This guide specification is intended to be used with the *North American Architectural Woodwork Standards* (*NAAWS*), the quality standard published by the Woodwork Institute and the Architectural Woodwork Manufacturer’s Association of Canada.

This is a narrow scope section, covering plastic laminate casework.

Where materials or grades need to be selected, possible choices are in brackets and in [**Bold**]. In some cases, we may not have been able to list all available choices. We have tried to provide ample annotation. Notes and comments are in gray shaded text boxes such as this one.

This section incorporates the Woodwork Institute quality assurance programs. Users are asked to choose between the Certified Compliance and Monitored Compliance programs.
The Certified Compliance program allows Woodwork Institute Accredited Millwork Companies (AMC) to inspect and certify its own work. (Woodwork Institute inspectors will re-inspect an AMCs work only if requested). It is, however, open to all bidders regardless of Woodwork Institute affiliation.
The Monitored Compliance Program requires all work to be inspected at various stages of fabrication and installation by Woodwork Institute inspectors, (no AMC self-certification is allowed) with inspection reports issued to all parties after each inspection. Costs for these programs are borne by the millwork subcontractor. Visit [**www.woodworkinstitute.com**](http://www.woodworkinstitute.com/) for details.
The Woodwork Institute Certified Seismic Installation Program (CSIP) is incorporated into this specification as an option. By specifying CSIP, the architect incorporates the Woodwork Institutes preapproved casework attachment system, eliminating the need to provide attachment details and engineering within the plans and specifications. CSIP provides an inspection of the in-wall blocking before the walls are closed to confirm the proper location of blocking, and an additional inspection of the installed work confirming that all casework is properly fastened. A Woodwork Institute Certificate of Compliance will be issued indicating that the work meets the seismic installation requirements. CSIP attachments are adequate for installation at any height in the building where the SDS is not greater than 1.93. There are some limitations on cabinet size. More information is available at [**www.woodworkinstitute.com**](https://www.woodworkinstitute.com).
All inspections are done by Woodwork Institute staff. All costs of the program are borne by the casework installer.

We have not attempted to create specifications for green certification programs such as LEED. While careful material selection may contribute to several LEED credits, we are not able to keep up with the requirements or the proper specification language. Please consult a qualified LEED authority if LEED certification is a goal.

This guide specification covers the materials and methods you would want to specify for plastic laminate casework. It is recommended that you read the “Cabinet Section” of the *North American Architectural Woodwork Standards* before using this (or any other) guide specification. Many of the items you would ordinarily specify are governed by your choice of grade.

# GENERAL

## SUMMARY

### Section Includes:

#### Plastic laminate casework

#### Hardware typically furnished by the casework manufacturer

#### Shelving

#### [**Decorative metalwork incorporated into wood casework**]

#### Structural supports incorporated into wood casework

### Excluding:

#### Metal support brackets and fittings that are part of the building structure

#### Plumbing, electrical fixtures, and telephone equipment

### Related sections:

#### Countertops.

#### Rough carpentry: Wood blocking or grounds inside finished walls or above finished ceilings

#### Plumbing: Fixtures and fittings installed in countertops

#### Wood doors.

## REFERENCES

All the other standards you might want to reference are referenced within *NAAWS.*

### The *North American Architectural Woodwork Standards* *(NAAWS),* latest edition. Jointly published by Woodwork Institute and the Architectural Woodwork Manufacturers Association of Canada.

## SUBMITTALS

This is a requirement if you specify Certified Compliance, Monitored Compliance, or Certified Seismic Installation.

### Shop drawings:

#### Submit shop drawings in conformance with the requirements of the *North American* *Architectural Woodwork Standards*.

#### **[Furnish a Woodwork Institute Certified Compliance Label on the first page of the shop drawings]**.

#### Submit two copies, one of which will be returned with reviewed notations. Make corrections noted (if any) and distribute required copies prior to the start of work.

### Samples:

### Include Item 1 if there is any factory finished wood or veneer included in this section. Include Item 2 if any wood is to be provided for job-site finishing.

#### Submit four finished samples of each species and cut of wood to be used. Lumber samples to be minimum 6 inches by 18 inches, and sheet product samples to be minimum 12 inches square. Samples shall represent the range of color and grain expected to be provided.

#### Submit four unfinished samples of each product to be provided for job-site painting or finishing. Lumber samples to be minimum 6 inches by 18 inches, and sheet goods to be 12 inches square.

#### Submit a sample in the specified finish of each hardware item that will be visible at exposed surfaces when the job is complete.

### **[Mockups:**

Mockups should not be necessary for most projects. Include this item if they are desired.

#### **Provide mockups of one base cabinet, one wall-hung cabinet, and one countertop. Base cabinet shall have at least one drawer. Mockup shall be of the material and finish to be provided. The approved mockup may be incorporated in the project.]**

## QUALITY ASSURANCE

### Work shall be in accordance with the Grade or Grades specified of the *North American* *Architectural Woodwork Standards*.

### **[Certified Compliance**

The Certified Compliance Program provides an additional level of assurance that the work will comply with the requirements of the *NAAWS* and the specifications. It is open to all bidders regardless of Woodwork Institute affiliation. Woodwork Institute Affiliates have been tested, and their work has been inspected by the Institute. Woodwork Institute inspectors will re-inspect Certified Compliance projects at no charge if there are any questions as to compliance. If you are specifying Certified Compliance, remove the Monitored Compliance option.

#### **Before delivery to the job site, provide a Woodwork Institute Certified Compliance Certificate indicating the millwork products being supplied and certifying that these products fully meet the requirements of the *NAAWS* Grade or Grades specified.**

#### **At completion of installation provide a Woodwork Institute Certified Compliance Certificate indicating the products installed and certifying that the installation of these products fully meets the requirements of the *NAAWS* Grade or Grades specified.**

#### **All fees charged by the Woodwork Institute for its Certified Compliance program are the responsibility of the millwork manufacturer and/or installer and shall be included in their bid.]**

### **[Monitored Compliance**

The Monitored Compliance Program requires that work be inspected by Woodwork Institute inspectors at each phase of manufacturing and installation. Reports are issued after each inspection itemizing any non-compliant findings. If specifying Monitored Compliance, remove the Certified Compliance option.

#### **All millwork and the installation thereof for this project shall be monitored for compliance to the contract documents by a Woodwork Institute Architectural Services Representative**

##### Full details of the Woodwork Institute Monitored Compliance Program may be found at the Institute website at [www.woodworkinstitute.com](http://www.woodworkinstitute.com) or by calling the administrative office at (916) 372-9943.

#### **Millwork and/or installation found to be noncompliant (and not corrected) will be rejected.**

#### **Issuance of a Monitored Compliance Certificate is a prerequisite of acceptance.**

#### **All fees charged by the Woodwork Institute for its Monitored Compliance program are the responsibility of the millwork manufacturer and/or installer and shall be included in their bid.]**

### **[Certified Seismic Installation:**

#### **Before walls are closed, provide a Woodwork Institute Certified Seismic Installation Program report confirming that backing is provided in all locations required for casework installation, or identifying those locations where backing is missing or improperly located.**

#### **On completion of installation provide a Woodwork Institute Certified Seismic Installation Program Certificate, identifying the work covered and certifying that installation thereof meets the requirements of the WI CSIP attachment details and schedules.**

#### **All fees charged by the Woodwork Institute for its Certified Seismic Installation Program are the responsibility of the millwork installer and**

#### **shall be included in their bid.]**

### Qualification:

Millwork subcontractors do not need to be WI Accredited Millwork Company to participate in the certification programs.
Accredited manufacturers and installers are, however, prequalified in that their work has been inspected by WI staff, and they have passed a test on *NAAWS*.

#### **[A Woodwork Institute Accredited Millwork Company in good standing]**

#### Firm (woodwork manufacturer) with no less than five years of production experience similar to a specific project, whose qualifications indicate the ability to comply with the requirements of this section.

#### The woodwork manufacturer must have had at least one project in the past five years where the value of the woodwork was within 20 percent of the cost of woodwork for this project.

### Single source responsibility: A single manufacturer shall provide and install the work described in this section.

## DELIVERY STORAGE AND HANDLING

### Deliver materials only when the project is ready for installation and the general contractor has provided a clean storage area.

#### Delivery of architectural millwork shall be made only when the area of operation is enclosed, all plaster and concrete work is dry and the area broom clean.

#### Maintain indoor temperature and humidity within the range recommended by the *North American* *Architectural Woodwork Standards* for the location of the project.

## SCHEDULING

### Coordinate fabrication, delivery, and installation with the general contractor and other applicable trades.

# PRODUCTS

## COMPONENTS

### Lumber: In accordance with the *North American* *Architectural Woodwork Standards* Grade specified for the product being fabricated. Moisture Content: 6% to 12% for boards up to 2-inch (50.8 mm) nominal thickness and shall not exceed 19% for thicker pieces.

###

Particleboard or MDF are recommended as core materials. MDF has somewhat better mechanical properties.

### Core: **[MDF] [Particleboard]** meeting the requirements of *North American Architectural Woodwork Standards*.

#### **[Made with no added urea formaldehyde] [CARB compliant]**

#### Water-resistant core, where required: Particle board meeting the requirements of ANSI A208.1 Grade M3 MR-50 or MDF meeting the requirements of ANSI A 208.2 Grade 155 MR-50.

### Veneer core plywood: A non-telegraphing hardwood manufactured with exterior glue.

### Plastic laminate: Meeting the requirements of the *North American* *Architectural Woodwork Standards* for its use.

Include this Item if you intend to use cabinet liner at semi-exposed surfaces. 2.02 B 3. See the notes at 2.02 B 3 for advantages of the various choices for Semi Exposed surfaces.

### **[Cabinet liner: ISO 4586-3 Grade CLS]**

PVC and ABS edgeband are available to match most laminate patterns. They are more durable than laminate and less subject to glue failure. PVC is available in various thicknesses. 0.5mm is generally used at case bodies, and 1mm to 3mm may be used at doors, drawer fronts, and false fronts. ABS claims to have the positive qualities of PVC without the environmental downside.

### Edgeband: [**PVC matching the color and pattern of the exposed laminate**] [**ABS matching the color and pattern of the exposed laminate**] [**High-pressure decorative laminate of the same pattern and color as the exposed surfaces**]

Type I glue is waterproof; Type II is water-resistant. Type II is satisfactory except for sink tops and possibly sink cabinets.

### Adhesives: [Type I, fully waterproof] [Type II, water-resistant]

### Hardware:

#### Finish: **[\_\_\_\_\_\_\_\_\_]**.

#### Pulls: **[\_\_\_\_\_\_\_\_\_]**.

If you specify brand and model of drawer guides, specify for pencil drawers, box drawers, file drawers, and lateral file drawers, as applicable.

#### Drawer guides: **[Full extension] [¾ extension]**.

* + - * 1. Meeting the requirements of *NAAWS* for the type and size of drawer.
				2. File drawers: Full extension. Minimum 100-pound capacity except 150-pound capacity for lateral files.

*NAAWS* requires Grade I hinges for schools, hospitals and recommends them for police and fire facilities. If you select Euro-style hinges (which are grade 2 or grade 3), you need to choose the maximum opening angle. 120-degree hinges are more robust than 170-degree hinges and require less frequent adjustment. All Euro hinges tend to get out of adjustment over time.

#### Hinges: **[Five-knuckle Grade 1 hinges] [Concealed European style Grade II hinges minimum 120 degree opening] [Brand, model]**

If self-closing hinges are selected, catches will not be required. Self-closing Grade I hinges are not available.

#### Door catches: **[\_\_\_\_\_\_\_\_\_].**

Bored hole shelf support systems and metal shelf ladders have both been determined to provide satisfactory support.

#### Shelf supports: **[Brand, catalog #] [Bored hole system with metal supports] [Recessed metal shelf standard with compatible supports]**

Locks will not be provided unless they are shown on the drawing or specified for all locations

#### [Locks

##### Door locks: [\_\_\_\_\_\_\_\_\_\_].

##### Drawer locks: [\_\_\_\_\_\_\_\_\_\_].

##### Glass door locks: [\_\_\_\_\_\_\_\_\_].

##### Keying: [Keyed alike] [Each room keyed alike.][Keyed per schedule]

###### Provide [\_\_\_\_\_\_\_\_\_\_] keys per lock.

###### Provide [\_\_\_] master keys.]

Elbow catches will only be necessary at the inactive leaf of locking pairs of doors. If no door locks are required, elbow catches will not be necessary.

#### Elbow catches: **[\_\_\_\_\_\_\_\_\_\_]**.

Sliding glass doors that are more than 1½ times as tall as they are wide should be installed using top-hung hardware. Tall, thin glass doors on bottom roller systems will tip and bind.

#### Sliding glass door hardware: **[\_\_\_\_\_\_\_\_\_]**.

Other hardware items may include wire grommets, keyboard trays, and other specialty items.

#### Etc.

####

## FABRICATION

Custom Grade is intended for, and adequate for, almost all high-quality architectural woodwork. Premium Grade is typically specified for the most visible and high-profile areas such as reception counters, boardrooms, and executive areas.

### Grade: *NAAWS* **[Custom] [Premium]** Grade.

### Exposed exterior surfaces: High-pressure decorative laminate. Color and pattern as selected by the architect.

*NAAWS* allows melamine of a “compatible” color and pattern for Custom Grade. It requires matching high-pressure laminate for Premium Grade. The third choice here would allow white melamine for these surfaces, which would save money at an aesthetic cost.

### Exposed interior surfaces: **[High-pressure laminate matching exposed surfaces] [Low-pressure melamine overlay of a color and pattern compatible with exposed surfaces] [Low-pressure melamine overlay]**

Melamine is a single sheet of paper that is saturated with melamine resin, then applied to the core under heat at low pressure. It is the least durable of these choices and the least expensive. Cabinet liner is high-pressure laminate, 0.020 inches thick, which is manufactured with high heat and pressure. It is a little thinner than exposed grades of laminate, a lot cheaper, and only comes in a few colors. Cabinet liner is more durable than melamine, but more expensive. Laminate matching the exposed surfaces is about as durable as cabinet liner, and more expensive, but may be preferred for aesthetic reasons. Melamine is the industry standard and is adequate for most applications.

### Semi-exposed surfaces: **[Low-pressure melamine overlay] [Cabinet liner] [Laminate matching exposed surfaces]**

Face-frame construction is very uncommon for plastic laminate casework. It is more difficult and more expensive than the same type of construction for wood casework.

### Cabinet construction type: Frameless.

Flush overlay is the most common door interface style for plastic laminate casework. Overlay doors cover the face of the cabinet, with 1/8-inch gaps between the doors, drawer fronts, and false fronts. Reveal overlay doors have a larger gap between doors, except the meeting edges of pairs.

### Door Interface Style: **[Flush overlay] [Reveal overlay]**.

PVC edgeband is less likely to chip than laminate, and it is less susceptible to glue failure. Most laminate colors and patterns are available in PVC. ABS has the same advantages as PVC and is considered to be more environmentally friendly. PVC is widely available.

### Edgeband: **[PVC, matching the color and pattern of the exposed laminate][ABS, matching the color and pattern of the exposed laminate][High-pressure laminate of the same color and pattern as the exposed surfaces]**

PVC and ABS edgeband come in various thicknesses. An edgeband of 3mm on doors and drawer fronts is more durable, but the thicker edge will be more noticeable if the laminate is a wood grain or other pattern rather than a solid color.

#### **[Edgeband at doors, drawer fronts, and false fronts: 3mm [PVC] [ABS].]**

### Drawers:

#### Sides: **[Solid hardwood][Seven- or nine-ply hardwood plywood with no internal voids] [Particle board with melamine surfacing]**

#### Bottoms: **[Hardwood plywood of the same species and cut as the drawer sides] [MDF with melamine faces]** Bottoms shall be fully housed into drawer sides, backs, and sub fronts, and securely glued.

In each case, the highest quality/most expensive option is listed first, and the least expensive last. A solid hardwood drawer with dovetail construction is a thing of beauty, and will probably outlast the cabinet, if not the building. A particle board and melamine drawer with lock joints is serviceable and will last a long time if not abused.

#### Joinery: **[Dovetails] [Dowels] [Nailed and glued lock joints]**

# EXECUTION

## EXAMINATION

### Verify the adequacy and proper location of any required backing or support framing.

### Verify that mechanical, electrical, plumbing, and other building components affecting work in this section are in place and ready.

## **[FIELD QUALITY CONTROL**

Include this article if you are using the WI CSIP program.

### **Provide Woodwork Institute Certified Seismic Installation System inspection reports and certificates as specified in part 1 of this section.]**

## INSTALLATION

### Install all work in conformance with the *North American Architectural Woodwork Standards*, latest edition.

#### Installation shall conform to the *NAAWS* grade of the items being installed.

### All work shall be secured in place, square, plumb, and level.

### All work abutting other building components shall be properly scribed.

### Mechanical fasteners used at exposed and semi-exposed surfaces, excluding installation attachment screws and those securing cabinets end to end, shall be countersunk.

### Equipment cutouts shown on plans shall be cut by the installer.

## ADJUSTING AND TOUCH UP

### Before completing installation, the installer shall adjust all moving and operating parts to function smoothly and correctly.

### All nicks, chips, and scratches in the finish shall be filled and retouched. Damaged items that cannot be repaired shall be replaced.

## CLEANUP

### Upon completion of installation, the installer shall clean all installed items of pencil and ink marks and broom clean the area of operation, depositing debris in containers provided by the general contractor.

END OF SECTION