

# The Case for Casework: Design Decisions Beyond Kitchen and Bath

This article will focus on the upper end of cabinetry, casework, and fixtures – the sort of work typically specified for commercial and tenant build out work, as opposed to residential kitchen and bath cabinets.

## In This Lesson . . .

Following completion of the article and test, you will:

- ▶ be comfortable with material selection
- ▶ be ready to select the appropriate cabinet construction style
- ▶ learn to look for the tests for compliance with the AWS

You will learn most and retain more when you read this article with your copy of the *Architectural Woodwork Standards* (AWS) open beside you.



Design professionals create or select mountains of cabinetry, fixtures, and casework for their commercial, industrial, and institutional clients. The seasoned veteran has his/her specifications and selections refined to perfection. And, the veteran knows, there is always one more thing.

The fundamentals of casework will be addressed. **Section 10** of the *Architectural Woodwork Standards* (AWS) is highly detailed about nearly every aspect of case construction for those of you who wish to research further information.

Studies show **about 80%** of the fine woodwork designed and specified in North America **includes cabinetry**. As with most things, there is a wide range of quality and functionality available in the marketplace.

## Selections Vs. Standards – The Basic Four

The best interior design firms control their project development costs by making only those selections which must be made. They rely on the AWS to assure quality and performance in the joints-nuts-and-bolts of modern case fabrication.

Working to meet client needs, the design team has both the opportunity and the obligation to guide the client and make the selections for at least these four items:

**1. On page 244, the Grade of Work for fabrication and installation – Economy, Custom, or Premium.**

**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 lami-

nates, 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.

**2. On page 244, the kind of casework, i.e., wood finish, high pressure decorative laminate finish, or a special finish such as solid phenolic faces.**

### 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.

**3. The elements required to meet Code Regulations, blocking and fasteners.**

**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.



4. On page 250, the style of the casework – **Frameless** (Type A), or **Face-frame** (Type B).

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.

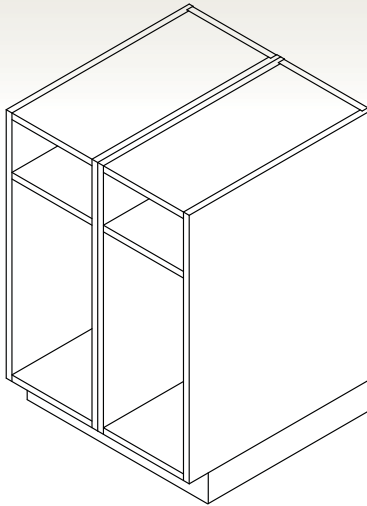
1.2.17.3 **TYPE** selection shall be the **MANUFACTURER'S OPTION**, unless specified otherwise.

**Beyond The Basics**

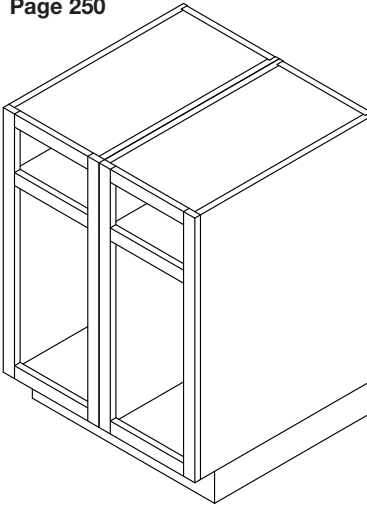
With the Basic Four written clearly in to the Contract Documents, wise designers and specifiers allow the **Architectural Woodwork Standards** (AWS) to spell out the rest of the details in most situations. The AWS is written to both protect the client by assuring fine materials and workmanship, and to incorporate proven joinery and fabrication methods. When the design team does its part, the AWS holds up the rest.

The selections required beyond the basics, depending on the project requirements, are specifications from the owner's design or engineering team for:

1. **Seismic fabrication and installation requirements, including local codes.**
2. **Chemical or stain resistance.**
3. **Abrasion resistance.**



Page 250



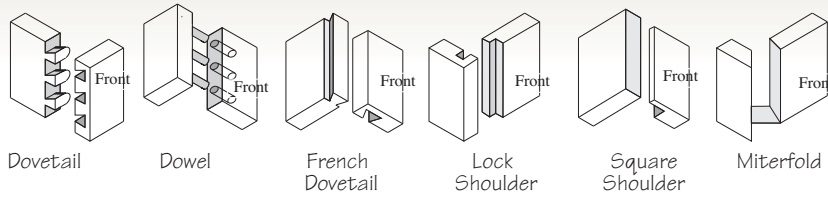
**Special Needs, Desires, And Functions**

After the steps above, optional decisions, selections, and specs for appearance and function of the casework come next. Every client has one or two special needs, like:

- ▶ **More usable counter space.**
- ▶ **Decorative end caps or toe base.**
- ▶ **Extra heavy duty shelving.**
- ▶ **Locks, extra extension drawers, wide swinging doors, etc.**

That list is important to build into the Contract Documents in some way. Many of the technical support questions asked about casework have to do with these "little things" which were overlooked during the design phase. They come back to haunt you.





### Material Selection And Finish Conditions

Design professionals are often confused about the finish conditions on cabinet parts. The **Casework Section** (10) of the AWS protects the consumer, while at the same time giving designers and manufacturers clear choices in the absence of specifications.

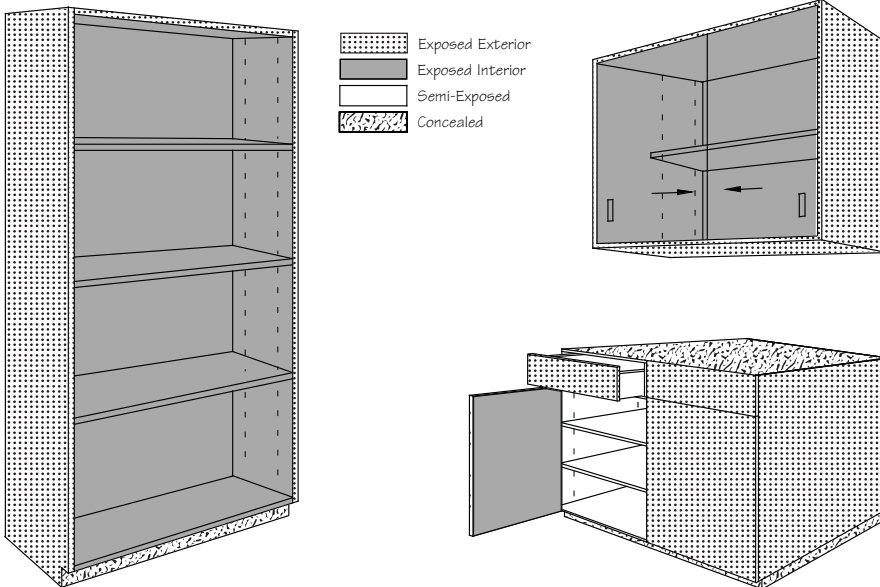
Three areas are defined:

- 1) **Exposed surfaces**, both interior and exterior;
- 2) **Semi-exposed surfaces**;
- and 3) **Concealed surfaces**.

selection and finish conditions are different for each of the three surfaces. The most basic design choice for exposed surfaces is usually between wood and high pressure decorative laminate (HPDL). When wood is selected, there is the option of painting the cabinets with opaque finishing materials, or staining the wood followed by a series of clear topcoats for protection.

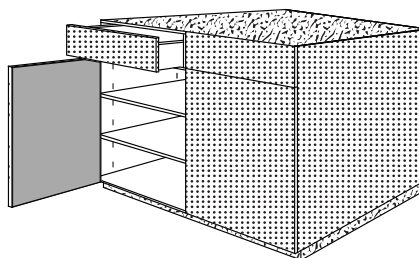
### Cabinet Door And Drawer Interface

Earlier in the article we showed the



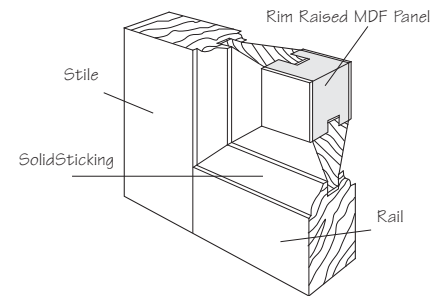
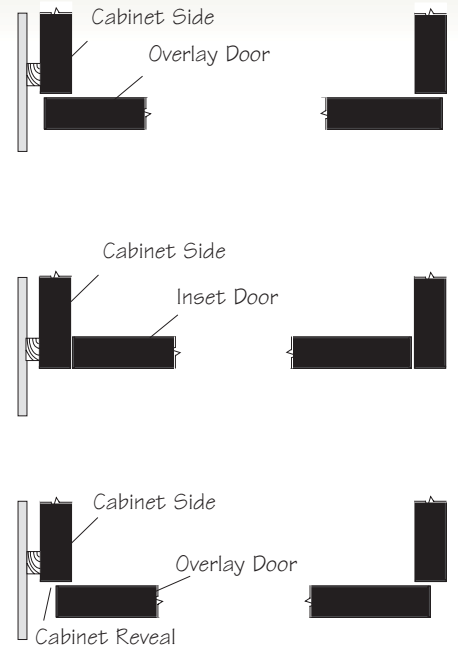
The illustration on **page 249** shows the areas mentioned. The three previous pages define the requirements for the areas in words. Failing to understand these definitions and the related choices can cause misunderstandings between the client, the design team, and the manufacturer.

As you can see from the graphic and the related definitions, material



two basic cabinet styles – frameless and face-frame. Once that decision is made, the designer can select how the doors and drawers are placed on the style.

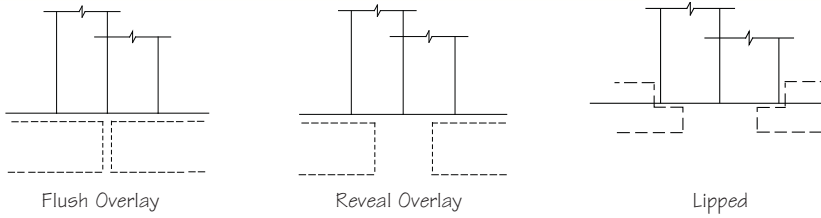
**1.2.18** Terminology for the cabinet and door INTERFACE STYLE is delineated as: **1.2.18.1 STYLE 1 - OVERLAY** including flush, reveal, or lipped, as illustrated on next page.



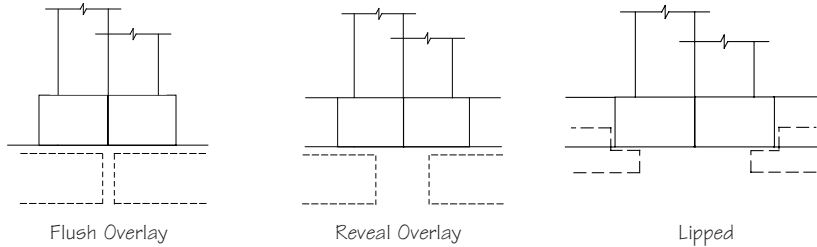
By far, the most popular styles for commercial cabinetry are the **Flush Overlay** and **Reveal Overlay** constructions. They are both cost effective and efficient to adjust and maintain for the client. The term “Flush Overlay” causes some confusion among those who take the term too literally. Flush overlay is rarely exactly flush, and there are some good reasons for this:

1. **Door and drawer hardware requires some operating tolerance. Door hinges need about 1/8-inch, in most cases, to clear the case body as they swing, and any adjacent surfaces (like other doors or a wall). Drawer slides must have some “play” in them or they won’t slide easily. As a result, there is some side-to-side**

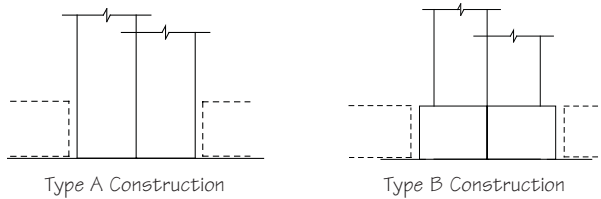
1.2.18.1.1 TYPE A CONSTRUCTION



1.2.18.1.2 TYPE B CONSTRUCTION



1.2.18.2 STYLE 2 - FLUSH INSET



1.2.18.3 STYLE 1 - FLUSH OVERLAY

is the default for either TYPE A or B casework.

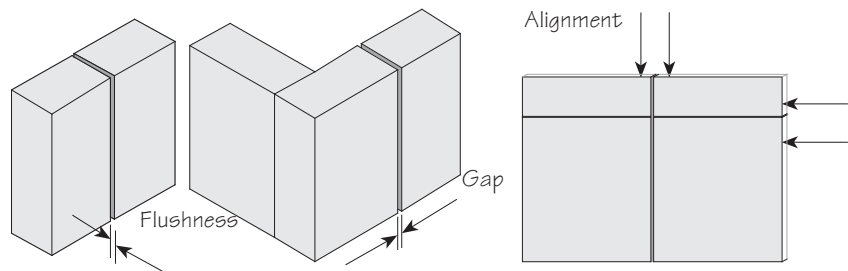
movement in the mechanism and, by extension, the drawer front.

- 2. It's just good design practice to allow for movement by off-setting surfaces rather than requiring them to be perfectly flush.

There is very little face frame construction used in North America today, with the possible exception of fine laboratory casework from traditional manufacturers.

Inset doors demand very tight

tolerances during fabrication and fitting, which often increases cost. The increase can be justified when the design aesthetic requires the inset appearance.



Minimum Standards

Even in the absence of selections from the specification writer, the mere inclusion of the AWS in the Contract Documents offer some measure of protection for the client. On **page 258**, part 3, you see the Default Stipulation. The customer has the protection of Custom Grade work, Type A construction, adjustable shelves, and flush overlay doors.

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**.

Tests For Compliance

When working with a qualified casework fabricator and careful, talented casework installers there is seldom a concern about compliance with the AWS during delivery and installation. When the rules of the AWS are followed, there are only a few things to check. They are spelled out for you on **pages 293-294** of your AWS.

The smoothness of exposed **surfaces, gaps, flushness, flatness, and alignment** are illustrated on those two pages.

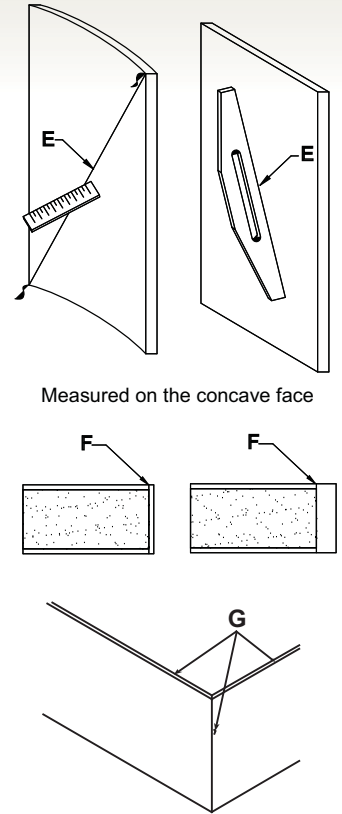
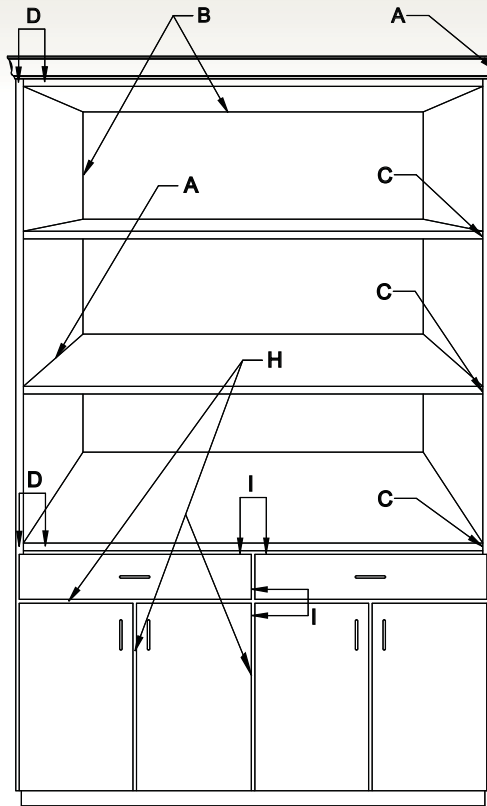
Maximum gaps between exposed components can easily be tested with simple feeler gauges at the points of contact. A small ruler with at least 1 mm [1/16-inch] divisions will be enough to check for gaps and joint lengths set out in the Standards. Reasonable assessment of the performance of the finished product will be weighed against absolute compliance with the dimension tolerances. Variances in the building conditions, transportation movement, and the movement of wood due to environmental changes are all factors to be considered.

Here is the illustration on page 294.

### Final Word – Engineering

Improve the design office's workflow at the drawing board. Too many firms invest and waste countless hours in attempting to solve the machining, fabrication and assembly details. This woodworking engineering is better left to the woodwork manufacturer.

There are critical design elements, often related to the client needs or specific appliances, which must and should be detailed on the architectural plans. Don't skimp on those important items.



- A - Gaps when surfaces are mitered or butted
- B - Gaps when parallel pieces are joined
- C - Gaps when edges are mitered or butted
- D - Flushness between two surfaces
- E - Flatness of panel product
- F - Flushness of edgebanding
- G - Chipout
- H - Gaps at doors and drawer fronts

Avoid telling the cabinetmaker how to make box body joints, drawer joints, or stile and rail doors. Review the required shop drawings from the fabricator carefully, but leave those engineering decisions up to them for the most part. You will save time, money, and frustration in the office. You will move your projects to completion and final billing more efficiently.

For more details on every element of casework read the 50 pages of Section 10 of your new **Architectural Woodwork Standards (AWS)**.

If you do not own a copy of the new AWS, ordering is easy at [awinet.org](http://awinet.org).



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**Directions:** If you are an AWI member or a **PAID** Design Solutions subscriber, you are eligible to **receive one AIA Learning Unit**. Simply read the article on page 53 titled **"Design Decisions Beyond Kitchen and Bath"** and complete the quiz below. Once completed, enter your Contact ID number and personal information at the bottom of the page and submit to AWI National Office, 46179 Westlake Drive, Suite 120, Potomac Falls, VA 20165, Fax (571) 323-3630. If you **score 80%**, or higher, you will earn one AIA Learning Unit.

Use To Report Learning Unit For Article Entitled: **"Design Decisions Beyond Kitchen and Bath"**, #FLDS11 Exp. Date: **October, 2013**

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1. What are the three Grades of Work offered in the new Architectural Woodwork Standards (AWS)?
  - A. Construction, Furniture, Premium
  - B. Economy, Custom, Premium
  - C. Good, Better, Best
2. What kinds of exposed exterior casework face finishes can be selected in Part 1.2?
  - A. Hardwood, Structural Lumber, Plastic
  - B. Clear, Stained, Painted
  - C. Wood, Decorative Laminate, Solid Phenolic
3. How are casework building codes/regulation requirements made part of the project?
  - A. Contract drawings and/or specifications furnished by the design professional
  - B. Code books obtained and furnished by the General Contractor(s).
  - C. Contract addenda created and furnished by the casework manufacturer.
4. What is the terminology of casework construction type for a frameless cabinet body?
  - A. Type "A"
  - B. Type "B"
  - C. Type "European".
5. Which of the following is listed as an "optional" selection and specification requirement?
  - A. 1/2" cabinet sides
  - B. Hidden access panels
  - C. Extra heavy duty shelving
6. What are the three basic surface definitions in the AWS?
  - A. Vertical, Horizontal, Decorative
  - B. Exposed, Semi-Exposed, Concealed
  - C. Wood, Laminate, Structural
7. What are the three overlay door/drawer style choices?
  - A. Vertical grain, Horizontal grain, Sketch face grain
  - B. Square, Moulded, Banded
  - C. Flush, Reveal, Lipped
8. What is the default Grade of Work, in the absence of specifications?
  - A. Economy
  - B. Custom
  - C. Premium
9. What is the default exterior finish for wood cabinets, in the absence of specifications?
  - A. Close grain hardwood, medium brown stain and clear topcoat
  - B. Close grain hardwood, no stain and clear topcoat
  - C. Close grain hardwood intended for an opaque finish
10. When testing for compliance with the Standards, what are the minimum Imperial divisions a small ruler must have?
  - A. 64ths
  - B. 16ths
  - C. 32nds

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