

SECTION 10

Casework

introductory information

DOOR AND APPLIED DRAWER FRONT PROFILES (continued)

- Removable stop, synthetic.

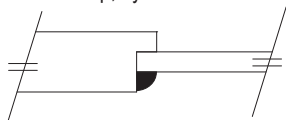


Figure: 10-026

- Removable retainer, synthetic.

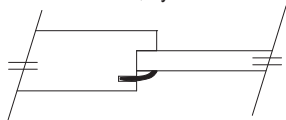


Figure: 10-027

- Removable clips.

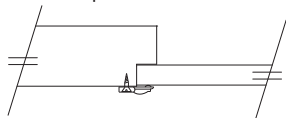


Figure: 10-028

CABINET DESIGN SERIES (CDS)

Details were developed by the industry and represent a series of numbered cabinet designs that are available for ease of specification and drawing. A numerical/elevation key to the CDS may be found in **DESIGN IDEAS**.



CAD details are available in both Autodesk Revit Families and AutoCAD “.dwg / .dxf” files of the elevations may be found on the Sponsor Associations’ websites:

- Architectural Woodwork Institute - www.awinet.org.
- Architectural Woodwork Manufacturers Association of Canada - www.awmac.com.
- Woodwork Institute - www.woodworkinstitute.com.

These cabinets may be specified by number to a specific size requirement on the plan view drawings without having to draw elevations. They are drawn as ‘Frameless Construction, flush overlay Interface’, with integral finished ends and scribes at wall to wall installations not exceeding 1-1/2” (38.1 mm) in width.

CASEWORK INTEGRITY

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 the **APPENDIX**.



CABINET HARDWARE

These standards have adopted ANSI/BHMA Standards (latest edition), Grade 2, as the basic minimum requirement. For more specific details, see the **PRODUCT** portion of this Section. Choice of product should be made on the basis of utility, aesthetics, security objectives, and the end use desired. As a general guide:

- **GRADE 1** is the highest and is suitable for most institutional applications.
- **GRADE 2** is used in most other applications.

DRAWER SLIDE SELECTION GUIDE

The following serves as both a checklist and a starting point for the discussion of a wide variety of drawer slide systems. While by no means exhaustive, the characteristics described below are often considered the most important by the client, the design professional, and the woodwork manufacturer. The selection of the slide characteristics will affect the usefulness of the cabinets. Careful consideration should be given to avoid “over specifying” for the purpose intended:

- **DEGREE OF EXTENSION:**
 - **STANDARD EXTENSION**, all but 4” - 6” (101.6 - 152.4 mm) of drawer body extends out of the cabinet.
 - **FULL EXTENSION**, entire drawer body extends out to the face of cabinet.
 - **FULL EXTENSION with over travel**, entire drawer body extends beyond the face of cabinet.

• STATIC LOAD CAPACITY:

- 50 pounds, residential and light commercial.
- 75 pounds, commercial.
- 100 pounds, heavy duty.
- Over 100 pounds, special conditions, extra heavy duty.

• DYNAMIC LOAD CAPACITY:

- 30 pounds for 35,000 cycles, residential and light commercial.
- 50 pounds for 50,000 cycles, commercial.
- 75 pounds for 100,000 cycles, heavy duty.

• REMOVAL:

- **Passive disconnect** - A means of drawer removal that does not require active disconnecting.
- **Positive disconnect** - A means of removing a drawer that requires active disconnection or removal of hardware.

• CLOSING:

- **Self closing/stay closed**, drawer slides will self close with the related dynamic load when the drawer is 2” (50.8 mm) from the fully closed position and not bounce open when properly adjusted.

• METAL SIDED DRAWER SYSTEMS must be specified and should require:

- **Positive stop**, drawer must stop within itself and not rely on the drawer front to stop it.
- **Pullout strength**, system must demonstrate sufficient strength of attachment of front to sides, design professional should evaluate and approve individually.

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HINGE SELECTION GUIDE

Architectural cabinet hinges will usually be furnished from the manufacturer's stock unless otherwise specified. The three most common hinge types are illustrated below.

European hinges with the screws set in synthetic inserts are an established industry standard. These hinges have been found to be cost effective alternatives to the more traditional hinges shown below. Follow hinge manufacturers' recommendations on number and spacing of hinges. There are conditions, however, in which the use of butt or wraparound hinges will continue to be the best solution. Pivot hinges often require a cut in center hinge. Consult manufacturer's recommendations:

- **European style hinge**, typically used in conventional flush without face frame and reveal or flush overlay application offering moderate strength, full concealment, moderate cost, ease of installation and adjustment.

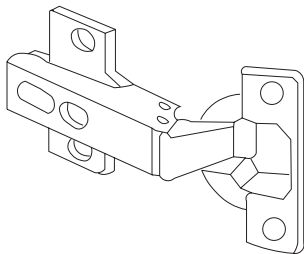


Figure: 10-029

- **Wraparound hinge (3 & 5 knuckle)**, typically used in flush and reveal overlay applications offering very high strength, moderate cost, ease of installation and moderate ease of adjustment; however, can require mortising and shows an exposed knuckle and hinge body.

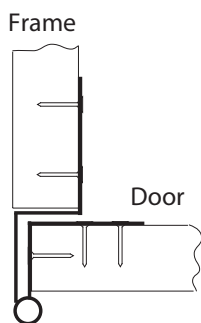


Figure: 10-030

- **Butt hinge**, typically used in conventional flush with face frame application, offering high strength, low cost, moderate ease of installation and adjustment; however, can require mortising and shows an exposed knuckle.

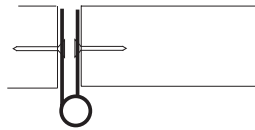


Figure: 10-031

ADJUSTABLE SHELF LOADING and DEFLECTION

Proper specification can balance aesthetic needs with load requirements.

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:

- 50 lbs per sq ft (244.1 kg/m²) for school, hospital, and library or book shelving.
- 40 lbs per sq ft (195.3 kg/m²) for all other shelving.

Shelving specification requires consideration of deflection, the measured distance from a straight line that a shelf will deflect under load. 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.

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:

- Reduced loading of shelves.
- Use of material with a higher (stiffer) modulus of elasticity (MOE).
- Use of alternate construction (support) techniques.
- Use of a decreased factor of acceptable deflection.

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CONSTRUCTION DETAIL NOMENCLATURE

Familiarity with the labeled details on this and following pages will facilitate communication between architects, designers, specifiers, and woodwork manufacturers by establishing common technical language:

- **STUB TENON** - Joinery method for assembling stile and rail type frames that are additionally supported, such as web or skeleton case frames.

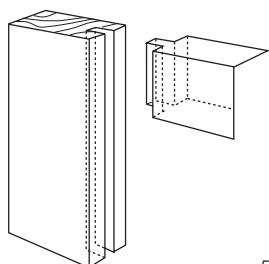


Figure: 10-032

- **HAUNCH MORTISE AND TENON JOINT** - Joinery method for assembling paneled doors or stile and rail type paneling.

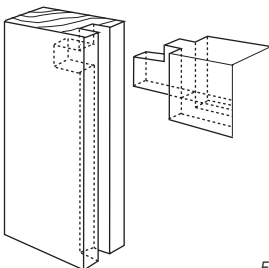


Figure: 10-033

- **CONVENTIONAL MORTISE AND TENON JOINT** - Joinery method for assembling square edged surfaces such as case face frames.

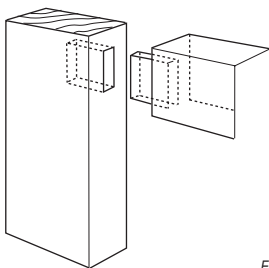


Figure: 10-034

- **DOWEL JOINT** - Alternative joinery method serving same function as Conventional Mortise and Tenon.

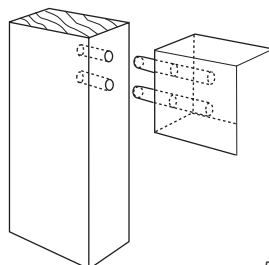


Figure: 10-035

- **FRENCH DOVETAIL JOINT** - Method for joining drawer sides to fronts when fronts conceal metal extension slides or overlay the case faces.

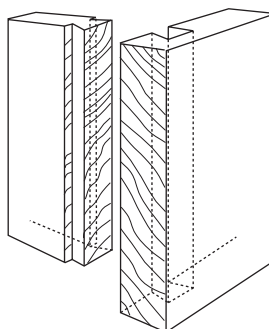


Figure: 10-036

- **CONVENTIONAL DOVETAIL JOINT** - Traditional method for joining drawer sides to fronts or backs. Usually limited to flush or lipped type drawers.

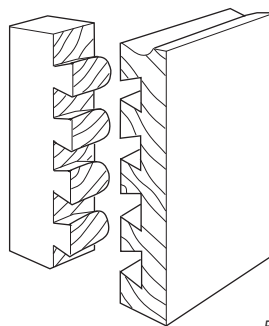


Figure: 10-037

- **DRAWER LOCK JOINT** - Another joinery method for joining drawer sides to fronts. Usually used for flush type installation, but can be adapted to lip or overlay type drawers.

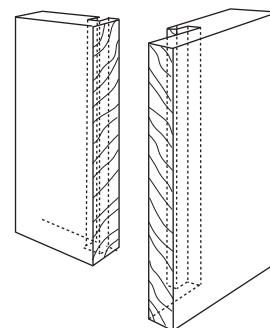


Figure: 10-038

- **EXPOSED END DETAILS** - Illustrates attachment of finished end of case body to front frame using:

- **BUTT JOINT**

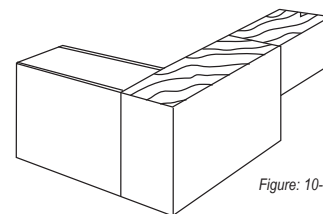


Figure: 10-039

- **SHOULDER MITERED JOINT.**

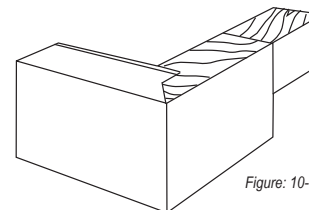


Figure: 10-040

- **POCKET SCREW JOINT.**

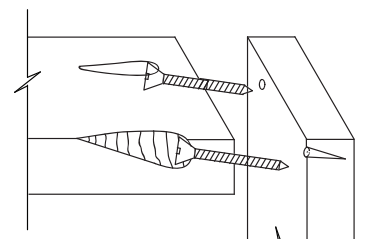


Figure: 10-041

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- **THROUGH DADO** - Conventional joint used for assembly of case body members. Dado not concealed by application of case face frame.

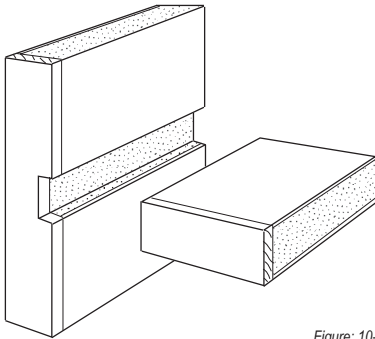


Figure: 10-042

- **DOWEL JOINT** - An established industry standard assembly method, this versatile joinery technique is often based on 1-1/4" (32 mm) spacing of dowels.

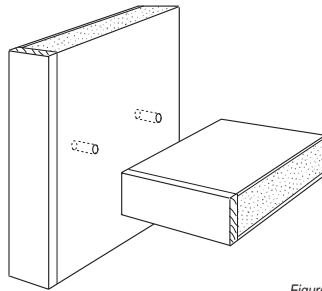


Figure: 10-045

- **BLIND DADO** - Variation of Through Dado with applied edge "stopping" or concealing dado groove.

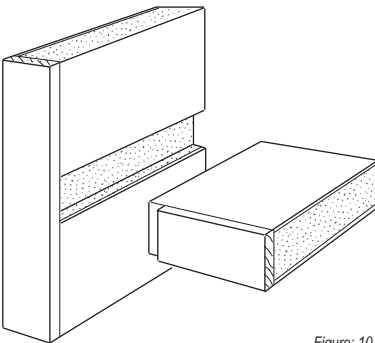


Figure: 10-043

- **STOP DADO** - Another method of concealing dado exposure. Applicable when veneer edging or solid lumber is used. Exposed end detail illustrates attachment of finished end of case body to front frame using butt joint.

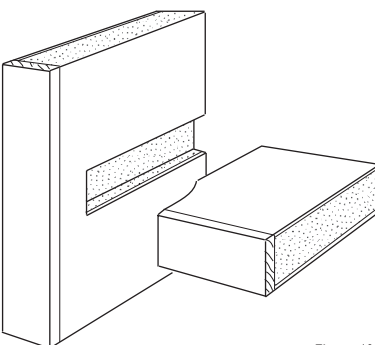


Figure: 10-044

- **DOWEL SCREW JOINT** - An alternative to the dowel joint above.

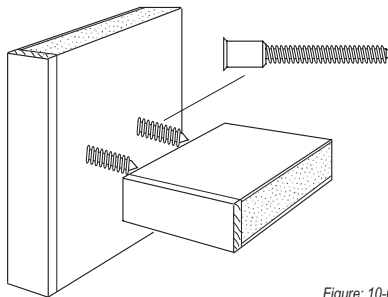
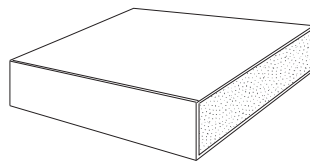


Figure: 10-046

- **EDGEBANDING** - Method of concealing plies or inner cores of plywood or particleboard when edges are exposed. Thickness or configuration will vary with manufacturers' practices.



Varies From
0.017" to 0.118"
(0.45 mm to 3 mm)

Figure: 10-047

- **MITER / MITER FOLD JOINT.**

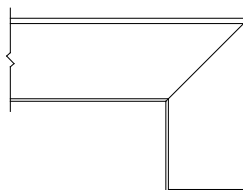


Figure: 10-048

- **SPLINE JOINT**: Used to strengthen and align faces when gluing panels in width or length, including items requiring site assembly.

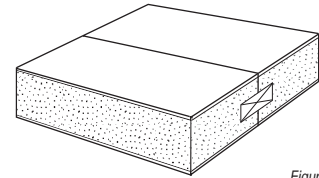


Figure: 10-049

- **PANELED DOOR DETAILS** - Joinery techniques when paneled effect is desired. Profiles are optional as is the use of flat or raised panels. Solid lumber raised panels may be used when width does not exceed Custom Grade standard. Rim raised panels are required for Premium Grade or when widths exceed Custom Grade or when transparent finish is used.

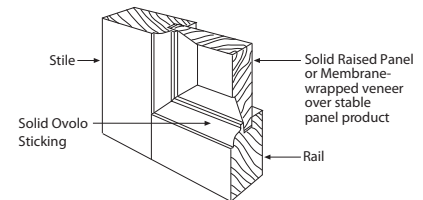


Figure: 10-050

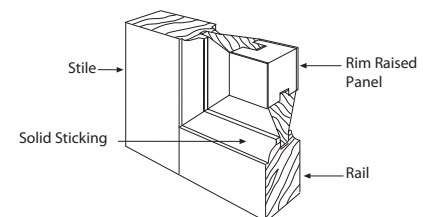


Figure: 10-051

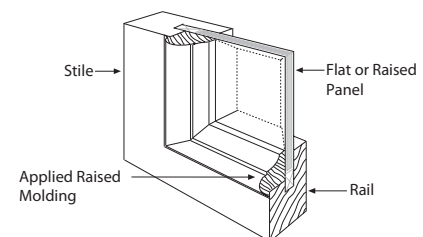


Figure: 10-052

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SPECIFY REQUIREMENTS FOR

- Construction type.
- Door and drawer front Interface style.
- Door and drawer front edge profile.
- Toe base finish.
- Grain direction, if other than vertical.
- Inside clearance.
- Seismic fabrication and/or installation.
- Flame spread rating.
- Moisture resistance.
- Insulation from adjacent heating cooling sources.
- Hardware.
- Laboratory features, such as:
 - Pipe chase allowance and/or removable backs behind base cabinets.
 - Removable top at countertop splash.
 - Moisture resistant base.
 - Chemical resistant finish or surfaces.
- At wood casework:
 - Species of veneer.
 - Method of slicing (plain, quarter, rift, or rotary).
 - Matching of veneer leaves (book, slip, or random).
 - Matching of veneer leaves within the face of a cabinet unit.
 - Matching between doors, drawers, and adjacent panels (non sequenced, sequenced, or blueprint).
 - End matching.
 - Grain direction, if other than vertical.

RECOMMENDATIONS

- If **FIELD FINISHED**, include in Division 09 of the specifications:
 - **BEFORE FINISHING**, 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 and shall be cleaned before applying sealer or finish.
- At **CONCEALED SURFACES** - Architectural woodwork that may be exposed to moisture, such as those adjacent to exterior concrete walls, etc., shall be primed.
- **REVIEW** the **GENERAL** portion of Sections 3 and 4 for an overview of the characteristics and the minimum acceptable requirements of lumber and/or sheet products that might be used herein.
- **STRUCTURAL MEMBERS**, grounds, in wall 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 are not to be furnished or installed by the architectural woodwork manufacturer or installer.

The **COMPLIANCE** portion of this Section has been intentionally excluded to protect our sale of Grade Rules, which allows us to provide these standards free of charge to Design Professionals.