

SECTION 123530 - RESIDENTIAL CASEWORK

EcoFriendly™ Cabinetry Architectural Specifications

This guide architectural specification, offered by Executive Kitchens Inc., covers the requirements for manufactured casework in the EcoFriendly™ Cabinet Series, having doors and drawer fronts of transparent finished solid wood, opaque painted MDF, thermoformed, or thermoset construction within four quality levels of casework construction. This product guide specification is written according to the Construction Specifications Institute (CSI) and Construction Specifications Canada. MasterFormat™, Copyright © 2006 and SectionFormat™/PageFormat™, in conformance with requirements contained in the Project Resource Manual CSI Manual of Practice.

The section must be carefully reviewed and edited by the Designer to meet the requirements of the project and the local building code(s). Coordinate this section with other specification sections and the drawings for the project. Edit this guide specification for project-specific requirements by adding, deleting, or revising text. For bracketed items, choose applicable items(s). Remove information and requirements not in the project, whether or not brackets are present. Specifier "Notes," indicated in blue, can be left in place when editing this section if printing of hidden text is turned off before printing the section.

Verify that section titles referenced in this guide section are correct for the project specifications. If the casework is only being used for kitchens, change the section number and title to 123530.13 KITCHEN CASEWORK. For casework only being used for bathrooms, change the section number and title to 123550.23 BATHROOM CASEWORK. The changes would also apply in the footer.

If MastersFormat 1995 is being used to develop the remainder of the project specifications, then the section number at the beginning of the section and the footer should be changed to 12300 MANUFACTURED CASEWORK.

This guide architectural specification, offered by Executive Kitchens Inc. includes the following qualities of manufactured casework. Executive Kitchens, Inc. 2838 Grandview Dr., Simpsonville, SC 29680, www.executivekitchens.com, has a Forest Stewardship Council (FSC) Certified Products, Chain-of-Custody Certificate # - SCS-COC-1718, with date first certified of August, 2008 by Scientific Certification Systems (SCS). for Casework/Casework/Fixtures. In addition, Executive Kitchens Inc. has obtained from the Kitchen Cabinet Manufacturers Association (KCMA) Certification Number 08079.

- Level 1 Platinum Green is Forest Stewardship Council (FSC) Certified casework with Chain-of-Custody, non-emitting Zero-VOC (0% VOC), Zero-HAP (0% hazardous air pollutants), and no heavy metals or formaldehyde finish and no added urea formaldehyde (NAF) plywood.
- Level 2 Premium Green consists of casework similar to Level 1, except casework is without FSC Mixed Source Chain-of-Custody, non-emitting Zero-VOC (0% VOC), Zero-HAP (0% hazardous air pollutants), and no heavy metals or formaldehyde finish and no added urea formaldehyde (NAF) plywood.

- Level 3 Economy Green consists of casework similar to Level 1, except casework is without FSC Mixed Source Chain-of-Custody, non-emitting Zero-VOC (0% VOC), Zero-HAP (0% hazardous air pollutants), and no heavy metals or added urea formaldehyde finish and no added or compliant low-emitting urea formaldehyde plywood.
- Level 4 Entry Green consists of casework with either thermoformed with thermafoil or thermoset door and drawer construction, except casework is low-emitting (compliant VOC finish and no added or compliant low-emitting urea formaldehyde thermoset particleboard).
- Solid doors and drawer fronts are single-piece, manufactured from solid lumber with a factory-applied transparent finish.
- Solid doors and drawer fronts are single-piece, manufactured from medium density fiberboard (MDF) with a factory-applied opaque finish.
- Thermoformed doors and drawer fronts are single-piece, manufactured from high-quality medium density fiberboard (MDF), computer routed to a selected profile. Thermafoil – a vinyl-like material – is applied to the face using heat and pressure plus adhesive to produce a permanent lamination. The back is prefinished with a white melamine.
- Thermoset doors and drawer fronts are single-piece, manufactured from furniture-grade medium-density, 45 lb. particleboard laminated on both sides with melamine.

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:

Adjust list below to suit Project.

1. Kitchen manufactured casework.
2. Vanity manufactured casework.
3. Casework consists of: closed door wall casework, closed door and drawer base casework, and closed door full height casework, without glass panels.

B. Related Sections include the following:

The list below, based on MasterFormat 2004, only includes products that the reader might expect to find in this Section but are specified elsewhere.

1. 061000, Rough Carpentry; for wood blocking and nailers built into wall before installation of Casework.
2. 064023, Interior Architectural Woodwork; for countertops installed to base casework.
3. 092216, Non-Structural Metal Framing; for installation of metal backing plates required for wall hung casework.
4. 113100, Residential Appliances; for appliances.

The list below, based on MasterFormat 1995, only includes products that the reader might expect to find in this Section but are specified elsewhere.

5. 06100, Rough Carpentry; for wood blocking and nailers built into wall before installation of Casework.
6. 06402, Interior Architectural Woodwork; for countertops installed to base casework.
7. 06415, Stone Countertops; for stone countertops installed to base casework.
8. 09111, Non-Load-Bearing Steel Framing; for installation of metal backing plates required for wall hung casework.
9. 11451, Residential Appliances; for appliances.

1.3 DEFINITIONS

Definitions below reflect the usual practice for manufactured casework and are based on industry standards.

- A. Exposed Surfaces of Casework: Surfaces visible when doors and drawers are closed, including visible surfaces in open casework.
- B. Semi-exposed Surfaces of Casework: Surfaces behind opaque doors or drawer fronts, including interior faces of doors and interiors and sides of drawers. Bottoms of wall casework are defined as "semi-exposed."
- C. Concealed Surfaces of Casework: Surfaces not usually visible after installation, including sleepers, web frames, dust panels, bottoms of drawers, and ends of casework installed directly against and completely concealed by walls or other Casework. Tops of wall casework and tall casework are defined as "concealed."

1.4 SUBMITTALS

A. Product Data: For the following:

Delete items not applicable or for which Product Data are not required.

1. Casework.
2. Casework hardware.

B. Shop Drawings: For casework, include plans, elevations, details, and attachments to other work. Show materials, finishes, filler panels, and hardware.

C. Samples for Verification:

Delete subparagraph below if no wood casework with transparent finish is selected.

1. Wood-veneered plywood panels (cabinet cases) with transparent finish, 8-inches by 10-inches, for each species.

Delete subparagraph below if no wood casework with opaque finish is selected.

2. Wood-veneered plywood panels (cabinet cases) with opaque finish, 8-inches by 10-inches, for each species.

Delete subparagraph below if no wood casework with transparent finish is selected.

3. Solid wood (drawer and door front) with transparent finish, 50 square inches, for each species.

Delete subparagraph below if no wood casework with opaque finish is selected

4. Solid MDF (drawer and door fronts) with opaque finish, 50 square inches, for each species.

Delete subparagraph below if no thermofoil casework is selected.

5. Thermofoil decorative panels (drawer and door fronts), 8-inches by 10-inches.

Delete subparagraph below if no thermoset casework is selected.

6. Thermoset decorative panels (drawer and door fronts), 8-inches by 10-inches.
7. Exposed hardware, for each type of item.

Add list of hardware items as clause above for hardware to be submitted for samples.

Delete subparagraphs for sample units below to suit Project. Full-size samples listed below will add cost to the Project.

8. One full-size, 16-inches wide, finished base casework complete with hardware, doors, and drawers but without countertop. [Sample will be returned to Contractor for use on Project.]
9. One full-size, 12-inches wide, finished wall casework complete with hardware, doors, and adjustable shelves. [Sample will be returned to Contractor for use on Project.]

D. LEED® Submittals:

Retain subparagraph below for Zero-emitting formaldehyde materials required for LEED.

1. Product Data for Credit EQ 4.4: For adhesives and composite wood products, documentation indicating that product contains no added urea formaldehyde.

Retain subparagraph and associated clauses below for recycled content required for LEED.

2. Product Data for Credit MR 4.1: For products having recycled content, documentation indicating percentages by weight of postconsumer and pre-consumer recycled content.
 - a. Include statement indicating costs for each product having recycled content.

Retain subparagraphs below if Level 1 casework is selected. Subparagraph and associated clauses are for solid wood and composite wood used to produce casework required to be certified for LEED, which requires that wood-based materials be certified with Chain-of-Custody.

3. Certificates for Credit MR 7: Chain-of-custody certificates certifying that wood used to produce casework complies with forest certification requirements. Include evidence that manufacturer is certified for chain-of-custody by an FSC-accredited certification body.
 - a. Include statement indicating costs for each certified wood product.

- E. Product Certificates: Signed by manufacturers of casework certifying that products furnished comply with requirements.

1.5 QUALITY ASSURANCE

Retain article below, if casework is Level 1 and is being submitted for LEED certification. For Executive Kitchens, Inc. 2838 Grandview Dr., Simpsonville, SC 29680, www.executivekitchens.com, contact: Chris

Wood, Phone: 864-963-7011, Fax: 864-963-7342, Email: chrisw@executivekitchens.com. Forest Stewardship Council (FSC) Certified Products. Chain-of-Custody Certificate # - SCS-COC-1718, date first certified of August, 2008 has been issued by Scientific Certification Systems (SCS). for Casework/Casework/Fixtures.

- A. **Manufacturer Qualifications:** Provide all casework by a qualified manufacturer certified for Chain-of-Custody by an FSC-accredited certification body.

About the KCMA Certification Program

- The Kitchen Cabinet Manufacturers Association Certification Program assures the designer or user of kitchen cabinets and bath vanities that the cabinet bearing the blue and white seal complies with the rigorous standards set by the American National Standards Institute (ANSI) and sponsored by the Kitchen Cabinet Manufacturers Association (KCMA). The casework produced by Executive Kitchens is an exact duplicate of samples that have been independently tested for conformance to ANSI/KCMA A161.1-2000.
- The KCMA Certification Program is open to all cabinet manufacturers. Manufacturers may certify one, several, or all of their cabinet lines. Because of this option, only those lines certified are listed in the annual KCMA Directory of Certified Cabinet Manufacturers.
- Compliance with ANSI/KCMA standards is assured by initial cabinet testing, periodic unannounced plant pick-up and testing, and additional testing resulting from complaints. All testing is performed by an experienced independent laboratory.
- These cabinets also comply with the provision of Paragraph 611-1.1, "HUD Minimum Property Standards - Housing 4910.1" 9/8/86.

Companies not licensed with the KCMA Certification Program may not claim or imply conformance with these standards for their products. KCMA. KCMA, as the proprietary sponsor, reserves the right to question any claims of conformance and to test the products of any manufacturer making such claims. If KCMA discover false representation that the manufacturer's products meet these standards, KCMA will take appropriate legal action. Executive Kitchens, Inc. 2838 Grandview Dr., Simpsonville, SC 29680, www.executivekitchens.com, has received Certification Number 08079.

- B. **Quality Standard:** Provide cabinets that comply with KCMA A161.1. Provide cabinets with KCMA's "Certified Cabinet" seal affixed in a semiexposed location of each unit and showing compliance with the above standard.

1.6 PROJECT CONDITIONS

- A. **Environmental Limitations:** Do not deliver or install casework until building is enclosed, wet work is complete, and HVAC system is operating and maintaining temperature and relative humidity at occupancy levels during the remainder of the construction period.

- B. Established Dimensions: Where casework is indicated to fit to other construction, establish dimensions for areas where casework is to fit. Coordinate construction to ensure that actual dimensions correspond to established dimensions. Provide fillers and scribes to allow for trimming and fitting.

For new work, usually retain paragraph above and delete paragraph below. For remodeling work, retain paragraph below and delete paragraph above.

- C. Field Measurements: Where casework is indicated to fit to existing construction, verify dimensions of existing construction by field measurements before fabrication and indicate measurements on Shop Drawings. Provide fillers and scribes, matching finish can composition of casework being installed, to allow for trimming and fitting.

1.7 COORDINATION

Show blocking and reinforcement on Drawings.

- A. Coordinate layout and installation of blocking and reinforcement in partitions for support of casework.

1.8 WARRANTY

- A. Special Warranty: Manufacturer's standard form, without monetary limitation, in which manufacturer agrees to repair or replace components of casework that fail in materials or workmanship within 1 year from Substantial Completion.
- B. Warranty shall not deprive Owner of other rights Owner may have under other provisions of Contract Documents and will be in addition to, and run concurrent with, other warranties made by Contractor under requirements of Contract Documents.

PART 2 - PRODUCTS

2.1 MANUFACTURER

- A. Executive Kitchens, Inc. 2838 Grandview Dr., Simpsonville, SC 29680, Telephone: 864-963-7011, Facsimile : 864-963-7342, www.executivekitchens.com.

Delete article 2.1 below, if casework is not Level 1 Wood Construction.

2.2 WOOD CASEWORK – Level 1

- A. Wood Materials :

Casework in the Executive Kitchens EcoFriendly™ Cabinet Series are manufactured from certified wood for LEED, which has minimum of 70 percent of wood-based materials be certified and are manufactured

with Zero-emitting materials compliant with LEED for Level 1. Each job/casework will be individually weighed and measured to determine the FSC material percentage. Each order will ship with Executive Kitchen's Chain of Custody Number (SCS-COC-00001718).

1. Certified Wood Materials: Fabricate casework with wood and wood-based products produced from wood obtained from forests certified by an FSC-accredited certification body to comply with FSC STD-01-001, "FSC Principles and Criteria for Forest Stewardship."
2. Adhesives: Do not use adhesives that contain urea formaldehyde.
3. Hardwood Lumber: Kiln-dried to 7 percent moisture content, used for exposed materials. Select materials for compatible color and grain. Do not use two adjacent exposed surfaces that are noticeably dissimilar in color, grain, figure, or natural character markings. Use clear hardwood lumber of species indicated, free of defects.

The term "plywood" in the subparagraph below refers to a wood-based panel with veneers applied to both faces; the core may be made up of veneers or glued-up lumber. Low-emitting materials are required for LEED, while the product specified below prohibits use of added urea formaldehyde.

4. Hardwood Plywood: HPVA HP-1, made with bonding adhesive containing no added urea formaldehyde (NAF). Hardwood plywood with Grade A face veneer of species matching hardwood lumber, with Grade A natural birch for semi-exposed or concealed surfaces. Natural birch shall be shop-finished with a Zero-emitting UV clear finish.

B. Casework Hardware:

Add subparagraph(s) as needed for door and drawer pull selection for use on this Project.

1. Hinges: Concealed European-style self-closing clip-on hinges, minimum 107 degree opening, six-way adjustable.
2. Drawer Guides – Standard Drawers: Epoxy-coated-metal, self-closing drawer guides; designed to prevent rebound when drawers are closed; with nylon-tired, ball-bearing rollers, 75-lb. capacity and 3/4 extension.

Delete subparagraph below or above based on selection of drawers for use on this Project.

3. Drawer Guides – Upgraded Drawers: Epoxy-coated-metal, self-closing drawer guides; designed to prevent rebound when drawers are closed; with nylon-tired, ball-bearing rollers, 100-lb. capacity and full extension.

C. Edge Banding: PVC edge molding, rigid PVC extrusions, through-color with satin finish, 3 mm thick at doors and drawer fronts, and 1 mm thick elsewhere. Color as indicated by manufacturer's designation.

D. Casework Construction:

1. Casework Style: Full access (frameless), flush overlay, complete with top and bottom fillers and corner panels for wall casework.
2. Door and Drawer Heads (Fronts):
 - a. Construction: [Solid-wood lumber] [or] [MDF].

Delete clause below, if no stained wood is being used for casework.

- b. Specie and Style: [Maple, 2-1/4-inch, Shaker Flat Panel; Limited Flat Panel, Brentwood Raised Panel, or Continental Veneer Slab],
[or] [White oak, 2-1/4-inch,
Shaker Flat Panel or Continental Veneer Slab].

Delete clause below, if no painted MDF is being used for casework.

- c. Style: Painted MDF with white melamine backs, Chateau Raised Panel or Shaker 3 inch Flat Panel, or Sahara Slab.
 3. Exposed End Finish (Wall and Base): 3/4-inch thick, plywood.
 4. End Construction: 3/4-inch thick plywood.
 5. Tops and Bottoms: 3/4-inch thick plywood.
 6. Underside of Wall Casework: Flush with each element (end panel edges and casework bottoms) finished individually.
 7. Back Panels: 1/4-inch-thick plywood, machine-fitted into top, bottom, and side panels, reinforced with glue and mechanical fasteners. Back panel shall be recessed 3/4-inch into case construction to allow for job site scribing of end panels due to wall irregularities.

Retain one subparagraph for drawer boxes from two listed below to suit level of quality required for Project.

8. Standard Drawer Boxes: Drawers shall be four-sided 3/4-inch thick plywood construction with fully-captured 1/4-inch thick plywood drawer bottom joined with metal pins and adhesives. Edge band exposed drawer edges with PVC edge banding. Mount drawer boxes in casework using 3/4 extension side-mounted drawer guides.
 9. Dovetail Drawer Boxes: Drawers shall be four-sided 5/8-inch thick FSC Chain-of-Custody solid maple construction with fully-captured 1/4-inch thick FSC Chain-of-Custody solid maple drawer bottom, using dovetail joinery. Seal all surfaces and edges with waterborne finish. Mount drawer boxes in casework using full extension side-mounted drawer guides.
 10. Shelves: Fully adjustable in base, wall, and tall casework. 3/4-inch thick plywood with Grade A face on top surface and PVC edge banding on front edge. Shelves are fully

adjustable using 0.19 inch metal post shelf slips fitted into holes bored at 1-1/4-inch intervals.

11. Hanging Rails: 4-inch by 3/4-inch thick hardwood plywood, dowel-and-adhesive fitted into end panels, flush with casework ends on top and bottom, and center of casework exceeding 36-inches in height.
12. Stretchers: 4-inch by 3/4-inch thick hardwood plywood for base casework, full-width to provide support and solid mounting surface for countertops.
13. Factory Finishing:
 - a. Finish casework at factory, using waterborne material, containing no solvents or oils and non-emitting Zero-VOC (0% VOC), Zero-HAP (0% hazardous air pollutants), and no heavy metals or formaldehyde finish. Defer only final touchup until after installation

Delete clause below, if painted MDF is being used for drawer and door construction.

- b. Stain Color: [Natural], [Caramel], [Cinnamon], [Wild Honey], [Burgundy], [Amaretto], or [Black].

Delete clause below, if varnished wood is being used for drawer and door construction.

- c. Paint Color: [Super White], [Antique].

Delete article 2.2 below, if casework is not Level 2 Wood Construction.

2.3 WOOD CASEWORK – Level 2

A. Wood Materials:

Casework in the Executive Kitchens EcoFriendly™ Cabinet Series are manufactured the same as Level 1, except the casework is without FSC certification.

1. Adhesives without FSC Mixed Source Chain-of-Custody Certification: Do not use adhesives that contain urea formaldehyde.
2. Hardwood Lumber without FSC Mixed Source Chain-of-Custody Certification: Kiln-dried to 7 percent moisture content, used for exposed materials. Select materials for compatible color and grain. Do not use two adjacent exposed surfaces that are noticeably dissimilar in color, grain, figure, or natural character markings. Use clear hardwood lumber of species indicated, free of defects.

The term "plywood" in the subparagraph below refers to a wood-based panel with veneers applied to both faces; the core may be made up of veneers or glued-up lumber.

3. Hardwood Plywood without FSC Mixed Source Chain-of-Custody Certification: HPVA HP-1, made with bonding adhesive containing no added urea formaldehyde (NAF). Hardwood plywood with Grade A face veneer of species matching hardwood lumber, with Grade A natural birch for semi-exposed or concealed surfaces. Natural birch finished with a Zero-emitting UV clear finish.

B. Casework Hardware:

Add subparagraph(s) as needed for door and drawer pull selection for use on this Project.

1. Hinges: Concealed European-style self-closing clip-on hinges, minimum 107 degree opening, six-way adjustable.
2. Drawer Guides – Standard Drawers: Epoxy-coated-metal, self-closing drawer guides; designed to prevent rebound when drawers are closed; with nylon-tired, ball-bearing rollers, 75-lb. capacity and 3/4 extension.

Delete subparagraph below or above based on selection of drawers for use on this Project.

3. Drawer Guides – Upgraded Drawers: Epoxy-coated-metal, self-closing drawer guides; designed to prevent rebound when drawers are closed; with nylon-tired, ball-bearing rollers, 100-lb. capacity and full extension.

- C. Edge Banding: PVC edge molding, rigid PVC extrusions, through-color with satin finish, 3 mm thick at doors and drawer fronts, and 1 mm thick elsewhere. Color as indicated by manufacturer's designation.

D. Casework Construction:

1. Casework Style: Full access (frameless), flush overlay, complete with top and bottom fillers and corner panels for wall casework.
2. Door and Drawer Heads (Fronts):
 - a. Construction: [Solid-wood lumber] [or] [MDF].

Delete clause below, if no stained wood is being used for casework.

- b. Specie and Style: [Maple, 2-1/4-inch, Shaker Flat Panel; Limited Flat Panel, Brentwood Raised Panel, or Continental Veneer Slab], [or] [White oak, 2-1/4-inch, Shaker Flat Panel or Continental Veneer Slab]

Delete clause below, if no painted MDF is being used for casework.

- c. Style: Painted MDF with white melamine backs, [Chateau Raised Panel], [Shaker 3 inch Flat Panel], [or] [Sahara Slab].

3. Exposed End Finish (Wall and Base): 3/4-inch thick, wood veneer plywood.
4. End Construction: 3/4-inch thick plywood.
5. Tops and Bottoms: 3/4-inch thick plywood.
6. Underside of Wall Casework: Flush with each element (end panel edges and casework bottoms) finished individually.
7. Back Panels: 1/4-inch-thick plywood, machine-fitted into top, bottom, and side panels, reinforced with glue and mechanical fasteners. Back panel shall be recessed 3/4-inch into case construction to allow for job site scribing of end panels due to wall irregularities.

Retain one subparagraph for drawer boxes from two listed below to suit level of quality required for Project.

8. Standard Drawer Boxes: Drawers shall be four-sided 3/4-inch thick plywood construction with fully-captured 1/4-inch thick plywood drawer bottom joined with metal pins and adhesives. Edge band exposed drawer edges with PVC edge banding. Mount drawer boxes in casework using 3/4 extension side-mounted drawer guides.
9. Dovetail Drawer Boxes: Drawers shall be four-sided 5/8-inch thick solid maple construction with fully-captured 1/4-inch thick solid maple drawer bottom, using dovetail joinery. Seal all surfaces and edges with waterborne finish. Mount drawer boxes in casework using full extension side-mounted drawer guides.
10. Shelves: Fully adjustable in base, wall, and tall casework. 3/4-inch thick plywood with Grade A face on top surface and PVC edge banding on front edge. Shelves are fully adjustable using 0.19 inch metal post shelf slips fitted into holes bored at 1-1/4-inch intervals.
11. Hanging Rails: 4-inch by 3/4-inch thick hardwood plywood, dowel-and-adhesive fitted into end panels, flush with casework ends on top and bottom, and center of casework exceeding 36-inches in height.
12. Stretchers: 4-inch by 3/4-inch thick hardwood plywood for base casework, full-width to provide support and solid mounting surface for countertops.
13. Factory Finishing:
 - a. Finish Casework at factory, using waterborne material, containing no solvents or oils and non-emitting Zero-VOC (0% VOC), Zero-HAP (0% hazardous air pollutants), and no heavy metals or formaldehyde finish. Defer only final touchup until after installation

Delete clause below, if painted MDF is being used for drawer and door construction.

- a. Stain Color: [Natural], [Caramel], [Cinnamon], [Wild Honey], [Burgundy],
[Amaretto], or [Black].

Delete clause below, if varnished wood is being used for drawer and door construction.

- b. Paint Color: [Super White], [Antique].

Delete article 2.3 below, if casework is not Level 3 Wood Construction.

2.4 WOOD CASEWORK – Level 3

A. Wood Materials:

Casework in the Executive Kitchens EcoFriendly™ Cabinet Series are manufactured the same as Level 1, except the casework is without FSC certification and the use of low-emitting plywood.

1. Adhesives without FSC Mixed Source Chain-of-Custody Certification: Do not use adhesives that contain urea formaldehyde.
2. Hardwood Lumber without FSC Mixed Source Chain-of-Custody Certification: Kiln-dried to 7 percent moisture content, used for exposed materials. Select materials for compatible color and grain. Do not use two adjacent exposed surfaces that are noticeably dissimilar in color, grain, figure, or natural character markings. Use clear hardwood lumber of species indicated, free of defects.

The term "plywood" in the subparagraph below refers to a wood-based panel with veneers applied to both faces; the core may be made up of veneers or glued-up lumber.

3. Hardwood Plywood without FSC Mixed Source Chain-of-Custody Certification: HPVA HP-1, made with bonding adhesive containing low-emitting formaldehyde. Hardwood plywood with Grade A face veneer of species matching hardwood lumber, with Grade A natural birch for semi-exposed or concealed surfaces. Natural birch finished with a Zero-emitting UV clear finish. Low-emitting plywood is rated at 0.1 part per million (ppm) E1 emission standard.
4. Particleboard without FSC Mixed Source Chain-of-Custody Certification: ANSI 208.1, Grade M-2, made with binder containing no urea formaldehyde.
5. Softwood Plywood without FSC Mixed Source Chain-of-Custody Certification: DOC PS 1, Exterior Exposure Classification, veneer core, APA RATED C-D PLUGGED.

B. Casework Hardware:

Add subparagraph(s) as needed for door and drawer pull selection for use on this Project.

1. Hinges: Concealed European-style self-closing clip-on hinges, minimum 107 degree opening, six-way adjustable.

2. Drawer Guides – Standard Drawers: Epoxy-coated-metal, self-closing drawer guides; designed to prevent rebound when drawers are closed; with nylon-tired, ball-bearing rollers, 75-lb. capacity and 3/4 extension.

Delete subparagraph below or above based on selection of drawers for use on this Project.

3. Drawer Guides – Upgraded Drawers: Epoxy-coated-metal, self-closing drawer guides; designed to prevent rebound when drawers are closed; with nylon-tired, ball-bearing rollers, 100-lb. capacity and full extension.
- C. Edge Banding: PVC edge molding, rigid PVC extrusions, through-color with satin finish, 3 mm thick at doors and drawer fronts, and 1 mm thick elsewhere. Color as indicated by manufacturer's designation.
- D. Casework Construction:
1. Casework Style:
 - a. Full access (frameless), flush overlay, complete with top and bottom fillers and corner panels for wall casework.
 - b. 3/4 –inch thick low-emitting hardwood plywood case.

Make selection in subparagraph below for style of Door and Drawer Heads for use on this Project.

2. Door and Drawer Heads (Fronts):
 - a. Construction: [Solid-wood lumber] [or] [MDF]

Delete clause below, if no stained wood is being used for casework.

- b. Specie and Style: [Maple, 2-1/4-inch, Shaker Flat Panel; Limited Flat Panel, Brentwood Raised Panel, or Continental Veneer Slab], [or] [White oak, 2-1/4-inch, Shaker Flat Panel or Continental Veneer Slab].
 - c. Delete clause below, if no painted MDF is being used for casework.
 - d. Style: Painted MDF with white melamine backs, [Chateau Raised Panel], [Shaker 3 inch Flat Panel], [or] [Sahara Slab]
3. Exposed End Finish (Wall and Base): 3/4-inch thick, wood veneer plywood.
4. End Construction: 3/4-inch thick plywood.
5. Tops and Bottoms: 3/4-inch thick plywood.
6. Underside of Wall Casework: Flush with each element (end panel edges and casework bottoms) finished individually.

7. Back Panels: 1/4-inch-thick plywood, machine-fitted into top, bottom, and side panels, reinforced with glue and mechanical fasteners. Back panel shall be recessed 3/4-inch into case construction to allow for job site scribing of end panels due to wall irregularities.

Retain one subparagraph for drawer boxes from two listed below to suit level of quality required for Project.

8. Standard Drawer Boxes: Drawers shall be four-sided 3/4-inch thick plywood construction with fully-captured 1/4-inch thick plywood drawer bottom joined with metal pins and adhesives. Edge band exposed drawer edges with PVC edge banding. Mount drawer boxes in casework using 3/4 extension side-mounted drawer guides.
9. Dovetail Drawer Boxes: Drawers shall be four-sided 5/8-inch thick solid maple construction with fully-captured 1/4-inch thick solid maple drawer bottom, using dovetail joinery. Seal all surfaces and edges with waterborne finish. Mount drawer boxes in casework using full extension side-mounted drawer guides.
10. Shelves: Fully adjustable in base, wall, and tall casework. 3/4-inch thick plywood with Grade A face on top surface and PVC edge banding on front edge. Shelves are fully adjustable using 0.19 inch metal post shelf slips fitted into holes bored at 1-1/4-inch intervals.
11. Hanging Rails: 4-inch by 3/4-inch thick softwood plywood, dowel-and-adhesive fitted into end panels, flush with casework ends on top and bottom, and center of casework exceeding 36-inches in height.
12. Stretchers: 4-inch by 3/4-inch thick softwood plywood for base casework, full-width to provide support and solid mounting surface for countertops.
13. Factory Finishing:
 - a. Finish Casework at factory, using waterborne material, containing no solvents or oils and non-emitting Zero-VOC (0% VOC), Zero-HAP (0% hazardous air pollutants), and no heavy metals or formaldehyde finish. Defer only final touchup until after installation.

Delete clause below, if painted MDF is being used for drawer and door construction.

- b. Stain Color: [Natural], [Caramel], [Cinnamon], [Wild Honey], [Burgundy], [Amaretto], or [Black].

Delete clause below, if varnished wood is being used for drawer and door construction.

- c. Paint Color: [Super White], [Antique].

Delete article 2.4 below, if casework is not thermofoil construction.

2.5 THERMOFOIL CASEWORK CONSTRUCTION – Level 4

Casework in the Executive Kitchens EcoFriendly™ Cabinet Series are manufactured without FSC certification.

A. Panel Materials:

1. Thermoformed Vinyl-Faced Panels without FSC Mixed Source Chain-of-Custody Certification:
 - a. Medium density fiberboard (MDF) milled to required shapes, with a thermoformed vinyl overlay applied in a vacuum or membrane press to exposed or semi-concealed surfaces with melamine backing.
 - b. Color: [White], [Cherry], [Fusion Maple], [Wenge Matte], [or] [Windsor Mahogany].
2. Thermoset Decorative Panels without FSC Mixed Source Chain-of-Custody Certification: Particleboard finished with thermally-fused, white melamine-impregnated decorative paper complying with LMA SAT-1 for exposed or semi-concealed surfaces with melamine backing.
3. Particleboard without FSC Mixed Source Chain-of-Custody Certification: ANSI A208.1, Grade M-2, made with binder containing no urea formaldehyde.

B. Casework Hardware:

Add subparagraph as needed for door and drawer pull selection for use on this Project.

1. Hinges: Concealed European-style self-closing clip-on hinges, minimum 107 degree opening, six-way adjustable.
2. Drawer Guides: Epoxy-coated-metal, self-closing drawer guides; designed to prevent rebound when drawers are closed; with nylon-tired, ball-bearing rollers, 75-lb. capacity and 3/4 extension.

C. Edge Banding: PVC edge molding, rigid PVC extrusions, through-color with satin finish, 3mm thick at doors and drawer fronts, and 1mm thick elsewhere. Color as indicated by manufacturer's designation.

D. Casework Construction:

1. Casework Style:
 - a. Full access (frameless), flush overlay, complete with top and bottom fillers and corner panels for wall casework.
 - b. 3/4-inch thick thermoset particleboard.

2. Door and Drawer Heads (Fronts):
 - a. Construction: [Thermofoil] [or] [Thermoset], with drawer fronts in slab style only.

Delete clause below, if no Thermofoil is being used for casework.

- b. Thermoformed vinyl-faced overlay on [Dakota] [or] [Sahara Slab] style MDF with white thermoset back and PVC edge banding on all four edge.

Delete clause below, if no Thermoset is being used for casework.

- c. Thermoset particleboard slab with white thermoset on both sides and white PVC edge banding on all four edges.
3. Exposed End Finish (Wall and Base): 3/4-inch thick, thermoset.
4. End Construction: 3/4-inch thick thermoset.
5. Tops and Bottoms: 3/4-inch thick thermoset.
6. Underside of Wall Casework: Flush with each element (end panel edges and casework bottoms) finished individually.
7. Back Panels: 1/4-inch-thick thermoset, machine-fitted into top, bottom, and side panels, reinforced with glue and mechanical fasteners. Back panel shall be recessed 3/4-inch into case construction to allow for job site scribing of end panels due to wall irregularities.

Retain one subparagraph for drawer boxes from two listed below to suit level of quality required for Project.

8. Drawer Box Option: Drawers shall be four-sided 5/8-inch thick thermoset construction with fully-captured 1/4-inch thick thermoset drawer bottom joined with metal pins and adhesives. Edge band exposed drawer edges with PVC edge banding. Mount drawer boxes in casework using 3/4 extension side-mounted drawer guides.
9. Standard Drawer Boxes: Drawers shall be Blum Metabox construction with 3/4-inch thick particleboard bottom and back joined with metal fasteners. Mount drawer boxes in casework using 3/4 extension side-mounted drawer glides
10. Shelves: Fully adjustable in base, wall, and tall casework. 3/4-inch thick thermoset and PVC edge banding on front edge. Shelves are fully adjustable using 0.19-inch metal post shelf slips fitted into holes bored at 1-1/4-inch intervals.
11. Hanging Rails: 4 inch by 3/4-inch thick particleboard, dowel-and-adhesive fitted into end panels, flush with cabinet ends on top and bottom, and center of casework exceeding 36-inches in height.

12. Stretchers: 4-inch by 3/4-inch thick particleboard for base casework, full-width to provide support and solid mounting surface for countertops.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install casework with no variation in flushness of adjoining surfaces; use concealed shims. Where casework abuts other finished work, scribe and cut for accurate fit. Provide filler strips, scribe strips, and moldings in finish to match face of casework.
- B. Install casework without distortion so doors and drawers fit openings and are aligned. Complete installation of hardware and accessories as indicated.
- C. Install casework level and plumb to a tolerance of 1/8-inch in 8-feet.
- D. Fasten casework to adjacent units and to backing.
 1. Fasten wall casework through back, through hanging rails not less than 24-inches on center with No. 10 wafer-head screws sized for 1-inch penetration into wood framing or blocking.

Retain subparagraph above for wood-frame construction. Retain subparagraph below for metal studs, or retain above and show wood blocking between studs. Revise below if plaster is used. Revise either subparagraph for seismic loads.

2. Fasten wall casework through back, hanging rails not less than 24-inches on center horizontally, using toggle bolts through metal backing behind gypsum board.

3.2 ADJUSTING AND CLEANING

- A. Adjust casework and hardware so doors and drawers are centered in openings and operate smoothly without warp or bind. Lubricate operating hardware as recommended by manufacturer.
- B. Clean casework on exposed and semi-exposed surfaces. Touch-up factory-applied finishes, using material recommended by casework manufacturer, to restore damaged or soiled areas.

END OF SECTION 123530