Construction Manager,] [Design/Builder] installer, and related trades.
 2. Review: Project conditions, manufacturer requirements, delivery, and storage, staging and sequencing, and protection of completed work.

1.2 SUBMITTALS

- A. Action Submittals:
1. Shop Drawings: Illustrate products, installation, and relationship to adjacent construction.
 2. Product Data: Manufacturer's descriptive data and product attributes.
 3. Samples:
 - a. [Selection samples.] [Verification samples.]
 - b. [Small scale base cabinet.]
- B. Closeout Submittals:
1. Operation and Maintenance Data.
- C. Quality Control Submittals:
1. Manufacturer qualification statement.
 2. Comprehensive quality assurance standard documentation.

1.3 QUALITY ASSURANCE

- A. Manufacturer Qualifications:
1. Manufacturer has a minimum of 10 years of experience of manufacturing architectural casework for similar projects, with a cataloged product line, and can show evidence of long-lasting financial stability.
 2. Certified for chain of custody by third party group approved by Forest Stewardship Council (FSC).
 3. Licensed under Architectural Woodwork Institute (AWI) Quality Certification Program (QCP).
- B. Installer Qualifications: Minimum [2] [] years' experience in work of this Section.
- C. Mockups:
1. Full-size [base cabinet] [wall cabinet] [[] cabinet] [shelf unit], and [].
 2. Countertop, minimum [4] [] feet long.
 3. Approved mockups [may] [may not] remain as part of the work.

1.4 WARRANTIES

- A. Manufacturer's [1 year] [3 year] [5 year] [limited lifetime] warranty against defects in materials and workmanship, including non-casework accessories.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Contract Documents are based on products by Case Systems, Inc., www.casesystems.com.

B. Substitutions: [Refer to Division 01.] [Not permitted.]

2.2 MATERIALS

A. Panel Core: Particleboard, ANSI A208.1, Grade M-2 or higher.

**** OR ****

B. Panel Core: Moisture resistant particleboard, ANSI A208.1, interior grade moisture resistant, MR/FSC.

**** OR ****

C. Panel Core: Recycled content, FSC Certified particleboard, ANSI A208.1, ULEF/FSC, M-2, containing recycled content, no added urea formaldehyde.

**** OR ****

D. Panel Core: Recycled content, FSC Certified plywood, ULEF/FSC, no added urea formaldehyde.

**** OR ****

E. Panel Core: FSC Certified plywood.

F. Surfacing: NEMA LD-3 and ANSI A161.2.

1. Vertical surface decorative grade: VGS.
2. General purpose decorative grade: HGS.
3. Cabinet decorative liner grade: CLS. White in color.
4. Non-decorative backer grade: BKH.
5. Decorative thermally fused laminate. White in color.
6. Tango decorative thermally fused laminate.
7. Chemical resistant decorative laminate.

G. Edge Banding:

1. PVC, applied utilizing hot melt adhesive and radiused by automatic trimmer.
2. Adhesive: PVA type, mechanically applied, ULEF, free from VOC's.

2.3 FABRICATION

A. General Cabinet Body Construction:

1. Joinery: Concealed interlocking fasteners or dowel construction at manufacturer's discretion.
2. Panels manufactured with balanced construction.
- 3.
4. Structural components: 3/4 inch thick for bottoms and ends of cabinets, tops of tall cabinets and tops and bottoms of wall cabinets.
5. Fixed interior components: 3/4 inch thick for fixed shelves, dividers, and cubicle compartments.
6. Cabinet body exterior surfaces: [VGS.] [HGS.] [Decorative thermally fused.] [Tango decorative thermally fused.] [Chemical resistant laminate.] [As indicated on Drawings.]
7. Cabinet body interior surfaces:
 - a. Closed cabinets: [VGS.] [HGS.] [CLS.] [BKH.] [Decorative thermally fused.] [Tango thermally fused.] [Chemical resistant decorative laminate.]
 - b. Open cabinets: [VGS.] [HGS.] [CLS.] [BKH.] [Decorative thermally fused.] [Tango thermally fused.] [Chemical resistant decorative laminate.]
8. Laminate grain direction: [Combination grain.] [Vertical grain.] [Vertical grain match.]
9. Cabinet body front edge: [Nominally 1 mm thick PVC.] [Nominally 3 mm thick PVC.] [As indicated on Drawings.]

10. Cabinet body mounting: 3/4 inch thick stretchers, concealed by cabinet back.
 11. Exposed laminate back panels: Finished 3/4 inch thick back panel when cabinet rear is exposed.
 12. Cabinet backs: 1/2 inch thick, surfaced both sides, fully captured on both sides and bottom.
 13. Stretchers:
 - a. 3/4 inch thick lower stretchers located behind back panel.
 - b. 3/4 inch thick intermediate stretchers located behind back panel.
 14. Adjustable shelf hole pattern: 5 mm diameter holes spaced 1-1/4 inches on center for mounting adjustable shelves, hardware mounting, and replacement and relocation of cabinet components.
 15. Intermediate shelves: Fixed.
- B. Base Cabinet Construction:
1. Sub-top: Solid 3/4 inch thick sub-top except at sink cabinets.
 2. Split removable back panels for sink cabinets.
- C. Wall Cabinet Construction:
1. Wall cabinets over 36 inches in width: Fixed intermediate partition.
 2. Exterior bottoms: [Match standard interior.] [Match exterior surface.] [As indicated on Drawings.]
- D. Tall and Wall Cabinet Top Edges: [Raw top edges.] [Nominally 1 mm thick PVC at top of end panels, stretchers and back.] [As indicated on Drawings.]
- E. Tall, Wall, and Hutch Cabinet Exterior Top Finish: [Match standard interior.] [CLS to match interior.] [HPL to match exterior.] [As indicated on Drawings.]
- F. Door Reveals:
1. Between doors and drawers: 3 mm.
 2. Above drawer, base, wall, tall, and hutch doors: 3 mm.
- G. Cabinet Toe Bases:
1. Material: [Particleboard.] [MR/FSC particleboard.] [ULEF/FSC particleboard.] [ULEF/FSC plywood.] [FSC plywood.]
 2. Height: [96 mm.] [102 mm.] [152 mm.] [As indicated on Drawings.]
 3. Type: [Attached.] [3/4 inch loose strips.] [No base.]
- H. Drawer Fronts and Solid Doors: Surfaced on both sides.
1. Component materials: [HPL door and drawer front exterior and grade CLS on interior.] [HPL door interior and exterior; both sides match front surface color.] [As indicated on Drawings.]
 2. Surfaces: [HPL Grade VGS.] [HPL Grade HGS.] [Thermally fused.] [Decorative thermally fused.] [Chemical resistant.] [As indicated on Drawings.]
 3. Door and drawer front edges: [Nominally 1 mm thick PVC.] [Nominally 3 mm PVC.]
- I. Drawer Boxes:
1. Material: [Particleboard.] [MR/FSC particleboard.] [ULEF/FSC particleboard.] [ULEF/FSC plywood.] [FSC plywood.] [Prefinished dovetail with hardwood veneer plywood.]
 2. Core thickness: 1/2 inch thick.
 3. Construction: Non-racking, non-deflecting platform bottom carried by bottom mount drawer slides on non-file drawers and side-mounted ball bearing slides on file drawers.
 4. Drawer boxes with finished interiors: [Surface to match standard interior.] [Surface to match finished interior.] [Hardwood veneer plywood.]
 5. Sides, backs, sub-fronts, and bottoms: 1/2 inch thick.
 6. Top edges: Nominal 1 mm PVC, matching drawer color.
 7. Box corners: Joined with hardwood dowels and glue.
 8. Horizontal parting rails between drawers: 3/4 inch thick core, balanced surfaces.
 9. File drawer box construction: Full height sides supporting heavy duty support rail.
- J. Cabinet Doors:

1. Construction: Solid doors, 3/4 inch thick core.
2. Glazed doors:
 - a. Frame thickness: 3/4 inch.
 - b. Glazing panel thickness: 1/4 inch.
 - c. Glazing panel mounting: Set into door frame secured with removable stops.
Operation: [Hinged.] [Sliding.]
 - d. Glazing type: [Clear acrylic.] [Safety glass.] [Smoked safety glass.] [Tempered glass.] [Smoked tempered glass.]
3. Frameless glazed doors:
 - a. Thickness: 1/4 inch.
 - b. Material: Tempered glass.
 - c. Operation: Sliding.
 - d. Glass edges: Radius ground and polished.
4. Sliding doors.
 - a. Upper track: Extruded aluminum, anodized finish.
 - b. Hardware: Two roller hanging brackets per door.
 - c. Bottom retainers.
5. Pocket doors: Self-closing, three-way adjustable door hinge with precision steel ball bearing slides, zinc plated.

K. Shelves:

1. Adjustable shelves: Finished on both sides.
 - a. Core material: [Particle board.] [MR/FSC particle board.] [ULEF/FSC particleboard.] [ULEF/FSC plywood.] [FSC Certified plywood.]
 - b. Thickness, in closed cabinets: [3/4 inch for shelves under [24] [27] [30] [33] [36] inches wide; 1 inch for shelved over [24] [27] [30] [33] [36] inches wide.] [1 inch.]
 - c. Thickness, in open cabinets: 1 inch thick, except for special use cabinets.
 - d. Edges in open cabinets: [Matching edges.] [Nominal 1 mm thick PVC] [Nominal 1 mm thick PVC] at front, [rear] [and] side] edges.
 - e. Edges in closed cabinets: [Matching edges.] [Nominal 1 mm thick PVC] [Nominal 3 mm thick PVC] at front, [rear] [and] side] edges.
 - f. Shelf surfaces in closed cabinets: [Match cabinet interior.] [Grade CLS on both sides.] [VGS HPL on both sides.] [HGS on both sides.] [Chemical resistant laminate.]
 - g. Shelf surfaces in open cabinets: [Match cabinet interior.] [Grade CLS on both sides.] [VGS HPL on both sides.] [HGS on both sides.] [Chemical resistant laminate.]
 - h. Setback for adjustable shelves: 15 mm from front.
2. Fixed shelves:
 - a. Thickness:
 - b. All shelves: [3/4 inch thick except 1 inch at open shelves.] [1 inch.]
 - c. Shelves under [24] [27] [30] [33] [36] inches wide: 3/4 inch.
 - d. Shelves over [24] [27] [30] [33] [36] inches wide: 1 inch.
 - e. Shelf surfaces in closed cabinets: Match interior.
 - f. Shelf surfaces in open cabinets: Match interior.
3. Wall shelves: [Thermally fused.] [Decorative thermally fused.] [Grade VGS.] [Grade HGS.] [Chemical resistant laminate.]
4. Wire shelves: White, plastic coated.
5. Hardboard shelves: 1/4 inch thick high density fiberboard with S2S surface finish.

L. Mobile Cabinets:

1. Mobile backs: 1 inch thick core.
2. Maximum load rating: 500 pounds.
3. Construction:
 - a. Core: 3/4 inch thick.
 - b. Core platform: 1 inch thick.
 - c. Edging for platform and mobile tops: 3 mm thick.
 - d. Mobile tops:
 - e. Overhang at front, sides and rear.

4. Surface materials: [VGS laminate.] [HGS laminate.] [Chemical resistant laminate.]
 5. Surface material color: [____.] [To be selected.]
- M. Sloped Tops: Separate unit from cabinet, set at 30-degree angle.
- N. Lockers:
1. Match general casework construction except fixed shelved ¾ inch thick.
 2. Locker tops: [Unfinished.] [Finished edge and surface.]
- O. Plastic Laminate Countertops:
1. Surfacing: High-pressure decorative laminate, [grade HGS.] [Chemical resistant grade.] [As indicated on Drawings.]
 2. Backing: Grade BKL.
 3. Core thickness:
 - a. Solid: [3/4 inch.] [1 inch.] [1-1/8 inches.]
 - b. Built-up: 1-1/2 inches.
 4. Joints: Secured with biscuits and tight joint fasteners.
 5. Backsplashes: 4 inches high, thickness to match countertop thickness.
 6. Edges: [3 mm thick for solid.] [Self-edge, same material as top.]
- P. Epoxy Resin Tops: 1 inch thick with 1/32 inch chamfer on finished edges; provide drip grooves on underside at exposed edges.
- Q. Phenolic Resin Tops:
1. Thermosetting resins, homogeneously reinforced with wood-based fibers, manufactured under high heat and high pressure.
 2. Non-porous, water resistant with integral anti-microbial properties.
 3. Thickness: [3/4] [1] inch.
 4. Edges: 1/8 inch thick, radius edge and drip groove on underside of top.

2.4 ACCESSORIES

- A. Hardware:
1. Hinges: Five-knuckle type, reveal overlay, Institutional Grade per ANSI/BHMA A156.9; two per door except three per door for doors over 48 inches high.
- **** OR ****
2. Hinges: Concealed type, flush overlay, nickel plated, self-closing, minimum Grade 2 per ANSI/BHMA A156.9; two hinges for doors up to 48 inches high; three hinges for doors from 49 to 66 inches high; four hinges for doors 67 inches and higher.
 3. Pulls: [Anodized aluminum wire type.] [Epoxy coated wire type.] [Brass core wire type.] [Stainless steel wire type.] [Semi-recessed type.] [Semi-recessed type, oversized.]
 4. Drawer slides:
 - a. Standard drawers: Full Extension, side mount, 100-pound rated, minimum Grade 1 per ANSI/BHMA A156.9.
 - b. File drawers: Full extension, side mount, 100-pound rated, minimum Grade 1 per ANSI/BHMA A156.9.
 5. Wall shelving hardware:
 - a. Design: Heavy-duty wall shelving hardware.
 - b. Finish: Anochrome.
 - c. Shelf clips: Injection molded clear plastic, AWI 400-B-T-9, double pin type except single pin type with anti-tip locking tabs at hardboard shelves.
 - d. Adjustable shelf clips: AWI 400-B-T-9; double pin type except single pin type with anti-tip locking tabs at hardboard shelves.
 6. Coat hooks: Zinc plated.
 7. Closet rods: Chrome plated oval rod, 15 x 30 mm.
 8. Mirrors: 8 x 10 inches.

9. Label holders: [None.] [At drawers.] [At doors.] [At doors and drawers.] [As indicated on Drawings.]
10. Locks:
 - a. Locations: [Drawers.] [Doors.] [As indicated on Drawings.]
 - b. Type: [Five-disc tumbler cam locks.] [Five pin lock, pin tumbler.] [Dead bolt style.] [Best - 5E.] [Olympus 100DR for doors and 200DW for drawers.]
 - c. Keying: [Key locks alike.] [Key locks differently by room and master key, minimum of 50 keying options.]
 - d. Lock cores: Removable, except at five pin locks.
11. Casters:
 - a. [Model M, 6 inch diameter.] [Model U, 4 inch diameter nominal height.]
 - b. Bearings: Ball bearing, 360-degree swivel.
 - c. Wheels: Non-marring, [locking.] [non-locking.]
12. Catches:
 - a. Chain pulls: Zinc plated.
 - b. Chain stops: Zinc plated.
 - c. Elbow catches: Chrome plated.
 - d. Roller catches: Heavy-duty, spring-loaded.
 - e. Magnetic catches: White plastic housing.
 - f. Catch types:
 - 1) [Magnetic at base and wall cabinets, single roller at tall cabinets.]
 - 2) [Single roller at base, wall, and tall cabinets.]
 - 3) [Magnetic at base and wall cabinets, two rollers at tall cabinets.]
 - 4) [Single roller at base and wall cabinets, two rollers at tall cabinets.]
 - 5) None for concealed hinges at base, wall, and tall cabinets.
13. Tote trays: Impact resistant polystyrene with label holder, supported by polycarbonate rails.
14. Countertop Supports: Powder coated, formed metal.

PART 3 EXECUTION

3.1 INSTALLATION

- A. Install in accordance with manufacturer's instructions and approved Shop Drawings.

END OF SECTION