

## SECTION 12304

### LAMINATE CLAD CASEWORK

#### PART 1 - GENERAL

##### 1.01 Related Documents:

- A. Drawings and general provisions of Contract, including General and Special Conditions and Division 1 - Specification sections, apply to work of this section.

##### 1.02 Work Included:

- A. The work includes fabrication and installation of fixed modular and flexible rail mounted laminate clad casework and components, fixed and modular countertops and related products furnished by the same supplier for single source responsibility, as shown on drawings, schedules, and specified herein.

##### 1.03 Related Work Specified Elsewhere:

- A. Sinks and service fixtures, service and waste lines and all connections, vents, electrical service fixtures, hoods and ducting within or adjacent to casework, or otherwise required: Furnished and installed under Mechanical and Electrical Divisions 15 and 16.
- B. Base molding: Furnished and installed under Finishes Division 9.
- C. Locks master keyed to room doors. Appliances unless specifically noted on plans as included in this section. Blocking within walls where indicated.
- D. General millwork, trim, and /or custom cabinetry unless specifically noted on plans as included in this section.
- E. Vinyl wall covering on homasote for backs of trophy and display cases. Reference Vinyl Wall Covering Section.
- F. Casework shall be furnished and installed complete with the following items:
  - 1. Accessories and hardware that provide complete and functioning casework as shown on the Drawings

##### 1.04 Quality Assurance:

- A. Manufacturers' products shall be publicly catalogued. Manufacturer will show evidence of a minimum of five (5) years experience in providing manufactured casework systems for similar types of projects, produce evidence of financial stability, bonding capacity, and adequate facilities and personnel required to perform on this project.

##### 1.05 Submittals:

- A. Samples:
  - 1. Submit samples of casework manufacturer's standard decorative laminate colors, patterns and textures, hardwood for exposed and semi-exposed materials, hardware, and PVC edging for Architect's selection.
  - 2. Architect may request representative full-size samples for evaluation prior to approval. Samples may be impounded by Architect until completion of project to ensure compliance with Specifications.
- B. Production Drawings:
  - 1. Submit CAD production drawings for casework systems, countertops, and related products showing plan view layout of units, elevations, and cross-section details.

2. Coordinate production drawings with other work involved.

#### **1.06 Product Handling:**

- A. Deliver completed laminate clad casework, countertops, and related products only after wet operations in building are completed, store in a ventilated place, protected from the weather, with relative humidity range of 20% to 50%.
- B. Protect finished surfaces from soiling and damage during handling and installation with a protective covering.

#### **1.07 Job Conditions:**

- A. Humidity and Temperature Controls:
  1. Advise contractor of requirements for maintaining heating, cooling, and ventilation in installation areas as required to reach relative humidity necessary to maintain optimum moisture content. (See Product Handling).

#### **1.08 Lifetime Guarantee and Limited Warranty:**

- A. Casework shall carry a Lifetime Guarantee and Limited Warranty to the original Owner against defective material and workmanship for as long as they own the product. This is a warranty of replacement and repair only, whereby manufacturer shall correct defects in material and/or workmanship without charge.

### **PART 2 - PRODUCTS**

#### **2.01 Acceptable Manufacturers:**

- A. Manufacturer and Product Type:
  1. For purpose of determining minimum performance and quality standards this specification is based upon TMI fixed modular, flexible rail mounted and mobile casework as manufactured by TMI SYSTEMS DESIGN CORPORATION, 50 South Third Avenue West, Dickinson, North Dakota, 58601, a member of the Architectural Woodwork Institute (Membership #8913) and Approved Quality Certification Program, Premium Grade.
- B. Substitutions:
  1. Where specific materials, finish options, construction details, modularity, hardware and test data are specified herein, the casework will be held in strict compliance. Substitutions will be considered prior to bid date provided request is submitted to the architect, in writing, no later than ten (10) days prior to bid date; substitution request will list any and all deviations from the specified product. Acceptable substitutions will be identified in future addenda. VENDORS MUST PROVIDE PLASTICE LAMINATE MANUFACTURERS LISTED HEREIN ON SURFACES SPECIFIED.
  2. Westmark
  3. Case Systems, Inc.
  4. Amarillo Custom Fixtures
  5. Oklahoma Millwork
  6. Alpha Omega Woodworks, LLC
  7. Collegedale Casework LLC
  8. Others approved by Architect.

#### **2.02 Definitions and Materials:**

- A. Listed are definitions and materials commonly used in defining decorative laminate clad casework. Refer to Cabinet Fabrication section for those items selected for use on this project.
- B. Definitions: Identification of casework components and related products by surface visibility.

1. Open Interiors: Any open storage unit without solid door or drawer fronts and units with full glass insert doors and/or acrylic doors.
  2. Closed Interiors: Any closed storage unit behind solid door or drawer fronts, sliding solid doors.
  3. Exposed Ends: Any storage unit exterior side surface that is visible after installation.
  4. Other Exposed Surfaces: Faces of doors and drawers when closed, and tops of cabinets less than 72" above finished floor.
  5. Semi-Exposed Surfaces: Interior surfaces which are visible, bottoms of wall cabinets and tops of cabinets 72" or more above finished floor.
  6. Concealed Surfaces: Any surface not visible after installation.
- C. Core Materials:
1. Particleboard: Medium density 45-50 pound industrial grade particleboard of fir or pine meeting or exceeding ANSI A 208.1-1993, M-3 requirements. Thicknesses used are 1/4", 1/2", 3/4", and 1". Particleboard shall NOT be used in wet areas.
  2. Hardboard: Prefinished hardboard in 1/4" thickness meeting or exceeding commercial standards CS-251.
- D. Decorative Laminates:
1. High-pressure decorative laminate GP28 (.028), NEMA Test LD-3-1995.
  2. High-pressure decorative laminate GP50 (.050), NEMA Test LD-3-1995.
  3. High-pressure decorative laminate PF42 (.042), NEMA Test LD-3-1995.
  4. High-pressure cabinet liner CL20 (.020), NEMA Test LD-3-1995.
  5. Thermally Fused Melamine laminate tested to meet NEMA Test LD-3-1995.
  6. High-pressure backer BK20 (.020).
- E. Laminate Color Selection:
1. Provide selections for cabinet surfaces, grade GP28, from the current year complete line of ALL of the following Wilsonart, Nevamar, Pionite and Formica series. A maximum of one (1) color will be selected per unit face and there will be no more than six (6) colors selected for various areas of the project.
  2. Provide selections for countertop grades, GP50 and PF42, from the current year complete line of ALL of the Wilsonart's, Nevamar's, Pionite's and Formica's standard solid and pattern offering. A maximum of six (6) colors will be selected.
  3. Basic cabinet body color to include surfaces of all components, including drawer boxes, to be covered with thermally fused melamine laminate as a minimum requirement. Drawer boxes not matching basic color will be rejected.
- F. Edging Materials:
1. 3mm PVC banding, machine applied with waterproof hot melt adhesive with external edges and outside corners of door and drawer fronts, countertops, open shelf edges, and miscellaneous and specialty cabinet edges machine profiled to 1/8" radius for safety and as required in Cabinet Fabrication section of this specification.
  2. 1mm PVC banding, machine applied with waterproof hot melt adhesive as required in Cabinet Fabrication section of this specification.
  3. Decorative laminate self edge shall be in same material as counter top and as required in Cabinet Fabrication section of this specification.
  4. Hardwood edge shall be in same species and grain as veneer fronts on cabinets and as required in Cabinet Fabrication section of this specification.
- G. Edging Color Selection:
1. Provide PVC banding color selections to match face laminates or in contrasting colors as selected by Architect.

2. If 3mm PVC banding color selected by Architect is not available in 1mm PVC banding, manufacturer shall provide all edge banding in 3mm PVC banding.
3. Decorative laminate self edge on back splash shall be of same material as counter top.
4. Hardwood edge shall be in same color as veneer fronts on cabinets.

### 2.03 Specialty Items:

#### A. Metal Parts:

1. Countertop support brackets, undercounter support frames, legs and miscellaneous metal parts are furniture steel, welded, degreased, cleaned, treated and epoxy powder coated.
2. Flexible rail-mounted casework support rail and interfacing support keys:
  - a. Extruded aluminum 6061-T6 alloy and epoxy powder coated. Structural fasteners of rail are concealed in finished installation.
  - b. Structural integrity of the support rail and interfacing components are documented by an independent testing laboratory showing that, when tested in strict accordance with the requirements of seismic construction codes, all components meet or exceed the requirements as set forth by the codes.
3. Structural Utility Chase Components:
  - a. All structural steel components are fabricated for dimensional consistency, welded, degreased, cleaned, treated and epoxy powder coated. The chase and all components are dimensionally integrated to align with and accommodate fixed modular or flexible rail-mounted casework and countertops.
4. Structural assembly will provide for mounting of closure panels, reagent ledges, rail support system, removable access panels, and field connection of services within.

### 2.04 Cabinet Hardware:

#### A. Hinges:

1. Five knuckle, institutional grade, 2 3/4" overlay type with hospital tip. Steel is minimum .095" thick and have a minimum of nine (9) edge and leaf fastenings and are epoxy powder coated. Hinges pass ANSI-BHMA standard A156.9, Grade 1 requirement for both vertical and horizontal set and sag (pair of hinges will hold minimum of 310 pounds); copy of test result provided upon request. Hinges are secured with specifically engineered screws. Doors 48" and over in height have three (3) hinges per door. Magnetic door catch with minimum five (5) pound pull provided, attached with screws and slotted for adjustment. Hinges shall open full 180 degrees.

#### B. Pulls:

1. Door and drawer front pulls are epoxy powder coated metal wire style, 96mm spacing on fasteners. Pull design is compatible with the Americans with Disability Act (ADA), Federal Register Volume 56, No. 144, specifically paragraph 4.27.4.

#### C. Drawer Slides:

1. Regular use and knee space drawers are Blum Style No. BS230M and are epoxy powder coated. Slides have a 100-pound load rating at full extension and a built-in, positive stop both directions, with self-closing feature.
2. File drawer slides are full extension, epoxy powder coated, 150-pound load rating.
3. Pencil drawers are equipped with Blum No. BS230M.
4. Slides have a lifetime warranty as offered by the slide manufacturer.

#### D. Adjustable Shelf Supports:

1. Injection molded polycarbonate, clear color to blend with selected interior finish, friction fit into cabinet end panels and vertical dividers, readily adjustable on 32mm (approximately 1-1/4") centers. Each shelf support has two (2) integral support pins, 5mm diameter, to

interface pre-drilled holes, and to prevent accidental rotation of support. The supports automatically adapt to 3/4" or 1" thick shelving and provide non-tip feature for shelving. Supports are designed to readily permit field fixing of shelf if desired. Structural load testing shall show loading to 1,040 pounds (260 pounds per support) without failure.

E. Locks:

1. For doors and drawers as shown on drawings are National Lock #M4-7054C, removable core, disc tumbler, cam style lock with strike. Each lock is furnished with two (2) keys. Lock for sliding 3/4" doors is a disc type plunger lock, sliding door type with strike. Lock for sliding glass/acrylic doors is a ratchet type sliding showcase lock.

F. Coat Rods:

1. 1" diameter, 14-gauge chrome plated steel installed in captive mounting hardware.

G. Mirrors:

1. 1/4" thick polished mirror plate.

**2.05 Cabinet Fabrication:**

A. Fabricate casework, countertops and related products to dimensions, profiles, and details shown.

B. Cabinet Body Construction:

1. Tops and bottoms are joined to cabinet ends and internal cabinet components such as fixed horizontals, rails and verticals using 10mm diameter industrial grade hardwood dowels, laterally fluted with chamfered ends, securely glued and clamped under pressure during assembly to secure joints and cabinet squareness. A minimum of six (6) dowels at each joint for 24" deep cabinets and a minimum of four (4) dowels at each joint for 12" deep cabinets are used.
2. Particleboard: Medium density 45-50 pound industrial grade particleboard of fir or pine meeting or exceeding ANSI A 208.1-1993, M-3 requirements. Thicknesses used are 1/4", 1/2", 3/4", and 1".
3. Cabinet backs are 1/4" thick prefinished hardboard. Wall and tall cabinets are provided with a 1" x 1-3/4" PVC mounting strip used to secure the cabinet to the wall. Exposed back on fixed or movable cabinets is 3/4" particleboard with the exterior surface finished in GP28 laminate as selected. Reference "Interior Finish" below for Open and Closed Interiors.
4. All fixed floor mounted units have an individual factory-applied base, constructed of 3/4" A.C. Grade plywood. Base is 96 mm (nominal 4") high unless otherwise indicated on the drawings.
5. All base units, except sink base units, are provided with a full sub-top. Sink base units are provided with open top, a welded steel/epoxy painted sink rail full width at top front edge concealed behind face rail/doors, a split back removable access panel, and bottom panel to have CL20 high pressure cabinet liner, color to match interior color. No exceptions will be permitted.
6. All end panels and vertical dividers are prepared to receive adjustable shelf hardware at 32mm (approximately 1-1/4") line boring centers. Door hinges, drawer slides and pull-out shelves mount in the line boring to assure consistent alignment of components.
7. All exposed and semi exposed edges of basic cabinet components, except back splash, are factory edged with PVC banding, machine applied with waterproof hot melt adhesive.
8. Edging - Reference "Cabinet Body Construction" for location of each type.
  - a. 1mm PVC banding
  - b. 3mm PVC banding
  - c. Decorative laminate self edging
  - d. Hardwood edge
9. Fixed and adjustable shelf core is 3/4" thick industrial grade particle board up to 30" wide,

- 1" thick board over 30" wide.
  - a. All four (4) edges have factory applied 1mm PVC.
- 10. Interior Finish for Units with Open Interiors:
  - a. Sides, top, bottom, horizontal, vertical members, shelving and pre-finished hardboard back shall be faced with high-pressure decorative laminate GP28 (.028) for typical open cabinets of all rooms. Pattern and color shall be as selected by Architect.
- 11. Interior Finish for Units with Closed Interiors:
  - a. Sides, top, bottom, horizontal, and vertical members, shelving, pre-finished hardboard back shall be faced with thermally fused melamine laminate.
- 12. Exposed Ends:
  - a. Faced with high-pressure decorative laminate GP28 (.028). Where wood-grain plastic laminate is selected, grain shall run vertically and match doors and drawer fronts.
- 13. Wall Unit Bottom:
  - a. Faced with high-pressure decorative laminate GP28 (.028) in color to match face laminate.
- 14. Wall and Tall Unit Tops:
  - a. The top edge of all wall and tall unit end panels are factory edged with 1mm PVC banding.
  - b. Top surface is laminated with thermally fused melamine laminate unless site exposed. Site exposed tops shall be faced with high-pressure decorative laminate GP28 (.028).
- 15. Filler Panels: Match doors and drawer fronts.
  - a. Balanced construction of all laminated panels is mandatory. Unfinished core stock surfaces, even on concealed surfaces (excluding edges), will not be permitted. No exceptions.
- C. Drawers:
  - 1. Sides, back and sub front are industrial grade particle board, 1/2" thick, laminated with thermally fused melamine. The back and sub front are doweled and glued into the sides. Dowels are fluted, with chamfered ends and a minimum diameter of 8mm.
  - 2. Drawer bottom is particleboard, 1/2" thick, laminated with thermally fused melamine, screwed directly to the bottom edges of the drawer box, to provide a rigid platform. Drawer bottom less than 1/2" thick will not be permitted.
  - 3. The same 1/2" thick particleboard and platform construction detail is used for paper storage drawers and also include a PVC angle retaining bar at the rear of each drawer.
  - 4. Painted finishes on drawer sides and/or bottom will not be permitted.
- D. Door/Drawer Fronts:
  - 1. Core for all doors and applied drawer fronts is 3/4" thick industrial grade particle board.
  - 2. Double doors are used on all cabinets in excess of 24" wide.
  - 3. Exterior faces are laminated with high-pressure decorative laminate GP28 (.028). Interior face is high-pressure cabinet liner CL20. Where wood-grain plastic laminate is selected, grain shall run vertically..
  - 4. All door/drawer edges of plastic laminate door/drawer fronts are finished with 3mm PVC banding machine applied with waterproof hot melt adhesive. External edges and outside corners are machine profiled to 1/8" radius.
- E. Laminate Countertops:
  - 1. Countertop core material is medium density 45 pound industrial grade particleboard of fir or pine meeting or exceeding ANSI A 208.1-1993, M-3 requirements. Thickness used is 1 inch. Tight joint fasteners provided where needed.
  - 2. Surface material of countertops is high-pressure decorative laminate GP50 (.050) with underside properly balanced backer sheeting.

3. All exposed 1" edges, except at back splash where used, shall have 3mm PVC banding machine applied with waterproof hot melt adhesive. Exposed edges and corners are machine profiled to 1/8" radius for safety.

### **PART 3 - EXECUTION**

#### **3.01 Inspection:**

- A. The installer must examine the job site and the conditions under which the work under this section is to be performed, and notify the contractor in writing of unsatisfactory conditions. Do not proceed with work under this Section until unsatisfactory conditions have been corrected in a manner acceptable to the installer.

#### **3.02 Preparation:**

- A. Condition casework to average prevailing humidity conditions in installation areas prior to installing.

#### **3.03 Installation:**

- A. Install casework with factory-trained supervision authorized by manufacturer. Erect casework, plumb, level, true and straight with no distortions. Shim as required. Where laminate clad casework abuts other finished work, scribe and cut to accurate fit.
- B. Adjust casework and hardware so that doors and drawers operate smoothly without warp or bind. Lubricate operating hardware as recommended by manufacturer.

#### **3.04 Cleaning and Protection:**

- A. Repair or remove and replace defective work as directed upon completion of installation.
- B. Clean plastic surfaces, repair minor damage per plastic laminate manufacturer's recommendations. Replace other damaged parts or units.
- C. Advise contractor of procedures and precautions for protection of casework and tops from damage by other trades until acceptance of the work by the owner.

**END OF SECTION 12304**



## SECTION 12492

### HORIZONTAL LOUVER BLINDS

#### PART 1 GENERAL

##### 1.01 SECTION INCLUDES

- A. Horizontal slat louver blinds.
- B. Operating hardware.

##### 1.02 REFERENCE STANDARDS

- A. WCMA A100.1 - Safety of Corded Window Covering Products; Window Covering Manufacturers Association; 2010. (ANSI/WCMA A101.1)

##### 1.03 SUBMITTALS

- A. See Section 01300 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data indicating physical and dimensional characteristics.
- C. Shop Drawings: Indicate opening sizes, tolerances required, method of attachment, clearances, and operation.
- D. Manufacturer's Installation Instructions: Indicate special procedures.

##### 1.04 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing the Products specified in this section with minimum three years documented experience.

##### 1.05 PROJECT CONDITIONS

- A. Coordinate the work with window installation and placement of concealed blocking to support blinds.
- B. Take field measurements to determine sizes required.

##### 1.06 EXTRA MATERIALS

- A. See Section 01600 - Product Requirements, for additional provisions.
- B. Provide two additional complete blind assemblies of each size.

#### PART 2 PRODUCTS

##### 2.01 MANUFACTURERS

- A. Horizontal Louver Blinds:
  - 1. Hunter Douglas: [www.hunterdouglas.com](http://www.hunterdouglas.com).
  - 2. Levolor Contract: [www.levolorcontract.com](http://www.levolorcontract.com).
  - 3. Graber, division of Springs Window Fashions: [www.graberblinds.com](http://www.graberblinds.com).
  - 4. Substitutions: See Section 01600 - Product Requirements.

##### 2.02 BLINDS AND BLIND COMPONENTS

- A. Blinds: Horizontal slat louvers hung from full-width headrail with full-width bottom rail; manual control of raising and lowering by cord with full range locking; blade angle adjustable by control wand; complying with WCMA A100.1.

- B. Metal Slats: Spring tempered pre-finished aluminum; radiused slat corners, with manufacturing burrs removed.
  - 1. Width: 1 inch.
  - 2. Thickness: 0.008 inch.
  - 3. Color: As scheduled.
- C. Slat Support: Woven polypropylene cord, ladder configuration.
- D. Head Rail: Pre-finished, formed aluminum box, with end caps; internally fitted with hardware, pulleys, and bearings for operation; same depth as width of slats
  - 1. Color: Same as slats .
- E. Bottom Rail: Pre-finished, formed steel with top side shaped to match slat curvature; with end caps. Color: Same as headrail.
- F. Lift Cord: Braided nylon; continuous loop.
  - 1. Color: As scheduled.
- G. Control Wand: Extruded hollow plastic; hexagonal shape.
  - 1. Non-removable type.
  - 2. Length of window opening height less 3 inches.
  - 3. Color: clear .
- H. Headrail Attachment: Wall brackets.
- I. Accessory Hardware: Type recommended by blind manufacturer.
- J. Locations: Refer to Drawing A2.12.

### **2.03 FABRICATION**

- A. Fabricate blinds to cover window frames completely.
- B. At openings requiring multiple blind units, provide separate blind assemblies with space of 1/2 inch between blinds, located at window mullion centers.

## **PART 3 EXECUTION**

### **3.01 EXAMINATION**

- A. Verify that openings are ready to receive the work.
- B. Ensure structural blocking and supports are correctly placed.

### **3.02 INSTALLATION**

- A. Install blinds in accordance with manufacturer's instructions.
- B. Secure in place with flush countersunk fasteners.

### **3.03 INSTALLATION TOLERANCES**

- A. Maximum Variation of Gap at Window Opening Perimeter: 1/4 inch.
- B. Maximum Offset From Level: 1/8 inch.

### **3.04 ADJUSTING**

- A. Adjust blinds for smooth operation.

### **3.05 CLEANING**

A. Clean blind surfaces just prior to occupancy.

**END OF SECTION**