

SECTION 123216
LAMINATE CLAD CASEWORK
Kewaunee Scientific Corporation SpeKtrum Series

PART 1 – GENERAL

1.01 SECTION INCLUDES

- A. Fixed modular laminate clad casework and components.
- B. Flexible rail mounted laminate clad casework and components.
- C. Countertops.
- D. Mobile storage units, tables and components.

1.02 RELATED SECTIONS

- A. Divisions 5 and 6: Behind The Wall Blocking And Studs
- B. Division 9: Base Molding
- C. Division 11: Appliances
- D. Divison 15: Plumbing
- E. Division 16: Electrical Service Fixtures and Connections

1.03 DEFINITIONS

- A. Identification of casework components and related products by surface visibility.
 - 1. Open Interiors: Any open storage unit without solid door or drawer fronts, units with full glass insert doors and/or acrylic doors, and units with sliding solid doors.
 - 2. Closed Interiors: Any closed storage unit behind solid door or drawer fronts.
 - 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 furnished 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.

1.04 QUALITY ASSURANCE

- A. Manufacturer: Minimum of 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.
- B. Manufacturer: Provide products certified as meeting or exceeding ANSI A161.1-2000 testing standards.
- C. Manufacturer: Provide products meeting or exceeding SEFA 8 PL-2010 Recommended Practices for Plastic Laminate Laboratory Grade Furniture, Casework, Shelving and Tables, as established in the Scientific Equipment & Furniture Association (SEFA) 2010 Desk Reference, 4th Edition.

OPTIONAL LANGUAGE: Architectural Woodwork Quality Standards (Delete this subsection if not required.)

- D. Quality Standard: Unless otherwise indicated, comply with AWI's Architectural Woodwork Quality Standards for grades of interior architectural woodwork, construction, finishes and other requirements.
 - 1. Provide affirmation letter from AWI that manufacturer is duly certified for premium grade from the AWI Quality Certification Program for sections 400B (Laminate Cabinets), 400C (Countertops), and 1600 (Modular Cabinets).
 - 2. Provide labels indicating that manufactured casework meets AWI standards.

1.05 SUBMITTALS

- A. Comply with Division 1, unless otherwise indicated.
- B. Product Data: Manufacturer's catalog with specifications and construction details.
- C. Shop Drawings: Indicate dimensions, description of materials and finishes, general construction, specific modifications, component connections, anchorage methods, hardware, and installation procedures, plus the following specific requirements.
 - 1. Include section drawings of typical and special casework, work surfaces and accessories.
 - 2. Indicate locations of plumbing and electrical service field connection by others.

1.06 PRODUCT HANDLING

- A. Deliver completed laminate clad casework, countertops, and related products only after wet operations in building are completed, store in ventilated place, protected from the weather, with relative humidity range of 25 percent to 55 percent.
- B. Protect finished surfaces from soiling and damage during handling and installation with a protective covering.

1.07 JOB CONDITIONS

- A. Environmental Requirements: Do not install casework until permanent HVAC systems are operating and temperature and humidity have been stabilized for at least 1 week.
 - 1. Manufacturer/Supplier shall advise Contractor of temperature and humidity requirements for architectural casework installation areas.
 - 2. After installation, control temperature and humidity to maintain relative humidity between 25 percent and 55 percent.
- B. Conditions: Do not install casework until interior concrete work, masonry, plastering and other wet operations are complete.

1.08 WARRANTY

- A. All materials and workmanship covered by this section will carry a five (5) year warranty from date of acceptance.

PART 2 – PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS:

- A. Manufacturer:
 - 1. Kewaunee Scientific Corporation.

- a. Drawings and specifications are based on Kewaunee Scientific Spektrum Series laminate products for fixed modular, flexible rail mounted, and mobile casework and accessories.
- b. Other manufacturers shall comply with the minimum levels of material and detailing indicated on the drawings or as specified.

2.02 MATERIALS

- A. Core Materials:
 1. Particleboard: 40-50 pound density particleboard according to ANSI A208.1-2009, grade M-2 specifications.
 2. MR Moisture Resistant Particleboard: 40-50 pound density particleboard according to ANSI A208.1-2009, grade M-2-MR10 moisture resistant specifications.
 3. Medium Density Fiberboard 6mm (1/4") thick: Average 54-pound density MDF according to ANSI A208.2-2009 grade 130 specifications.
- B. Decorative Laminates: GREENGUARD Indoor Air Quality Certified
 1. High-pressure decorative laminate VGS (0.70mm [0.028"]), NEMA Test LD 3-2005.
 2. High-pressure decorative laminate HGS (1.22mm [0.048"]), NEMA Test LD 3-2005.
 3. High-pressure decorative laminate HGP (1.00mm [0.039"]), NEMA Test LD 3-2005.
 4. High-pressure cabinet liner CLS (0.50mm [0.020"]), NEMA Test LD 3-2005.
 5. Chemical-Resistant decorative laminate, NEMA Test LD 3-2005
 6. High-pressure backer, NEMA Test LD 3-2005.
 7. Thermally fused melamine TFM laminate, NEMA Test LD 3-2005.
- C. Laminate Color Selection: Maximum 1 color per unit face and 5 colors per project. (See Color Selection in section 3.05).
- D. Edging Materials:
 1. 1mm PVC banding, machine applied.
 2. 3mm PVC banding, machine applied and machine profiled to 3 mm radius.
- E. Glass:
 1. Wall unit full sliding glass doors: 6mm (1/4") thick laminated safety glass.
 2. Glass insert doors, hinged or sliding wall cabinets: 3mm (1/8") thick tempered glass.
 3. Glass insert doors, hinged or sliding tall or base cabinets. 3mm (1/8") thick tempered glass.
 4. Sliding doors mounted in aluminum track.
 5. Trim glass inserts: Extruded rigid PVC channel and self-locking insert retainer strip.

2.03 SPECIALTY ITEMS

- A. Support Members:
 1. Countertop support brackets: Epoxy powder coated, 11ga steel with integral cleat mount opening and wire management opening.
 2. Undercounter support frames: Epoxy powder coated.
 3. Legs: Epoxy powder coated.
- B. Tote Trays:
 1. Heavy-duty vacuum-formed polypropylene plastic with full top rim and pull. Trays are ivory color, equipped with label holder.

2. Tote tray/supply cabinets equipped with injection molded polycarbonate; continuous side rail support glide. Each side rail support glide is adjustable with integral support pins to interface 32mm pre-drilled holes.
- C. Mobile Storage Units:
1. Tall mobile storage units, as indicated on the drawings, are structural steel framed with epoxy powder coated tubing.
 2. Casters: 120mm (4.75") overall with a 102mm (4") soft rubber wheel, double ball bearing, heavy gauge steel fork, zinc plate finish with 2 brakes per unit. Load capacity per caster to be a minimum of 200 pounds.
 3. Side panels, back, top, drawer fronts, and doors are of 19 mm (3/4") thick particleboard, laminated on the exterior with high pressure decorative laminate VGS and on the interior with high pressure CLS cabinet liner. Exposed edges are PVC banding, 1mm or 3mm thickness, to match adjacent casework.
 4. Low mobile storage units are mounted to a caster base.
- D. Computer Keyboard Tray:
1. Non-articulating, undercounter mount with positive stop drawer slides.

2.04 CABINET HARDWARE

- A. Hinges:
1. Five knuckle, brushed stainless steel, institutional grade, 70mm (2.75") overlay type with hospital tip. 2.4mm (0.095") thick. ANSI-BHMA standard A156.9, Grade 1.
 - a. Doors 1219mm (48") and over in height have 3 hinges per door.
- B. Pulls
1. Door and drawer front pulls are metal wire with brushed chrome finish, 96mm spacing on fasteners. Pull design is compatible with the Americans with Disability Act (ADA).
- C. Drawer Slides:
1. Regular, kneespace, and pencil: Full extension 100-pound load rated cold rolled steel, side mounted with steel ballbearings. Featuring an easy to operate disconnect finger release system.
 2. File: Full extension 150-pound load rated cold rolled steel, side mounted with steel ballbearings. Featuring an easy lift-off drawer rail disconnect.
- D. Adjustable Shelf Supports:
1. Injection molded transparent polycarbonate friction fit into cabinet end panels and vertical dividers, adjustable on 32mm centers. Each shelf support has 2 integral support pins, 5mm diameter, to interface pre-drilled holes, and to prevent accidental rotation of support. The support automatically adapts to 19mm (3/4") or 25mm (1") thick shelving and provides non-tip feature for shelving. Supports may be field fixed if desired. Structural load to 1200 pounds (300 pounds per support) without failure.
- E. Locks:
1. Five-pin tumbler, cam style lock with strike. Lock for sliding 19mm (3/4") thick doors is National #M2-3708-157 lock, National #M2-3709-100 strike and National #M5-0057-110 escutcheon plunger lock with strike. Sliding glass door lock is National #M2-0225-002 sliding showcase lock.

- 2. Elbow catch to secure inactive door on all locked cabinets except for tall cabinets which have a chain pull.
- F. Sliding Door Track: Anodized aluminum double channel.
- G. Coat Rods: 25mm (1") diameter, 14ga chrome plated steel installed in captive mounting hardware.
- H. File Suspension System: Extruded molding integral with top of drawer box sides to accept standard hanging file folders.
- I. Mirrors: 3mm (1/8") thick mirrored acrylic, break and impact resistant.

2.05 FABRICATION:

- A. Fabricate casework, countertops and related products to dimensions, profiles, and details shown.
- B. All casework panel components must be precisely cut to size and squareness to ensure strict dimensional quality and structural integrity in the final fabricated product.
- C. Cabinet Body Construction:
 - 1. Tops and bottoms are made of particleboard core and glued and doweled to cabinet sides and internal cabinet components such as fixed horizontals, rails and verticals. Minimum 6 dowels each joint for 24" deep cabinets and a minimum of 4 dowels each joint for 12" deep cabinets.
 - 2. Cabinet backs: 6mm (1/4") thick medium density fiberboard panel fully captured by the cabinet top, bottom and side panels. Finish to match cabinet interior. Mounting stretchers that are 19mm (3/4") thick particleboard rails are placed behind the back panel for attachment to the wall, and are doweled to the sides utilizing 10mm hardwood fluted dowels. An extra mounting stretcher will be included on all cabinets taller than 1422mm (56"). Utilize hot melt glue to further secure back and increase overall strength.
 - a. Cabinets with a finished back: 19mm (3/4") thick particleboard with the exterior surface finished in VGS laminate as selected.
 - 3. Fixed base and tall units have an individual factory-applied base, constructed of 19mm (3/4") thick plywood. Base is 102mm (4") high unless otherwise indicated on the drawings.
 - 4. Base units, except sink base units: Full sub-top. Sink base units are provided with open top and a stretcher at the front, attached to the sides. Back to be split removable access panel.
 - 5. Side panels and vertical dividers shall receive adjustable shelf hardware at 32mm line boring centers. Mount door hinges, drawer slides and pull-out shelves in the line boring for consistent alignment.
 - 6. Exposed and semi exposed edges.
 - Choose one:*
 - a. Edging: 1mm PVC machine applied.
 - or
 - a. Edging: 3mm PVC machine applied and machine profiled to 3mm (1/8") radius.
 - 7. Adjustable Shelves in Cabinets: 19mm (3/4") particleboard core available in lengths of up to 36" to meet AWI specifications.
 - Choose one:*
 - c. Edge: 1mm PVC on Front Edge Only.
 - or

- c. Edge: 1mm PVC on All Four Edges.
or
 - c. Edge: 3mm PVC on Front Edge, 1mm PVC on Side and Back Edges.
- 8. Interior finish, units with open Interiors:
 - a. Top, bottom, back, sides, horizontal and vertical members, and adjustable shelving faces with high pressure decorative VGS laminate.
- 9. Interior finish, units with closed Interiors:
 - a. Top, bottom, back, sides, horizontal and vertical members, and adjustable shelving faces with TFM Thermally Fused Melamine laminate.
- 10. Exposed ends:
 - Choose one:*
 - 1. Faced with high-pressure decorative VGS laminate.
or
 - 1. Faced with Chemical Resistant high-pressure decorative laminate.
- 11. Wall unit bottom:
 - a. Faced with thermally fused melamine laminate.
- 12. Balanced construction of all laminated panels is mandatory. Unfinished core stock surfaces, even on concealed surfaces (excluding edges), are not permitted.
- D. Drawers:
 - 1. Sides, back and sub front: Minimum 12mm (1/2") thick particleboard, laminated with thermally fused melamine doweled and glued into sides. Top edge banded with 1mm PVC.
 - 2. Drawer bottom: Minimum 12mm (1/2") thick particleboard laminated with thermally fused melamine, assembled into a machined groove on all four sides of the box and secured with hot melt glue.
- E. Door/Drawer Fronts:
 - 1. Core: 19mm (3/4") thick particleboard except at sink units which are 19mm (3/4") thick moisture resistant particleboard.

Choose one:
 - 2. Exterior faced with high-pressure decorative VGS laminate, balanced with high-pressure cabinet liner.
or
 - 2. Exterior faced with Chemical Resistant high-pressure decorative laminate, balanced with high-pressure cabinet liner.
 - 3. Edges: 3mm PVC, machine applied, external edges and outside corners machine profiled to 3mm (1/8") radius.
 - 4. Provide double doors when the opening is nominally in excess of 610mm (24") wide.

Choose one:
- F. Miscellaneous Shelving (not in Cabinets):
 - 1. Core material: 25mm (1") thick particleboard.
 - 2. High-pressure decorative VGS laminate on both faces.
 - 3. Edges: 3mm PVC, external edges and outside corners machine profiled to 3mm (1/8") radius.

or
- F. Reagent and Wall Shelving:
 - 1. Core material: 25mm (1") thick particleboard.

2. Chemical Resistant high-pressure decorative laminate on both faces.
3. Edges: 3mm PVC, external edges and outside corners machine profiled to 3mm (1/8") radius. Front edge reagent 'lip' to be raised above the shelf 10mm (3/8").

2.06 DECORATIVE LAMINATE COUNTERTOPS:

- A. Core:
1. All countertops except at sink elevations: 25mm (1") thick ANSI A208.1-2009, grade M-2 particleboard.
 2. Countertops at sink elevations: 25mm (1") thick ANSI A208.1-2009, grade M-2-MR10 moisture resistant particleboard.
- Choose one:**
- B. Surface: High-pressure decorative HGS/HGP laminate with balanced backer sheeting.
or
- B. Surface: Chemical Resistant high-pressure decorative laminate with balanced backer sheeting.
- C. Edges, including applied backsplash: 3mm PVC, exposed edges and corners machine profiled to 3mm (1/8") radius. Edges are machine applied with water based low Volatile Organic Compound (VOC), non-toxic, PVA adhesive.
- D. All countertop joints must be dry fit at the factory to check for consistency in color from one panel to the other and overall finished panel thickness, resulting in a high quality product easy to install.

2.07 HEAVY DUTY TABLES:

- A. Work tops: 25mm (1") thick particleboard core laminated top surface with HGS/HGP laminate, balanced with backer sheeting.
1. Edges: 3mm PVC
- B. Work top support frame: Furniture grade, epoxy powder coated steel.
- C. Under table storage units: Manufacturer's flexible rail mounted undercounter units adapted for installation to work top support frame.
- D. Adjustable legs: 44mm (1-3/4") x 14ga square epoxy powder coated tubing fitted inside 51mm (2") x 14ga square tubing with height adjustment.
1. Heavy-duty, non-marking adjustable floor glides.

2.08 UTILITY CHASE SYSTEM

- A. Flexible rail utility chase frames: Internal epoxy powder coated steel frame assembly pre-drilled to accept other system components. Dimensionally integrated to align with and accommodate fixed modular or flexible rail-mounted casework and countertops.
- B. Flexible rail mounted casework support rail and interfacing support keys:
1. Extruded aluminum 6061-T6 alloy, epoxy powder coated, concealed structural fasteners secured through portion of closure panel one or both sides as required.
- C. Chase access panels: 19mm (3/4") thick with 1mm PVC edges, thermally fused melamine laminate faces both sides.
- D. Wing walls: 25mm (1") thick particleboard with high-pressure decorative laminate VGS both sides, 3mm PVC edges, two levelers on bottom edge.
- E. Reagent ledges and over-chase shelving: 25mm (1") thick particleboard with 3mm PVC edges; provide laminate surfaces as indicated.

PART 3- EXECUTION

- 3.01 INSPECTION:
- A. The casework contractor must examine the job site and the conditions under which the work under this section is to be performed, and notify the building owner in writing of unsatisfactory conditions. Do not proceed with work under this Section until satisfactory 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. 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.
 - C. Repair minor damage per plastic laminate manufacturer's recommendations.
- 3.04 CLEANING:
- A. Remove and dispose of all packing materials and related construction debris.
 - B. Clean cabinets inside and out. Wipe off fingerprints, pencil marks, and surface soil etc., in preparation for final cleaning by the building owner.
- 3.05 COLOR SELECTION:
- A. Laminate Color Selection:
 - 1. Laminates will be chosen from the full range of standard Wilsonart and Formica stock color charts or equivalent products.
 - 2. Thermally fused melamine laminate matched to White color.
 - B. Hardware Color Selection:
 - 1. Hinge: Select from your choice of brushed stainless steel or epoxy powder coating stock colors matched to White, Beige, Gray, Black and Satin Chrome.
 - 2. Pulls: Select from your choice of brushed chrome finish or epoxy powder coating stock colors matched to White, Beige, Gray, Black and Chrome.
 - 3. Miscellaneous Hardware (support brackets, table frames, etc.): Select from your choice of epoxy powder coating stock colors matched to White, Beige, Gray, Black and Chrome.
 - C. PVC Edge Banding Color Selection:
 - 1. 1mm and 3mm PVC: Select from the full range of pattern, woodgrain and solid colors matched to Wilsonart, Formica, or other equivalent laminates.

*For complete and current Laminate and PVC color availability charts please refer to:
<http://www.kewaunee.com>

END OF SECTION