

Architectural Woodwork Standards

SECTION - 10 CASEWORK

SECTION 10 ♦ CASEWORK

(Including Wood, Decorative Laminate, and Solid Phenolic-Faced Casework)

GENERAL

1 INFORMATION

1.1 GRADES

- 1.1.1 These standards are characterized in three Grades of quality that may be mixed within a single project. Limitless design possibilities and a wide variety of lumber and veneer species, along with decorative laminates, factory finishes, and profiles are available in all three Grades.
- 1.1.2 **ECONOMY GRADE** defines the minimum quality requirements for a project's workmanship, materials, or installation and is typically reserved for woodwork that is not in public view, such as in mechanical rooms and utility areas.
- 1.1.3 **CUSTOM GRADE** is typically specified for and adequately covers most high-quality architectural woodwork, providing a well-defined degree of control over a project's quality of materials, workmanship, or installation.
- 1.1.4 **PREMIUM GRADE** is typically specified for use in those areas of a project where the highest level of quality, materials, workmanship, and installation is required.
- 1.1.5 **MODIFICATIONS** by the contract documents shall govern if in conflict with these standards.

1.2 BASIC CONSIDERATIONS

- 1.2.1 This section addresses three distinct categories of casework based on the exterior exposed face:
 - 1.2.1.1 **WOOD CASEWORK** with wood faces for transparent or opaque finish.
 - 1.2.1.2 **DECORATIVE LAMINATE CASEWORK** with HPDL or LPDL faces.
 - 1.2.1.3 **SOLID PHENOLIC CASEWORK** with solid phenolic faces.
- 1.2.2 **ACCEPTABLE REQUIREMENTS** of lumber and/or sheet products used within this woodwork product section are established by Sections 3 and 4, unless otherwise modified herein.
- 1.2.3 **CONTRACT DRAWINGS** and/or **SPECIFICATIONS**, furnished by the design professional, shall clearly indicate or delineate all material, fabrication, installation, and applicable building code/regulation requirements, and:
 - 1.2.3.1 It is the design professional's responsibility to evaluate the fastening methods required and modify as appropriate to ensure adequate blocking and fasteners are used for the project conditions.
- 1.2.4 Compliance to **SEISMIC** requirements for casework fabrication and restraint, where required, shall be so specified.
 - 1.2.4.1 Within the United States, the International Building Code (IBC) establishes these minimum requirements; however, some states have expanded on the U.S. requirements.
 - 1.2.4.2 Within Canada, the National Building Code (NBC) establishes these minimum requirements; however, some provinces and cities have expanded on the Canadian requirements.
- 1.2.5 Any **CHEMICAL-** or **STAIN-RESISTANT** surface requirements must be specified.
 - 1.2.5.1 Consider the chemical and staining agents that might be used on or near the surfaces.
 - 1.2.5.1.1 Chemical resistance and stain resistance are affected by concentration, time, temperature, humidity, housekeeping, and other factors; it is recommended that actual samples are tested in a similar environment with those agents.
 - 1.2.5.2 Common guidelines can be found by referring to:
 - 1.2.5.2.1 NEMA LD3 (latest edition) for chemical resistance.
 - 1.2.5.2.2 ASTM D3023 and C1378 (latest editions) for stain resistance.
 - 1.2.5.2.3 SEFA #3 - Recommendations for Work Surfaces.

GENERAL

- 1.2 **BASIC CONSIDERATIONS** (continued)
- 1.2.5 Any **CHEMICAL-** or **STAIN-RESISTANT** surface requirements (continued)
- 1.2.5.2 Common guidelines can be found by referring to (continued)
- 1.2.5.2.4 SEFA's Standard Chemical/Concentration list for wood finishing; see Section 5 and Appendix A.
- 1.2.6 Any **ABRASION-RESISTANT** surface requirements must be specified.
- 1.2.6.1 Consider the abrasive elements that might be used on or near the surfaces.
- 1.2.6.2 Common guidelines can be found at:
- 1.2.6.2.1 ASTM C501 (latest edition).
- 1.2.6.2.2 NEMA LD3-3.13 (latest edition).
- 1.2.6.2.3 NEMA LD3.7 (latest edition).
- 1.2.7 Without **SPECIFICATIONS TO THE CONTRARY**, all:
- 1.2.7.1 **CORNERS** created by tall, wall, or base casework will create non-usable space.
- 1.2.7.2 **FINISHED ENDS** shall be **INTEGRAL**, not applied secondarily, except:
- 1.2.7.2.1 Applied end panels are allowed at Solid Phenolic casework.
- 1.2.7.2.2 Applied end panels are allowed at teaching wall assemblies.
- 1.2.7.3 **BASE/TOE** shall be **INTEGRAL** (constructed as an integral part of the cabinet body) or **SEPARATE** (constructed as a separate member) at the option of the manufacturer.
- 1.2.7.4 **STORAGE, JANITOR CLOSET, and/or UTILITY ROOM CABINETS** shall be built in conformance to **ECONOMY GRADE**, regardless of the overall project's Grade requirement, unless specified otherwise.
- 1.2.7.4.1 If material is **SOLID PHENOLIC, PREMIUM GRADE** shall be provided.
- 1.2.8 Surfaces behind **PRESENTATION PANELS** (such as white board or tack board) are treated as:
- 1.2.8.1 **SEMI-EXPOSED** at Economy Grade and Custom Grade.
- 1.2.8.2 **EXPOSED** at Premium Grade.
- 1.2.9 **TOE BASE HEIGHT VARIANCE** due to floor variations is not considered a defect. Casework is required to be installed level; shimming of the toe base, not to exceed 1/2" (12.7 mm), is acceptable. Floor variations exceeding 1/2" (12.7 mm) shall be corrected before cabinets are installed; however, correction of such is not the responsibility of the cabinet installer.
- 1.2.10 **EXPOSED SURFACES:**
- 1.2.10.1 **EXPOSED EXTERIOR SURFACES**, defined as all exterior surfaces exposed to view, **INCLUDE:**
- 1.2.10.1.1 All surfaces visible when doors and drawers are closed, including knee spaces.
- 1.2.10.1.2 Underside of cabinet bottoms over 42" (1067 mm) above the finished floor, including cabinet bottoms behind light valances and the bottom edge of light valances.
- 1.2.10.1.3 Cabinet tops under 80" (2032 mm) above the finished floor, or if 80" (2032 mm) and over and visible from an upper building level or floor.
- 1.2.10.1.4 Visible front edges of stretchers, ends, divisions, tops, bottoms, shelves, and nailers.
- 1.2.10.1.5 Sloping tops of cabinets that are visible.

GENERAL

1.2 BASIC CONSIDERATIONS (continued)

1.2.10 EXPOSED SURFACES (continued)

1.2.10.2 **EXPOSED INTERIOR SURFACES**, defined as all interior surfaces exposed to view in open casework or behind transparent doors, **INCLUDE:**

1.2.10.2.1 Shelves, including edgebanding.

1.2.10.2.2 Divisions and partitions.

1.2.10.2.3 Interior face of ends (sides), backs, and bottoms (including pull-outs). Also included are the interior surfaces of cabinet top members 36" (914 mm) or more above the finished floor.

1.2.10.2.4 Interior face of door and applied drawer fronts.

1.2.11 **SEMI-EXPOSED SURFACES**, defined as those interior surfaces only exposed to view when doors or drawers are opened, **INCLUDE:**

1.2.11.1 Shelves, including edgebanding.

1.2.11.2 Divisions.

1.2.11.3 Interior face of ends (sides), backs, and bottoms (including a bank of drawers). Also included are the interior surfaces of cabinet top members 36" (914 mm) or more above the finished floor.

1.2.11.4 Drawer sides, sub-fronts, backs, and bottoms.

1.2.11.5 The underside of cabinet bottoms between 24" (610 mm) and 42" (1067 mm) above the finished floor.

1.2.11.6 Security and dust panels or drawer stretchers.

1.2.12 **CONCEALED SURFACES**, defined as those exterior or interior surfaces that are covered or not normally exposed to view, **INCLUDE:**

1.2.12.1 Toe space unless otherwise specified.

1.2.12.2 Sleepers, stretchers, and solid sub-tops.

1.2.12.3 The underside of cabinet bottoms less than 24" (610 mm) above the finished floor.

1.2.12.4 The flat tops of cabinets 80" (2032 mm) or more above the finished floor, except if visible from an upper floor or building level.

1.2.12.5 The three non-visible edges of adjustable shelves.

1.2.12.6 The underside of countertops, knee spaces, and drawer aprons.

1.2.12.7 The faces of cabinet ends of adjoining units that butt together.

1.2.13 GRADE LIMITATIONS:

1.2.13.1 **SOLID PHENOLIC** casework is offered only in **PREMIUM GRADE**.

1.2.14 FINISH by surface definition at:

1.2.14.1 **EXPOSED EXTERIOR SURFACES** for:

1.2.14.1.1 **WOOD** casework requires:

1.2.14.1.1.1 For **TRANSPARENT** finish:

1.2.14.1.1.1.1 **WOOD** of specified species, cut, and match.

GENERAL1.2 **BASIC CONSIDERATIONS** (continued)1.2.14 **FINISH** by surface definition (continued)1.2.14.1 **EXPOSED EXTERIOR SURFACES** (continued)1.2.14.1.1 **WOOD** casework requires (continued)1.2.14.1.1.2 For **OPAQUE** finish at:1.2.14.1.1.2.1 **ECONOMY GRADE:**

1.2.14.1.1.2.1.1 Particleboard, MDF, MDO, softwood plywood, hardwood plywood, or solid stock.

1.2.14.1.1.2.2 **CUSTOM GRADE:**

1.2.14.1.1.2.2.1 MDF, MDO, close-grain hardwood plywood, or solid stock.

1.2.14.1.1.2.3 **PREMIUM GRADE:**

1.2.14.1.1.2.3.1 MDF and MDO.

1.2.14.1.2 **DECORATIVE LAMINATE** casework requires at:1.2.14.1.2.1 **ECONOMY GRADE:**

1.2.14.1.2.1.1 **LPDL** of specified color or pattern.

1.2.14.1.2.2 **CUSTOM** and **PREMIUM GRADE:**

1.2.14.1.2.2.1 **HPDL** of specified color or pattern.

1.2.14.1.3 **SOLID PHENOLIC** casework requires for **PREMIUM GRADE:**

1.2.14.1.3.1 **SOLID PHENOLIC** of specified color or pattern.

1.2.14.2 **EXPOSED INTERIOR SURFACES** for:1.2.14.2.1 **ECONOMY GRADE** at:1.2.14.2.1.1 **WOOD** casework requires:1.2.14.2.1.1.1 For **TRANSPARENT** finish:

1.2.14.2.1.1.1.1 **LPDL** or **WOOD** of the manufacturer's option.

1.2.14.2.1.1.2 For **OPAQUE** finish at:

1.2.14.2.1.1.2.1 Particleboard, MDF, MDO, softwood plywood, hardwood plywood, or solid stock of manufacturer's option.

1.2.14.2.1.2 **DECORATIVE LAMINATE** casework requires:

1.2.14.2.1.2.1 **LPDL** of the manufacturer's option.

1.2.14.2.2 **CUSTOM GRADE** at:1.2.14.2.2.1 **WOOD** casework requires:1.2.14.2.2.1.1 For **TRANSPARENT** finish:

1.2.14.2.2.1.1.1 **WOOD** of the same species as the exposed exterior surface.

GENERAL

1.2 BASIC CONSIDERATIONS (continued)

1.2.14 FINISH by surface definition (continued)

1.2.14.2 EXPOSED INTERIOR SURFACES (continued)

1.2.14.2.2 CUSTOM GRADE at (continued)

1.2.14.2.2.1 WOOD casework requires (continued)

1.2.14.2.2.1.2 For OPAQUE finish at:

1.2.14.2.2.1.2.1 MDF, MDO, close-grain hardwood plywood, or solid stock of manufacturer's option.

1.2.14.2.2.2 DECORATIVE LAMINATE casework requires:

1.2.14.2.2.2.1 HPDL or LPDL compatible in color, grain, or pattern of manufacturer's option.

1.2.14.2.3 PREMIUM GRADE at:

1.2.14.2.3.1 WOOD casework requires:

1.2.14.2.3.1.1 For TRANSPARENT finish:

1.2.14.2.3.1.1.1 WOOD of same the species and cut as the exposed exterior surface.

1.2.14.2.3.1.2 For OPAQUE finish at:

1.2.14.2.3.1.2.1 Use of MDF and MDO of manufacturer's option.

1.2.14.2.3.2 DECORATIVE LAMINATE casework requires:

1.2.14.2.3.2.1 HPDL, the same as the exposed exterior surface.

1.2.14.2.3.3 SOLID PHENOLIC casework requires:

1.2.14.2.3.3.1 SOLID PHENOLIC, the same as the exposed exterior surface.

1.2.14.3 SEMI-EXPOSED SURFACES for:

1.2.14.3.1 WOOD casework require for both TRANSPARENT and OPAQUE finish at:

1.2.14.3.1.1 ECONOMY GRADE:

1.2.14.3.1.1.1 WOOD of the manufacturer's option of species, MDO, MDF, particleboard, or LPDL of the manufacturer's option of color.

1.2.14.3.1.2 CUSTOM GRADE:

1.2.14.3.1.2.1 WOOD of the manufacturer's option of species, or LPDL of the manufacturer's option of color.

1.2.14.3.1.3 PREMIUM GRADE:

1.2.14.3.1.3.1 WOOD of a compatible species to the exposed.

1.2.14.3.2 DECORATIVE LAMINATE casework at all GRADES requires:

1.2.14.3.2.1 LPDL of the manufacturer's option of color.

1.2.14.3.3 SOLID PHENOLIC casework requires:

1.2.14.3.3.1 SOLID PHENOLIC of the mill's option of color.

GENERAL

1.2 BASIC CONSIDERATIONS (continued)

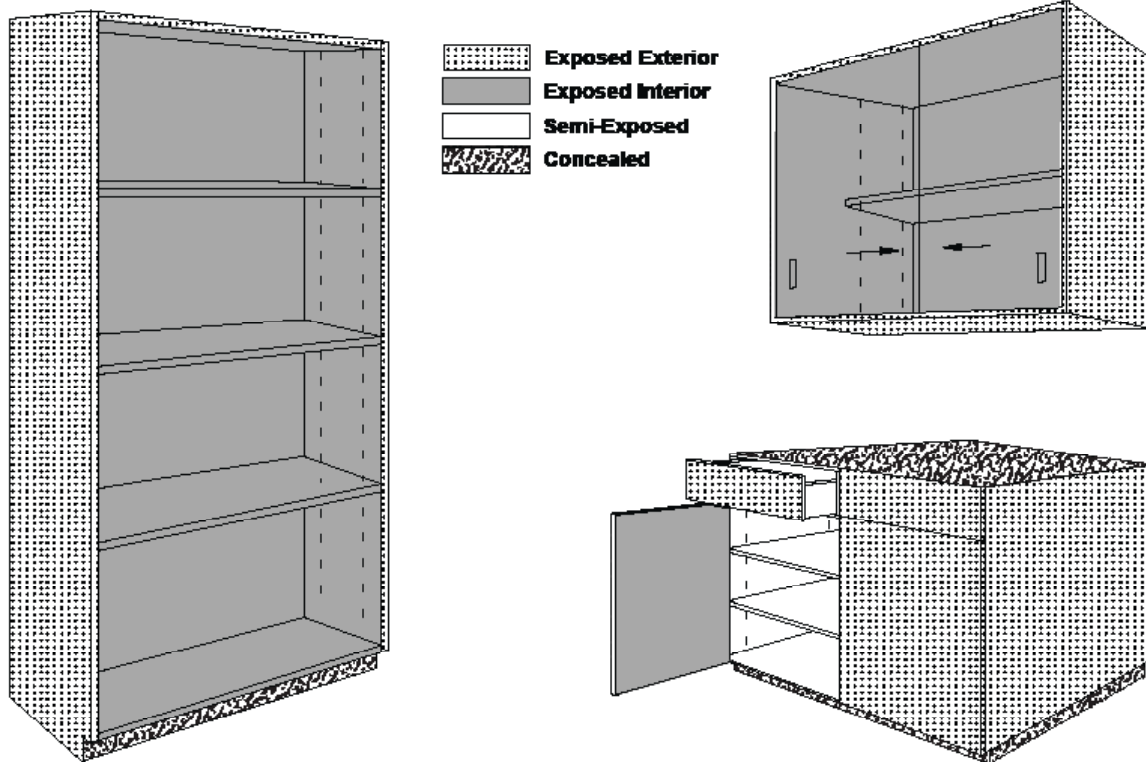
1.2.14 FINISH by surface definition (continued)

1.2.14.4 CONCEALED SURFACES for all Grades at:

1.2.14.4.1 DECORATIVE LAMINATE, WOOD, and SOLID PHENOLIC casework require:

1.2.14.4.1.1 The manufacturer's option.

1.2.15 ILLUSTRATIONS of cabinet surface terminology:



1.2.16 DOOR and applied DRAWER FRONT profiles are for illustration purposes only and are not intended to be duplicated exactly:

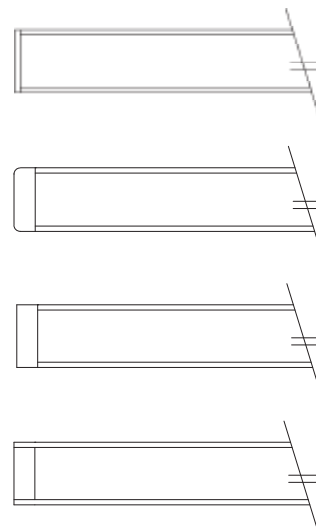
1.2.16.1 Common EDGE PROFILES:

1.2.16.1.1 Square edge with thin applied band.

1.2.16.1.2 Radius edge with thick applied band.

1.2.16.1.3 Square edge with thick applied band

1.2.16.1.4 Square edge with inset band.



AWS Edition 1, 2009 - [WI WebDoc [10/09]]

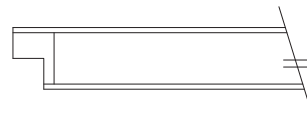
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1.2 **BASIC CONSIDERATIONS** (continued)

1.2.16 **DOOR** and applied **DRAWER FRONT** profiles (continued)

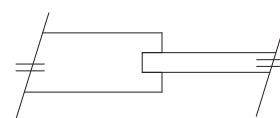
1.2.16.1 Common **EDGE PROFILES** (continued)

1.2.16.1.5 Lipped edge with inset band

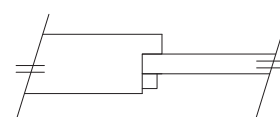


1.2.16.2 Common **RETENTION PROFILES:**

1.2.16.2.1 Fixed panel.

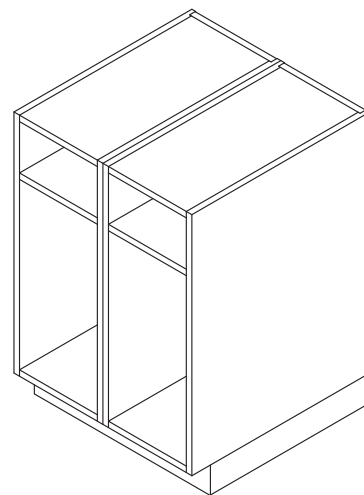


1.2.16.2.2 Removable stop.

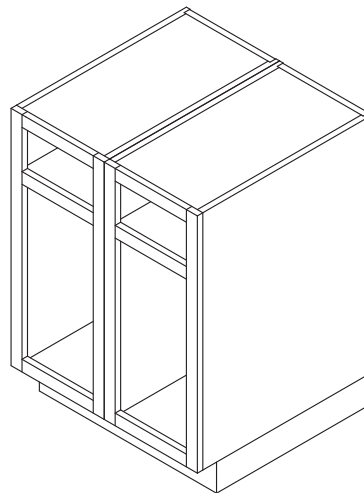


1.2.17 Terminology of casework **CONSTRUCTION TYPE** is delineated as:

1.2.17.1 **TYPE A** - Frameless construction where the front edge of the cabinet body components are edgebanded.



1.2.17.2 **TYPE B** - Face-frame construction where the front edge of the cabinet body components are overlaid with a frame.



1.2.17.3 **TYPE** selection shall be the **MANUFACTURER'S OPTION**, unless specified otherwise.

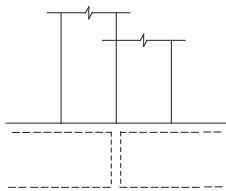
GENERAL

1.2 BASIC CONSIDERATIONS (continued)

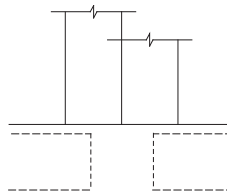
1.2.18 Terminology for the cabinet and door **INTERFACE STYLE** is delineated as:

1.2.18.1 **STYLE 1 - OVERLAY** including flush, reveal, or lipped, as illustrated below:

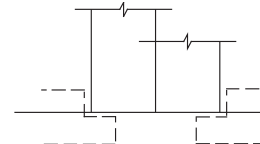
1.2.18.1.1 **TYPE A CONSTRUCTION:**



Flush Overlay

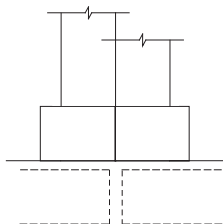


Reveal Overlay

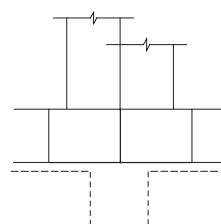


Lipped

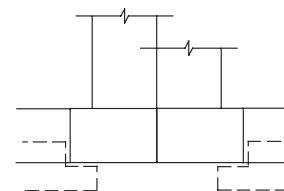
1.2.18.1.2 **TYPE B CONSTRUCTION:**



Flush Overlay

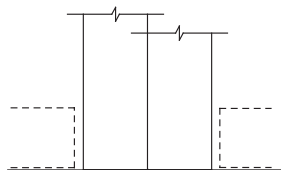


Reveal Overlay

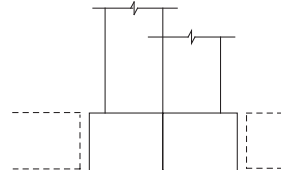


Lipped

1.2.18.2 **STYLE 2 - FLUSH INSET**, as illustrated below:



Type A Construction



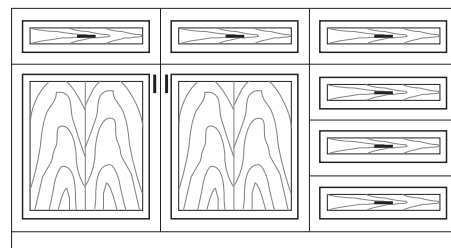
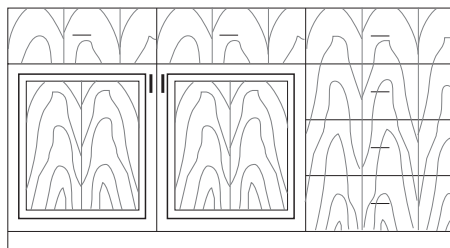
Type B Construction

1.2.18.3 **STYLE 1 - FLUSH OVERLAY** is the default for either **TYPE A** or **B** casework.

1.2.19 **LAYOUT** requirements of grained or patterned faces by Grade:

1.2.19.1 With **STILE-AND-RAIL** doors and drawer fronts for all **GRADES**:

1.2.19.1.1 **DRAWER FRONTS** shall run either vertically or horizontally at the manufacturer's option for the entire project. Doors shall be vertical.



GENERAL

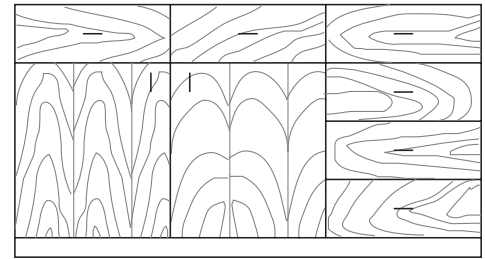
1.2 **BASIC CONSIDERATIONS** (continued)

1.2.19 **LAYOUT** requirements of grained or patterned faces (continued)

1.2.19.2 With **FLUSH PANEL** doors and drawer fronts:

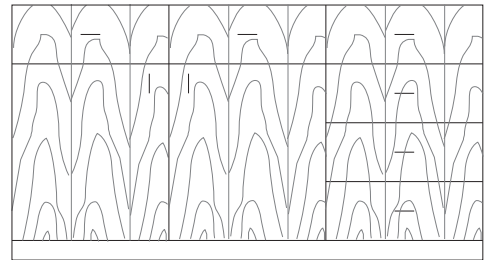
1.2.19.2.1 **ECONOMY GRADE:**

1.2.19.2.1.1 **DRAWER FRONTS** shall run either vertically or horizontally at the manufacturer's option for the entire project. Doors shall be vertical. Mismatch is allowed.



1.2.19.2.2 **CUSTOM GRADE:**

1.2.19.2.2.1 **DOORS, DRAWER FRONTS, and FALSE FRONTS** shall run and match **VERTICALLY** within each cabinet unit.

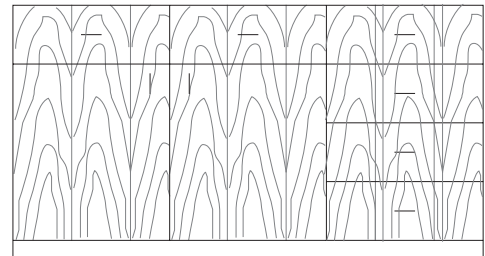


1.2.19.2.3 **PREMIUM GRADE:**

1.2.19.2.3.1 **DOORS, DRAWER FRONTS, and FALSE FRONTS** shall run and match **VERTICALLY** within each cabinet unit; and at **CATHEDRAL GRAIN**, the crown shall be pointing up and run in the same direction for the entire project.

1.2.19.2.3.2 **DOORS, DRAWER FRONTS, and FALSE FRONTS** shall be well-matched across multiple cabinet faces in one elevation.

1.2.19.2.3.2.1 Requirement for **BLUE PRINT** or **SEQUENCE MATCHING** must be so specified.



GENERAL

1.2 BASIC CONSIDERATIONS (continued)

1.2.20 CABINET DESIGN SERIES (CDS):

1.2.20.1 The industry has developed a series of numbered cabinet designs that are available for ease of specification and drawing.

1.2.20.1.1 A numerical/elevation key to the CDS may be found in **APPENDIX A**.

1.2.20.1.2 Both **AUTODESK REVIT FAMILIES** and **AUTOCAD “.DWG / .DXF”** files of the CDS elevations may be found on any of the sponsor Associations' websites:

1.2.20.1.2.1 Architectural Woodwork Institute - www.awinet.org

1.2.20.1.2.2 Architectural Woodwork Manufacturers Association of Canada - www.awmac.com

1.2.20.1.2.3 Woodwork Institute - www.woodworkinstitute.com

1.2.20.1.3 **CDS** cabinets may be specified by number to a specific size requirement on the plan-view drawings without having to draw elevations.

1.2.20.1.4 **CDS** cabinets are drawn as **TYPE A** construction, **FLUSH OVERLAY STYLE 1 INTERFACE**, with integral finished ends and scribes at wall-to-wall installations not exceeding 1-1/2" (38.1 mm) in width.

1.2.21 ADJUSTABLE SHELF LOADING and DEFLECTION:

1.2.21.1 **PROPER SPECIFICATION** can balance **AESTHETIC** needs with **LOAD** requirements.

1.2.21.2 **LOAD** is the total applied weight, uniformly dispersed on an individual shelf, **NOT TO EXCEED 200 lbs (90.7 kg)** on any one shelf. These standards have adopted the following load capacities:

1.2.21.2.1 50 lbs (22.7 kg) per sq ft/ sq cm for school, hospital, and library or book shelving.

1.2.21.2.2 40 lbs (18.1 kg) per sq ft/ sq cm for all other shelving.

1.2.21.3 Shelving **SPECIFICATION** requires consideration of:

1.2.21.3.1 **DEFLECTION**, the measured distance from a straight line that a shelf will deflect under load.

1.2.21.3.1.1 L/144 (the length of the shelf divided by 144) is the industry standard for the maximum acceptable deflection of a shelf, which permits 1/4" (6.4 mm) deflection in a 36" (914 mm) shelf.

1.2.21.3.2 **CREEP** is the increase in deflection over time, which fluctuates with temperature, humidity, and load stress. **CREEP IS NOT CONSIDERED A DEFECT**; if it is a concern, it can be reduced by:

1.2.21.3.2.1 Reduced loading of shelves.

1.2.21.3.2.2 Use of material with a higher (stiffer) modulus of elasticity (MOE).

1.2.21.3.2.3 Use of alternate construction (support) techniques.

1.2.21.3.2.4 Use of a decreased factor of acceptable deflection.

1.2.22 CASEWORK INTEGRITY for casework at applications:

1.2.22.1 These standards have adopted a portion of **SEFA's** (Scientific Equipment and Fixture Association) methods of testing and acceptable results as the minimum acceptable level of integrity for casework, as found in **APPENDIX A**.

GENERAL

1.2 BASIC CONSIDERATIONS (continued)

1.2.23 CABINET HARDWARE:

1.2.23.1 These standards have adopted **ANSI/BHMA STANDARDS** (latest edition), **GRADE 2**, as the basic minimum requirement.

1.2.23.1.1 For more **SPECIFIC DETAILS**, see the **PRODUCT** portion of this section.

1.2.23.2 Choice of product should be made on the basis of utility, aesthetics, security objectives, and the end use desired.

1.2.23.3 As a general **GUIDE**:

1.2.23.3.1 **GRADE 1** is the highest, suitable for most institutional applications.

1.2.23.3.2 **GRADE 2** is used in most other applications.

1.3 RECOMMENDATIONS

1.3.1 INCLUDE IN DIVISION 09 OF THE SPECIFICATIONS:

1.3.1.1 For **JOBSITE FINISHING** - Before finishing, all exposed portions of woodwork shall have handling marks or effects of exposure to moisture removed with a thorough, final sanding over all surfaces of the exposed portions using an appropriate grit sandpaper, and shall be cleaned before applying sealer or finish.

1.3.1.2 At **CONCEALED SURFACES** - Architectural casework that may be exposed to moisture, such as those adjacent to exterior concrete walls, etc., shall be back-primed.

1.3.2 **THOROUGHLY REVIEW** Sections 2 and 4, especially Basic Considerations, Recommendations, Acknowledgements, and Industry Practices within Part 1 for an overview of the characteristics and minimum acceptable requirements of lumber and/or sheet products that might be used herein.

1.3.3 **CONTRACT DOCUMENTS** (plans and/or specifications) shall require that all structural members, grounds, blocking, backing, furring, brackets, or other anchorage which becomes an integral part of the building's walls, floors, or ceilings, required for the installation of architectural woodwork is not to be furnished or installed by the architectural woodwork manufacturer or installer.

1.3.4 **SPECIFY** requirements for:

1.3.4.1 Construction **TYPE**.

1.3.4.2 Door and drawer front **INTERFACE STYLE**.

1.3.4.3 **DOOR** and **DRAWER FRONT** edge profile.

1.3.4.4 **TOE BASE** finish.

1.3.4.5 Any specific inside **CLEARANCE** requirements.

1.3.4.6 **SEISMIC** fabrication and/or installation.

1.3.4.7 **FIRE** resistance.

1.3.4.8 **LABORATORY** construction features, such as:

1.3.4.8.1 Removable backs at base cabinets.

1.3.4.8.2 Moisture-resistant base.

1.3.4.8.3 Pipe chase allowance behind base cabinets.

1.3.4.8.4 Removable top ledger at countertop splash.

1.3.4.8.5 **CHEMICAL**-resistant finish or surfaces.

1.3.4.9 At **WOOD CASEWORK**:

1.3.4.9.1 **SPECIES** of veneer.

GENERAL

1.3 RECOMMENDATIONS (continued)

1.3.4 SPECIFY requirements for (continued)

1.3.4.9 At **WOOD CASEWORK** (continued)

1.3.4.9.2 Method of **SLICING** (plain, quarter, rift, or rotary).

1.3.4.9.3 **MATCHING OF VENEER LEAVES** (book, slip, sketch, or random).

1.3.4.9.4 **MATCHING OF VENEER LEAVES WITHIN A PANEL FACE** (running, balanced, or center-balanced).

1.3.4.9.5 **MATCHING BETWEEN DOORS, DRAWERS, and ADJACENT PANELS** (non-sequenced, sequenced, or blueprint).

1.3.4.9.6 **END-MATCHING.**

1.3.4.9.7 **GRAIN DIRECTION**, if other than vertical.

1.4 ACKNOWLEDGEMENTS - None

1.5 INDUSTRY PRACTICES

1.5.1 **STRUCTURAL MEMBERS**, grounds, blocking, backing, furring, brackets, or other anchorage that becomes an integral part of the building's walls, floors, or ceilings, that are required for the installation of architectural woodwork are not furnished or installed by the architectural woodwork manufacturer or installer.

1.5.2 **WALL, CEILING**, and/or opening variations in excess of 1/4" (6.4 mm) or **FLOORS** in excess of 1/2" (12.7 mm) in 144" (3658 mm) of being plumb, level, flat, straight, square, or of the correct size are not acceptable for the installation of architectural woodwork, nor is it the responsibility of the installer to scribe or fit to tolerances in excess of such.

1.5.3 **BACK-PRIMING** of architectural casework is not the responsibility of the manufacturer and/or installer, unless the material is being furnished prefinished wood.

1.5.4 **WALL SURFACING** with a defined grain and/or pattern is installed vertically.

1.5.5 **CASEWORK DIMENSION RANGES** have developed over time with consideration of materials, ergonomics, construction techniques, and general intended usage. It is the responsibility of the design professional to coordinate accessibility requirements, appliance and equipment sizes, and/or storage requirements with the casework manufacturer and adjust the following dimensions accordingly:

1.5.5.1 **BASE:**

1.5.5.1.1 **HEIGHT** - from the finished floor to the top of the countertop deck ranges from:

1.5.5.1.1.1 34" (864 mm) to 36" (914 mm) at stand-up counters.

1.5.5.1.1.2 31" (787 mm) to 38" (965 mm) at vanities.

1.5.5.1.1.3 28" (711 mm) to 32" (812 mm) at sit-down counters, providing a clear knee space height of 24-1/2" (622 mm).

1.5.5.1.1.4 25-1/4" (641 mm) to 28" (711 mm) at keyboard recesses, providing a clear knee space height of 24-1/2" (622 mm).

1.5.5.1.2 **DEPTH** - from the front of the cabinet door/drawer to the face of the wall ranges from 24" (610 mm) to 30" (762 mm).

1.5.5.2 **WALL-HUNG:**

1.5.5.2.1 **HEIGHT** - including the light apron ranges from 12" (305 mm) to 48" (1219 mm).

1.5.5.2.2 **DEPTH** - from the front of the cabinet door to the face of the wall ranges from 12-1/2" (318 mm) to 14" (356 mm).

GENERAL

1.5 INDUSTRY PRACTICES (continued)

1.5.5 CASEWORK DIMENSION RANGES (continued)

1.5.5.3 TALL STORAGE:

1.5.5.3.1 **HEIGHT** - from the finished floor to the cabinet top ranges from 72" (1829 mm) to 96" (2438 mm).

1.5.5.3.2 **DEPTH** - from the front of the cabinet door to the face of the wall ranges from 12-1/2" (318 mm) to 30" (762 mm).

1.5.5.4 RECEPTION COUNTER:

1.5.5.4.1 **HEIGHT** - from the finished floor to the top of the countertop deck ranges from:

1.5.5.4.1.1 34" (864 mm) to 36" (914 mm) at the standing side.

1.5.5.4.1.2 28" (711 mm) to 32" (812 mm) at the sit-down side, providing a clear knee space height of 24-1/2" (622 mm).

1.5.5.4.1.3 25-1/4" (641 mm) to 28" (711 mm) at the sit-down keyboard recesses, providing a clear knee space height of 24-1/2" (622 mm).

1.5.5.4.2 **DEPTH:**

1.5.5.4.2.1 24" (610 mm) to 30" (762 mm) overall countertop on the employee side, plus:

1.5.5.4.2.1.1 An additional 8" (203 mm) of countertop at the customer side.

1.5.5.5 TELLER COUNTER:

1.5.5.5.1 **HEIGHT** - from the finished floor ranges from:

1.5.5.5.1.1 50" (1270 mm) to 54" (1372 mm) on the customer side at the security hood.

1.5.5.5.1.2 40" (1016 mm) to 42" (1067 mm) on the teller's side transaction top.

1.5.5.5.2 **DEPTH:**

1.5.5.5.2.1 24" (610 mm) to 32" (813 mm) at the countertop on the employee side, plus:

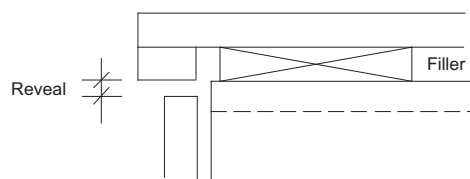
1.5.5.5.2.1.1 An additional 8" (203 mm) of countertop at the customer side.

1.5.6 BASE CABINET, STRETCHER, LAYOUT, and CONSTRUCTION:

1.5.6.1 **CASEWORK MANUFACTURER** is responsible for coordinating the following with the **COUNTERTOP MANUFACTURER**, and:

1.5.6.1.1 **COUNTERTOP MANUFACTURER** is responsible for furnishing any filler materials needed in addition to the cabinet top/stretcher necessary for proper setting of their countertops.

1.5.6.1.2 **DOORS, DRAWER FRONTS, and FALSE FRONTS** creating a 1/4" (6.4 mm) horizontal reveal (+/- 1/8" [3.2 mm]) with the countertop's bottom edge, shall be consistent across elevations, except:



GENERAL

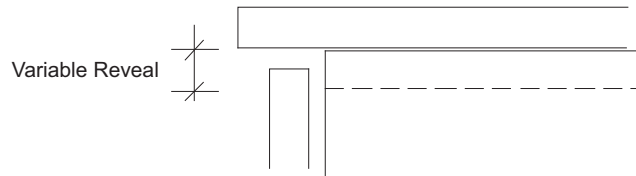
1.5 INDUSTRY PRACTICES (continued)

1.5.6 BASE CABINET, STRETCHER, LAYOUT, and CONSTRUCTION (continued)

1.5.6.1 CASEWORK MANUFACTURER is responsible for coordinating (continued)

1.5.6.2.2 DOORS, DRAWER FRONTS, and FALSE FRONTS (continued)

1.5.6.2.2.1 At laboratory applications, reveal shall be 1/4" (6.4 mm) to 1" (25.4 mm) and shall be consistent across elevations.



PRODUCT

2 SCOPE

2.1 All wood, high-pressure decorative laminate (HPDL), and/or solid phenolic casework, cabinets, and components of face-frame or frameless construction, fabricated complete in the manufacturer's facilities to field dimensions, as qualified below.

2.2 TYPICAL INCLUSIONS:

- 2.2.1 Altars
- 2.2.2 Bars and back bars
- 2.2.3 Bulletin boards, built up
- 2.2.4 Bookcases, cabinets, carrels, counters, display cases, lecterns, and pulpits
- 2.2.5 Shelving, built up or machined and knocked down
- 2.2.6 Wardrobes
- 2.2.7 Modular cabinets
- 2.2.8 Cabinet doors
- 2.2.9 Clothes poles and supports
- 2.2.10 Shelf standards and rests
- 2.2.11 Track and hardware for sliding doors
- 2.2.12 Casters
- 2.2.13 File drawer rods and followers
- 2.2.14 Hinges
- 2.2.15 Drawer guides and slides
- 2.2.16 Pulls or knobs
- 2.2.17 Glass, mirrors, and glass doors, with hardware
- 2.2.18 Trim and moldings necessary for cabinet installation
- 2.2.19 Filler panels and scribe strips
- 2.2.20 Rough and finish hardware, which is part of the cabinet
- 2.2.21 Metal brackets and fittings, which are an integral part of the cabinet, unless specified elsewhere
- 2.2.22 Cut-outs for sinks or similar units
- 2.2.23 Linoleum, vinyl, cork, or resilient covering that is a part of the cabinet
- 2.2.24 Prefinishing, priming, painting, or sealing if so specified

2.3 TYPICAL EXCLUSIONS:

- 2.3.1 Field installation of any kind, unless specified to be included in this scope of work
- 2.3.2 Cutting of holes for field-applied vents, weeps, or grills, unless part of the cabinet
- 2.3.3 Fillers, build-up, or sub-tops for countertops, including tile and natural stone
- 2.3.4 Cutting for field-applied hardware, unless part of the cabinet
- 2.3.5 Vinyl, rubber, or carpet base

PRODUCT

2.3 TYPICAL EXCLUSIONS (continued)

- 2.3.6 Metal support brackets and fittings that are part of the building structure
- 2.3.7 Security panels, unless so specified
- 2.3.8 Tote trays (except at Cabinet Design Series) and base leveling adjusters, unless so specified
- 2.3.9 Furring, stripping, blocking, grounds, or stub walls
- 2.3.10 Mirrors, glass, or glazing, unless part of the cabinet
- 2.3.11 Plumbing, electrical fixtures, and telephone equipment
- 2.3.12 Metal or ceramic tile for countertops
- 2.3.13 Sink rims
- 2.3.14 Special equipment housed in cabinets
- 2.3.15 Work not directly associated with the casework
- 2.3.16 Sliding presentation boards
- 2.3.17 Metal grills
- 2.3.18 Chalkboards and tack boards that are a part of the cabinet, with the necessary trim and trays
- 2.3.19 Easel trays of plastic or metal

3 DEFAULT STIPULATION

- 3.1 If not otherwise specified or indicated, all work shall be Custom Grade, Type A construction with adjustable shelves and Flush Overlay doors of unfinished close-grain hardwood intended for an opaque finish, non-premium-priced standard pattern, color, and finish decorative laminate or solid phenolic, as covered by Sections 3 and 4.

4 RULES - The following RULES shall govern unless a project's contract documents require otherwise.

These rules are intended to provide a well-defined degree of control over a project's quality of materials and workmanship.

Where E, C, or P is not indicated, the rule applies to all Grades equally.

ERRATA, published on the Associations' websites at www.awinet.org, www.awmac.com, or www.woodworkinstitute.com, shall TAKE PRECEDENCE OVER THESE RULES, subject to their date of posting and a project's bid date.

ARROWS INDICATE TOPIC IS CARRIED FROM ↑ OR ONTO ↓ ANOTHER PAGE.

DESCRIPTION		E	C	P	
10	GENERAL	4.1 GENERAL			
		4.1.1	Aesthetic GRADE RULES apply only to exposed and semi-exposed surfaces visible after installation.		
		4.1.2	WOODWORK not addressed herein shall be manufactured from solid stock, laminated stock, veneered stock, or a combination thereof.		
		4.1.3	LUMBER shall conform to the requirements established in Section 3.		
		4.1.4	SHEET PRODUCTS shall conform to the requirements established in Section 4.		
		4.1.5	BACKING SHEET shall conform to the requirements established in Section 4.		
		4.1.6	All materials shall be SECURELY ATTACHED/FASTENED/BONDED .		
		4.1.7	EXPOSED, SEMI-EXPOSED, and CONCEALED surfaces shall be as listed under BASIC CONSIDERATIONS of this section.		
		4.1.8	HARDWARE:		
	4.1.8.1	Shall conform to ANSI/BHMA STANDARDS (latest edition), GRADE 2 requirements with the exception of requiring "dynamic" load testing for a minimum of 50,000 cycles, and:			
		4.1.8.1.1	For use at SCHOOLS and HOSPITALS , HINGES shall be of all-metal construction, meeting or exceeding the ANSI/BHMA Grade 1 "performance" and "permanent set" test requirements.		