

Proposed ANS AWI 1236

# Proposed AWI Standard for Countertops

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## **1.0 Purpose**

- a) Provide standards and tolerances for the quality and fit of countertops (henceforth referred to as “Product”).
- b) Establish minimum aesthetic and performance requirements intended to provide a well-defined degree of control over a project’s quality of materials and workmanship for the manufacture of countertops.

## 2.0 Scope

- a) Provide aesthetic and performance standards for various countertop materials including but not limited to plastic-laminate clad (decorative laminate/HPDL), solid surface, epoxy resin, natural and engineered stone, solid and veneered wood, and solid phenolic.

### 2.1 Included

- a) Product as specified under CSI MasterFormat Section:

12 36 00 Countertops

- b) Product as specified under Division 6 and Division 12 of a project's contract documents.
- c) Factory attachment of specified integral sink bowls

### 2.2 Not Included

- a) Installation of Product
- b) Furnishing of sink rims or sinks not listed above
- c) Structural components, grounds, in-wall blocking, backer, furring, brackets, or other anchorage that become an integral part of the building's walls, floors, or ceilings are not furnished or installed under the scope of this standard's requirements.

### 3.0 Requirements

#### 3.1 General

- a) The following requirements shall govern unless a project’s contract documents require otherwise.
- b) Should a conflict be discovered within this standard, the least restrictive requirement shall prevail.
- c) Build-up or spacing materials shall be provided by manufacturer/supplier to meet the requirements of ANSI/AWI 0620 - Finish Carpentry/Installation (latest edition).
- d) When applicable, manufacturer/supplier shall verify field measurements.
- e) Any term used herein that is defined by AWI Glossary uses only that definition for conformance to this standard.

#### 3.1.1 Measurements

- a) This standard is written with the metric system of measurement followed by the U.S. Customary System of measurement in brackets.
- b) The system of measurement used in the project’s original contract documents and architectural drawings will dictate which system of measurement within these standards is used for verification of compliance.
- c) The U.S. Customary measurement is typically a “soft” conversion of the metric measurement. In order to make the metric number more conceptually coherent and consistent, most conversions for less than 152.4 mm [6”] in dimension are “soft” converted to the nearest .1 mm. For measurements above 152.4 mm [6”], the “soft” value is converted to the nearest 1 mm.
- d) “Inconspicuous,” when used in this standard, means not readily visible without careful inspection at a distance of:

Premium	Custom	Economy
610 mm [24”]	1219 mm [48”]	1829 mm [72”]

- e) Gaps and flushness between exposed components shall be tested with a feeler gauge at points where components are required to contact as indicated within this standard.

#### 3.1.2 Special Requirements

- a) When seismic construction is required, such requirements and details shall be clearly stated in the contract documents.
- b) Requirements for Product, such as moisture resistant or fire retardant materials, shall be specified by the design professional.

### **3.1.3 Environmental Conditions**

- a) Requirements of this standard are contingent upon maintaining proper interior environmental controls prior to, during, and after installation. See AWI 200 - Care & Storage (latest edition).

### **3.1.4 Manufacturer/Supplier Requirements for Installation**

- a) Manufacturer/supplier shall provide documented instructions for Product installation and shall include fastener details.
- b) Installation of Product shall be in accordance with the ANSI/AWI 0620 - Finish Carpentry/Installation (latest edition).
- c) Manufacturer/supplier shall provide drawings indicating location of blocking and supports. See AWI 100 - Submittals (latest edition).

### **3.1.5 Default Performance Requirements**

- a) Unless otherwise specified, Product shall comply with the following minimum default:
  - Aesthetic Performance: Custom Grade

## 3.2 Material

- a) Materials used for the construction of Product covered within the scope of this standard shall adhere to the requirements set forth in AWI 300 - Materials (latest edition) ~~including, but not limited to, specified aesthetic grade.~~
- b) Materials used for the same purpose, within the scope of this standard, shall be consistent throughout a project.
- c) Concealed surfaces shall permit defects. At blocking, fillers, and shim stock, any sound material is permitted.
- d) When chemical resistance is required, fasteners at access panels and/or removable ledges shall be stainless steel.
- e) Sealants and/or adhesives exposed to view shall be compatible for color to adjacent surfaces.
- f) Core material shall have a minimum modulus of elasticity (MOE) value of 2,000.17 Newtons/mm sq. [290,100 PSI].

### 3.2.1 Decorative Laminate

- a) High Pressure Decorative Laminate meeting the requirements of ISO 4586-3 (latest edition) shall be used for exposed decorative laminate surfaces. See AWI 300 - Materials (latest edition).
- b) The work surface shall be a minimum of horizontal grade [HGP].
- c) Splashes shall be a minimum of vertical grade [VGS].
- d) Backer material is required on all countertops and splashes.
- e) Build-up shall have backer material, or moisture-resistant sealer, or be of moisture-resistant core.
- f) Core material shall be a minimum nominal thickness of 18 mm [.709"].

### 3.2.2 Solid Surface

- a) When solid surface is referenced in these standards, it refers to filled cast polymeric resin panels. See AWI 300 - Materials (latest edition).
- b) Work surface and splash material shall be a minimum nominal thickness of 12 mm [.472"].



### 3.2.3 Epoxy Resin

- a) When epoxy resin is referenced in these standards, it refers to panels produced from a composite of epoxy resin, silica, inert fillers, and organic hardeners cast and cured in ovens at elevated temperatures, homogeneous throughout, and nonabsorbent. See AWI 300 - Materials (latest edition).
- b) Work surface and splash material shall be a minimum nominal thickness of 25.4 mm [1"].

### 3.2.4 Natural/Engineered Stone

- a) When natural stone is referenced in these standards it **typically** refers to quarried stone including but not limited to granite, marble, slate, soapstone, or limestone. See AWI 300 - Materials (latest edition).
- b) When engineered stone is referenced in these standards it **typically** refers to a composite material made of crushed stone bound together by a resin. See AWI 300 - Materials (latest edition).
- c) Work surface and splash material shall be a minimum nominal thickness of 2 cm [.787"].

### 3.2.5 Wood

- a) When wood countertops are specified without stipulation of solid wood or veneered wood, then solid wood or veneered wood may be used at the manufacturer/supplier option. See AWI 300 - Materials (latest edition).

#### 3.2.5.1 Solid Wood

- a) Product shall be finished with a finishing technology in accordance with AWI Finishing (latest edition) unless otherwise specified.
- b) Work surface and splash material shall be a minimum of 25.4 mm [1"] thick.

#### 3.2.5.2 Veneered Wood

- a) Product shall be finished with a finishing technology in accordance with AWI Finishing (latest edition) unless otherwise specified.
- b) Countertop core material shall be a minimum nominal thickness of 18 mm [.709"].

### 3.2.6 Solid Phenolic

- a) When solid phenolic is referenced in these standards, it refers to panels of melamine-impregnated decorative overlay sheets over a kraft phenolic core. See AWI 300 - Materials (latest edition).
- b) Work surface and splash material shall be a minimum nominal thickness of 19.1 mm [.750"].

### 3.3 Structural

- a) Countertops shall be constructed to resist a 22.7 kg [50 lbs] per 93,025 sq. mm [144 sq. in.] load and not deflect in excess of 6.4 mm [.250"] in any direction. Countertop shall not crack nor be permanently deformed under this load.
- b) **Load values expressed within this standard do not suggest service loads nor shall they be construed as suggesting normal countertop usage loads.**
- c) Fittings and fixtures installed in a factory setting shall be mounted in accordance with manufacturer/supplier's documented instructions.
- d) Cut-outs within a countertop shall be made by either manufacturer/supplier or installer. Sink cut-outs shall not fall within 457 mm [18"] of a joint.

#### 3.3.1 Joints

- a) Shall be neatly and accurately made.
- b) Shall be secure.
- c) ~~Cut outs within a countertop shall be made by either manufacturer/supplier or installer. Sink cut outs shall not fall within 457 mm [18"] of a joint.~~

#### 3.3.2 Overhangs

- a) Shall be consistent, extending a minimum of 12.7 mm [.500"] and a maximum of 31.8 mm [1.250"] over the outermost cabinet face and/or finished end, except at countertops that abut appliances or appliance openings.
- b) Shall be parallel with the cabinet face within  $\pm 4.8$  mm [.188"] along the entire elevation.
- c) Shall be a maximum of 6.4 mm [.250"] where countertops abut appliances or appliance openings.

#### 3.3.3 Suspended or Cantilever Countertops

- a) Shall not extend more than 305 mm [12"] from a support (See Figure 50), whether in the front, back, or end, unless otherwise specified.
- b) ~~Full depth countertop build up is required at support locations.~~ Build-up, when used, shall be full depth at support locations.

#### 3.3.4 Spans

- a) Shall be able to support a point load of 90.71 kg. [200 lb.] with a footprint of 55,742 sq. mm [86.4 sq. in.] without deflection in excess of 6.4 mm [.250"] across the span. Load shall be placed 76.2 mm [3"] from the front edge at the center point of the span (See Figure 110). Countertop shall not crack nor be permanently deformed under this load.

### 3.3.5 Decorative Laminate

- a) Cut-outs shall have a 6.4 mm [.250"] minimum radius.
- b) Bottom of edging and its build-up shall be free of dents, torn grain, glue, and shall be sanded smooth with sharp edges removed.
- c) Installation joints shall be machined to fit tight and flush, reinforced for alignment, and have provision for draw-bolt-type mechanical fasteners to fasten the joint, if practical.
- d) Assembled joints shall be securely attached with glue and with mechanical fasteners. Joints shall fit tight and flush.
- e) Shall be securely attached to the core with Type II adhesive applied as recommended by the adhesive manufacturer/supplier. Adhesive for solid color core laminate application shall conform to the manufacturer/supplier's recommendation.
- f) Telegraphing shall not exceed .1 mm [.004"] in any 76.2 mm [3"] span.
- g) Sink countertops and their splashes require particleboard or fiberboard with a 24-hour thickness swell factor of 5.5% or less, in accordance with ASTM D1037 (latest edition) or veneer core substrate with Type II adhesive.
- h) Factory cut-outs for sinks and other locations subject to excessive moisture shall be sealed with a minimum of one coat of color-tinted (for verification) water-resistant sealer or sealant.

#### 3.3.5.1 Assembly Type 1 - Wall Mount Splash (See Figure 11)

- a) Splash components are not required to be factory-mounted.
- b) Exposed edges shall be edgebanded.

#### 3.3.5.2 Assembly Type 2 - Countertop Mount Splash (See Figure 12)

- a) Butt-joined backsplash components shall be factory-mounted and securely attached with mechanical fasteners.
- b) Coved backsplashes shall require a moulded cove stick, continuously glued, with no voids permitted between the decorative laminate or core and the cove stick.
- c) End splash components are not required to be factory-mounted with mechanical fasteners.
- d) Raw core shall be sealed before assembly at joint between countertop and butt-joined back and end splash components or cove countertop and end splash component.
- e) Scribe allowance at splashes shall be provided by manufacturer/supplier per ANSI/AWI 0620 – Finish Carpentry/Installation (latest edition).
- f) Exposed edges shall be edgebanded.

### **3.3.6 Solid Surface**

- a) Expansion clearances shall be furnished where required by building design or sheet material manufacturer's recommendations.
- b) Seamed joints shall be machined and assembled in accordance with sheet material manufacturer's recommended seaming procedures.
- c) Cut-outs and inside corners shall be radiused in accordance with sheet material manufacturer's recommendations.

### **3.3.7 Epoxy Resin**

- a) Seamed joints shall be machined and assembled in accordance with sheet material manufacturer's recommended seaming procedures.

### **3.3.8 Natural/Engineered Stone**

- a) Seamed joints shall be machined and assembled in accordance with slab distributor's recommended seaming procedures.

### **3.3.9 Solid Wood**

- a) Glue-up requires that the crown of boards be alternated.
- b) Installation joints shall be machined to fit tight and flush, reinforced for alignment, and have provision for draw-bolt-type mechanical fasteners to fasten the joint, if practical.
- c) Assembled Product joints shall be securely attached with glue and mechanical fasteners. Joints shall fit tight and flush.
- d) Factory cut-outs for sinks and other locations subject to excessive moisture shall be sealed with a minimum of one coat of color-tinted (for verification) water-resistant sealer or caulk.

### **3.3.10 Veneered Wood**

- a) Sink countertops and their splashes require particleboard or fiberboard with a 24-hour thickness swell factor of 5.5% or less, in accordance with ASTM D1037 (latest edition) or veneer core substrate with Type II adhesive.
- b) Telegraphing shall not exceed .1 mm [.004"] in any 76.2 mm [3"] span.
- c) Factory cut-outs for sinks and other locations subject to excessive moisture shall be sealed with a minimum of one coat of color-tinted (for verification) water-resistant sealer or caulk.

### **3.3.11 Solid Phenolic**

- a) Seamed joints shall be machined and assembled in accordance with sheet material manufacturer's recommended seaming procedures.

### 3.4 Aesthetic

- a) Aesthetic performance, in relation to this standard, refers to and is an evaluation of surfaces that will be exposed following installation.
- b) The three levels of aesthetic performance grades are Premium, Custom, and Economy:

Premium	Custom	Economy
The aesthetic grade defining the highest degree of control over materials, workmanship, and manufacture	The aesthetic grade defining a high degree of control over materials, workmanship, and manufacture	The aesthetic grade defining the minimum degree of control over materials, workmanship, and manufacture

- c) Surface category terminology examples may be found in Supplemental Information herein.
- d) Material, pattern, and color shall be as specified and, if not specified, shall be at the option of the manufacturer/supplier.
- e) Coordination of horizontal reveals between the countertop’s bottom edge and overlay doors, drawer fronts, and false fronts is the responsibility of the countertop manufacturer/supplier.
- f) If detail is not provided, horizontal reveals between the countertop’s bottom edge and overlay doors, drawer fronts, and false fronts shall be 6.4 mm [.250”] (± 3.2 mm [.125”]), with the exception of laboratory casework, which shall be 6.4 mm [.250”] to 25.4 mm [1”] (± 3.2 mm [.125”]), and shall be consistent across elevations. (See Figure 43)
- g) At exposed surfaces, exposed core or exposed subtop is not permitted.
- h) Grain and/or patterned surfacing shall run parallel to the front edge in any given elevation.
- i) Exposed fasteners are not permitted, except at access panels.
- j) Repairs shall be inconspicuous.
- k) Unless otherwise indicated within this standard, flatness of installed sheet products shall not exceed the following per linear 305 mm [12”] (See Figure 5, E identification of deviation):

Premium	Custom	Economy
.8 mm [.031”]	1.2 mm [.047”]	1.6 mm [.063”]

- l) Joint filler (putty) shall be inconspicuous.

**3.4.1 Assembly**

- a) Filler material shall be furnished by the countertop manufacturer/supplier.
- b) Cut-outs shall be within  $\pm 3.2$  mm [.125"] for locations and +3.2 mm to 0 mm [.125" to 0"] for size.
- c) Finished Product squareness shall be within  $\pm .4$  mm [.016"] for each 305 mm [12"].
- d) Scribe allowance shall be provided.
- e) At work surfaces less than or equal to 2438 mm [96"] in length:

Premium	Custom	Economy
Joints in the top surface material are not permitted	Joints in the top surface material are not permitted	No requirement

- f) At work surfaces greater than 2438 mm [96"] in length which require more than one piece of top surface material jointed together:

Premium	Custom	Economy
One joint is permitted in lengths up to 4877 mm [192"]. One additional joint allowance is permitted per additional length rounded up to 2438 mm [96"]. At lengths where more than two joints are permitted, joints shall be a minimum of 1219 mm [48"] apart.	One joint is permitted in lengths up to 4877 mm [192"]. One additional joint allowance is permitted per additional length rounded up to 2438 mm [96"]. At lengths where more than two joints are permitted, joints shall be a minimum of 1219 mm [48"] apart.	No requirement
Be pre-matched to minimize color variation within the scope of the manufacturer/supplier's samples.	Be pre-matched to minimize color variation within the scope of the manufacturer/supplier's samples.	No requirement

- g) Joints in linear-patterned countertop surfaces with directional changes shall be per sheet material manufacturer's recommendations.
- h) Backsplashes are required only when specified.
- i) End splashes are required only when specified.

### 3.4.2 Tolerances

#### 3.4.2.1 Machining, Exposed Surfaces

- a) Machining rules for exposed surfaces shall comply with smoothness requirements.
- b) Sharp edges shall be eased.
- c) Flat wood surfaces which can be sanded require a minimum of:

Premium	Custom	Economy
150 grit sanding	120 grit sanding	15 KMPI or 100 grit sanding

- d) Profiled and shaped wood surfaces require a minimum of:

Premium	Custom	Economy
120 grit sanding	20 KMPI or 120 grit sanding	15 KMPI or 100 grit sanding

- e) Visible sanding marks, excluding turned surfaces, shall be inconspicuous.
- f) Tear out, nicks, and/or hit and miss machining is not permitted.
- g) Glue or joint filler (putty), when used, shall be inconspicuous and match the adjacent surface for smoothness.

#### 3.4.2.2 Machining of Applied Edges

- a) Edges shall be machined flush and filed, sanded, or buffed to remove machine marks and sharp edges.
- b) Overlap (See Figure 23, F) shall not exceed:

Premium	Custom	Economy
.1 mm [.004"] for a maximum length of 25.4 mm [1"] in any 1219 mm [48"] run	.1 mm [.004"] for a maximum length of 25.4 mm [1"] in any 610 mm [24"] run	.1 mm [.004"] for a maximum length of 50.8 mm [2"] in any 305 mm [12"] run

c) Chip out (See Figure 24, G) shall be inconspicuous when viewed at:

Premium	Custom	Economy
610 mm [24"]	1219 mm [48"]	1829 mm [72"]

d) Over-machined (See Figure 25, H) removal of color or pattern of face material shall be limited to:

Premium	Custom	Economy
.8 mm x 38.1 mm [.031" x 1.500"] and shall not occur within 1829 mm [72"] of a similar occurrence	.8 mm x 76.2 mm [.031" x 3"] and shall not occur within 1524 mm [60"] of a similar occurrence	2.4 mm x 152.4 mm [.094" x 6"] and shall not occur within 1219 mm [48"] of a similar occurrence

### 3.4.3 Edges

- a) Profile shall be at the option of the manufacturer/supplier.
- b) When a drip groove is specified without dimension, a groove measuring 3.2 mm x 3.2 mm [.125" x .125"] shall be provided 9.5 mm [.375"] ( $\pm$  3.2 mm [.125"]) back from the front edge. (See Figure 111)
- c) Application sequence shall be the manufacturer/supplier's choice, except at decorative laminate.
- d) The maximum number of edge joints shall be equal to or less than the number of joints in top surface material per countertop elevation. At lengths where more than two edge joints are permitted, seams shall be a minimum of 1219 mm [48"] apart.

### 3.4.4 Joints

- a) Joints in Product shall be assembled to meet the tolerances defined within this standard and be securely attached, with adhesive residue removed from exposed surfaces.
- b) Flushness variations in exposed surfaces, when mitered or butted (See Figure 47, D), shall not exceed:

Premium	Custom	Economy
.3 mm [.012"]	.4 mm [.016"]	.6 mm [.025"]



- c) Gaps in exposed surfaces, when mitered or butted (See Figure 48, A), shall not exceed:

Premium	Custom	Economy
.3 mm [.012"] wide by 20% of the joint length	.4 mm [.016"] wide by 20% of the joint length	.6 mm [.025"] wide by 20% of the joint length

- d) Gaps in exposed surfaces between parallel components (See Figure 48, B) shall not exceed:

Premium	Custom	Economy
.3 mm x 101.6 mm [.012" x 4"] and shall not occur within 1829 mm [72"] of a similar gap in the same joint	.4 mm x 152.4 mm [.016" x 6"] and shall not occur within 1524 mm [60"] of a similar gap in the same joint	.6 mm x 229 mm [.025" x 9"] and shall not occur within 1219 mm [48"] of a similar gap in the same joint

- e) Gaps in exposed surface joints, when mitered or butted (See Figure 48, C), shall not exceed:

Premium	Custom	Economy
.3 mm [.012"]	.4 mm [.016"]	.6 mm [.025"]

- f) Sheet and laminated lumber panels shall be permitted to move, float, expand, and/or contract in reaction to ambient humidity changes.

### 3.4.5 Opaque Finish

- MDF is permitted.
- Finger joints in solid wood are permitted, [except at exposed solid wood edges.](#)
- Veneer species shall be closed-grain hardwood conforming to a minimum of:

Premium	Custom	Economy
ANSI/HPVA HP-1 (latest edition) Grade B	ANSI/HPVA HP-1 (latest edition) Grade C	ANSI/HPVA HP-1 (latest edition) Grade D

**3.4.6 Transparent Finish, Veneer and Solid Wood**

a) Wood shall be:

Premium	Custom	Economy
Of one species for the entire project	Of one species for the entire project	<del>No species requirement</del> <u>Same or mixed species at the option of the manufacturer/supplier</u>

b) Veneer species of manufacturer/supplier’s choice shall be hardwood conforming to a minimum of:

Premium	Custom	Economy
ANSI/HPVA HP-1 (latest edition) Grade AA	ANSI/HPVA HP-1 (latest edition) Grade A	ANSI/HPVA HP-1 (latest edition) Grade B

c) Veneer slicing shall be:

Premium	Custom	Economy
Plain sliced, rotary permitted for birch	Plain sliced, rotary permitted for birch	At the option of the manufacturer/supplier

d) Matching of adjacent leaves shall be:

Premium	Custom	Economy
Book matched	Book matched	At the option of the manufacturer/supplier

e) Matching within panel face shall be:

Premium	Custom	Economy
Balance match	Running match	Running match

f) Matching between adjacent panels shall be:

Premium	Custom	Economy
Well-matched for color and grain	Compatible for color and grain	At the option of the manufacturer/supplier

g) End match, blueprint, and sequencing required only if specified.

h) Veneer and lumber adjacent to each other shall be:

Premium	Custom	Economy
Same species, compatible for color	Same species, compatible for color	<a href="#">Same or mixed species at the option of the manufacturer/supplier</a>

i) Exposed edges and reveals shall:

Premium	Custom	Economy
Match the species of the panel face	Match the species of the panel face	Be at the option of the manufacturer/supplier
Be well-matched for color and grain	Be compatible for color and grain	Be at the option of the manufacturer/supplier
Be a minimum nominal thickness of .5 mm [.020"] that precludes show-through of core	Be a minimum nominal thickness of .5 mm [.020"] that precludes show-through of core	<a href="#">Preclude show-through of core</a>

j) Knife marks are not permitted where sanding is required.

k) Sharp edges shall be eased.

l) Tear out, nicks, and/or hit and miss machining is not permitted.

j) Built-up components shall be of the same core material as the countertop core.

k) Curved front edges shall be solid or laminated at the option of the manufacturer/supplier.

l) Applied mouldings shall be securely attached by:

Premium	Custom	Economy
Gluing under pressure and reinforced without the use of fasteners through the exposed face	Gluing and inconspicuous fastening	Fastening at the option of the manufacturer/supplier

**3.4.7 Decorative Laminate**

- a) Material, pattern, and color shall be the manufacturer/supplier’s choice of one color or pattern per room, with a maximum of five different colors or patterns per project.
- b) Edges shall be PVC or ABS, a minimum of 1 mm [.039”] thick, or HPDL self-edge. PVC and ABS shall be well-matched to the work surface.
- c) A splash shall be a minimum height of 101.6 mm [4”] above the work surface, of assembly type 1 or 2.
- d) Front edge shall be built-up, miter-fold, or solid core, and a minimum of 28.6 mm [1.125”] thick.
- e) HPDL self-edge shall be applied:

<b>Premium</b>	<b>Custom</b>	<b>Economy</b>
Before work surface laminate	Before or after work surface laminate	Before or after work surface laminate

- f) Application of finished cap ends after work surface laminate is permitted at post-formed countertops.
- g) Joints in work surfaces with wood-grained or patterned laminate shall be mitered at directional changes (See Figure 112).

~~h) Built-up components shall be:~~

<u><b>Premium</b></u>	<u><b>Custom</b></u>	<u><b>Economy</b></u>
<del>Of the same material as core</del>	<del>Of the same material as core</del>	<del>No requirement</del>

**3.4.8 Solid Surface**

- a) A splash shall be a minimum height of 76.2 mm [3”] above the work surface.
- b) A coved splash is required only when specified.
- c) Edge shall be a minimum height of 24 mm [.945”].
- d) Exposed surfaces shall be flush when mitered or butted (See Figure 47, D).
- e) Exposed surfaces shall be gap free when mitered or butted (See Figure 48, ABC).
- f) Joints in linear-patterned countertop surfaces with directional changes shall be per sheet material manufacturer’s recommendations.
- g) Finish at exposed surfaces/edges shall be the manufacturer/supplier’s standard matte sheen.

### 3.4.9 Epoxy Resin

- a) Exposed edges shall be smooth and finished to be compatible with the work surface.
- b) Lipped countertops shall be raised a minimum of 4.8 mm [.189"] above the work surface.
- c) Flushness or lippage variations in exposed surfaces, when mitered or butted (See Figure 47, D), shall not exceed .8 mm [.031"].
- d) Width of ~~seams~~ ~~joints~~ in exposed surfaces, when mitered or butted (See Figure 48, ABC), shall be per the manufacturer/supplier's recommendation and shall be filled ~~aswith~~ recommended ~~filler material~~.
- e) Flatness (See Figure 5, E) shall be ~~held~~ within  $\pm 1.6$  mm [.063"] for each 914 mm [36"] span.
- f) Backsplashes shall be separate and butt joined.

### 3.4.10 Natural/Engineered Stone

- a) Product shall have a minimum nominal thickness of 2 cm [.787"] and be manufacturer/supplier's choice of distributor, color, and finish.
- b) Exposed edges shall be a compatible finish with the work surface.
- c) Flushness or lippage variations in exposed surfaces, when mitered or butted (See Figure 47, D), shall not exceed .8 mm [.031"] at the center of the joint.
- d) Gaps in exposed surfaces, when mitered or butted (See Figure 48, A), shall not exceed .4 mm [.016"] wide by 20% of the joint length.
- e) Gaps in exposed surfaces of parallel components (See Figure 48, B) shall not exceed .4 mm [.016"] x 76.2 mm [3"], and shall not occur within 305 mm [12"] of a similar gap.
- f) Gaps in exposed surfaces, when mitered or butted (See Figure 48, C), shall not exceed .4 mm [.016"].
- g) Thickness of the material used throughout a project shall not vary in excess of 3.2 mm [.125"].
- h) Flatness (See Figure 5, E) shall be held within  $\pm 1.6$  mm [.063"] for each 1219 mm [48"] span.
- i) Backsplashes shall be separate and butt joined.
- j) Front edge thickness shall be at the option of the manufacturer/supplier.

**3.4.11 Wood**

**3.4.11.1 Solid Wood**

a) Solid stock when applied as an exposed edge, finger joints are:

Premium	Custom	Economy
Not permitted	Not permitted	Permitted

b) Joints in transparent finished work surfaces with directional changes shall be mitered (See Figure 112).

c) Front edge thickness shall be at the option of the manufacturer/supplier.

**3.4.11.2 Veneered Wood**

a) Solid stock when applied as an exposed edge, finger joints are:

Premium	Custom	Economy
Not permitted	Not permitted	Permitted

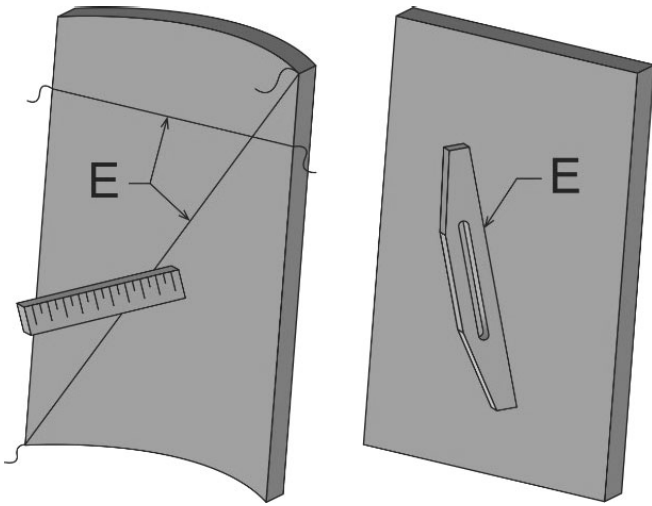
b) Finger joints in veneer tape used as edgebanding are permitted.

c) Joints in transparent finished work surfaces with directional changes shall be mitered (See Figure 112).

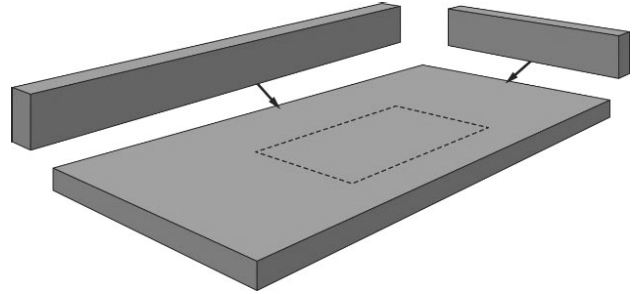
**3.4.12 Solid Phenolic**

- a) Front edge thickness shall be at the option of the manufacturer/supplier.
- b) Flatness (See Figure 5, E) shall be within  $\pm 1.6$  mm [.063"] for each 914 mm [36"] span.
- c) Exposed edges shall be finished in the same manner as the top surface.
- d) Lipped countertops shall be raised a minimum of 6.4 mm [.250"] above the work surface. The width of the raised area shall be determined by the manufacturer/supplier.
- e) Backsplashes shall be separate, flat-butted.

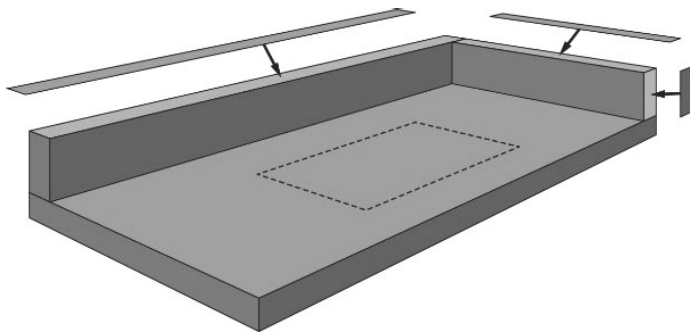
### 4.0 Illustrations



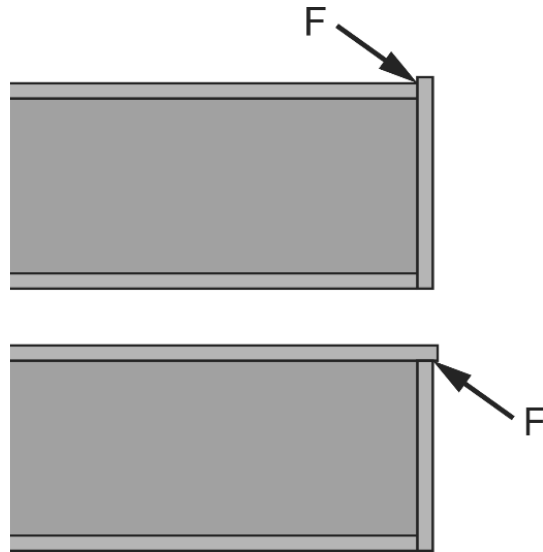
**Figure 5 – Compliance Testing Measurement**



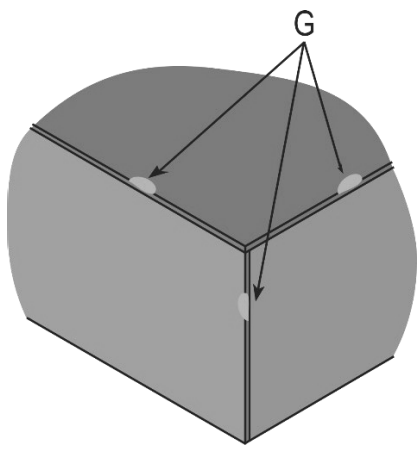
**Figure 11 – Wall Mount Splash**



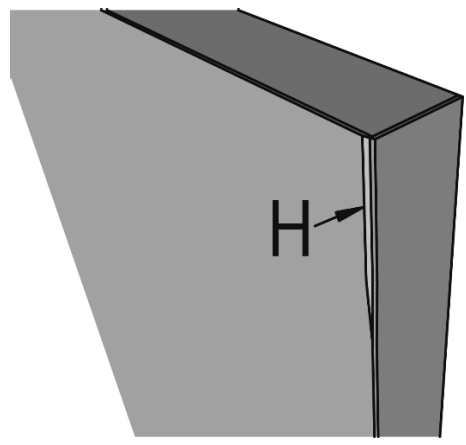
**Figure 12 – Countertop Mount Splash**



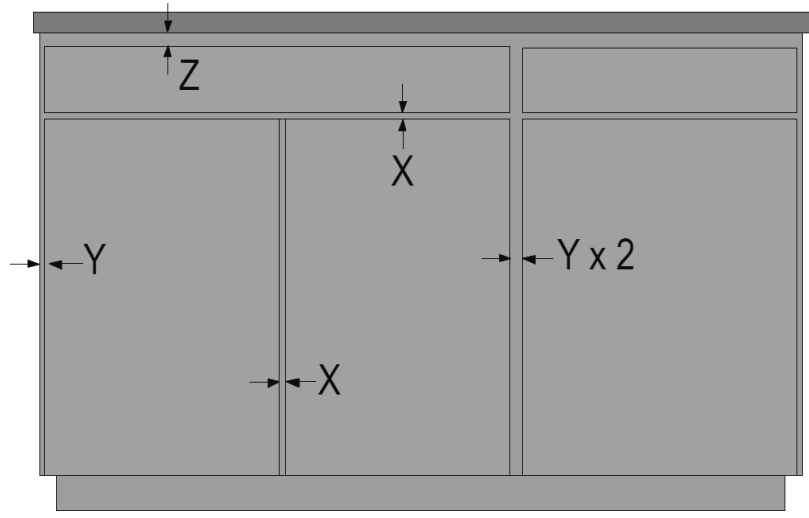
**Figure 23 – Overlap**



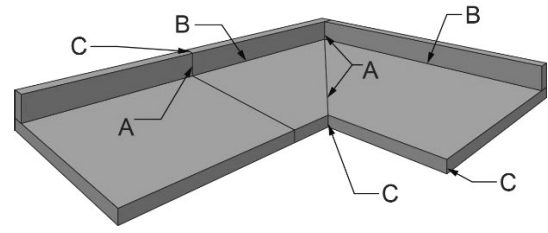
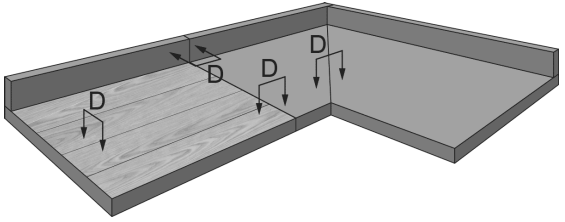
**Figure 24 – Chip-Out**



**Figure 25 – Over-Filling / Over-Machining**



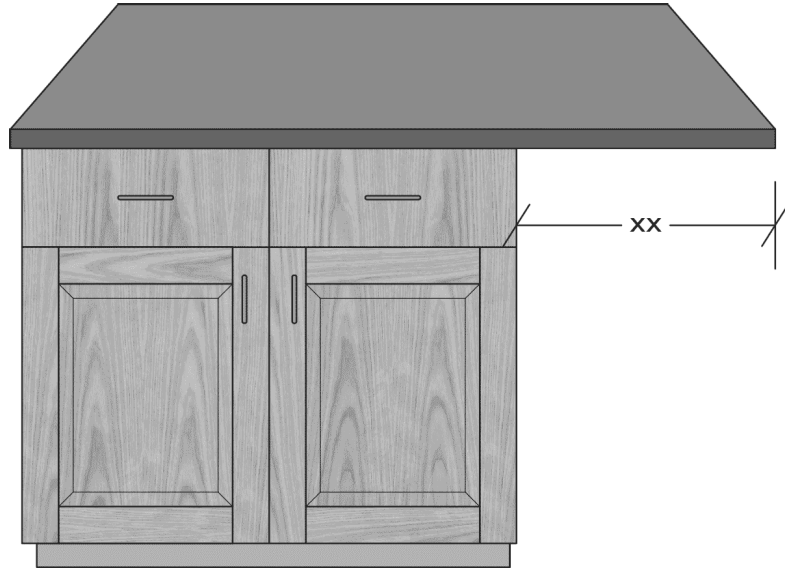
**Figure 43 – Reveal**



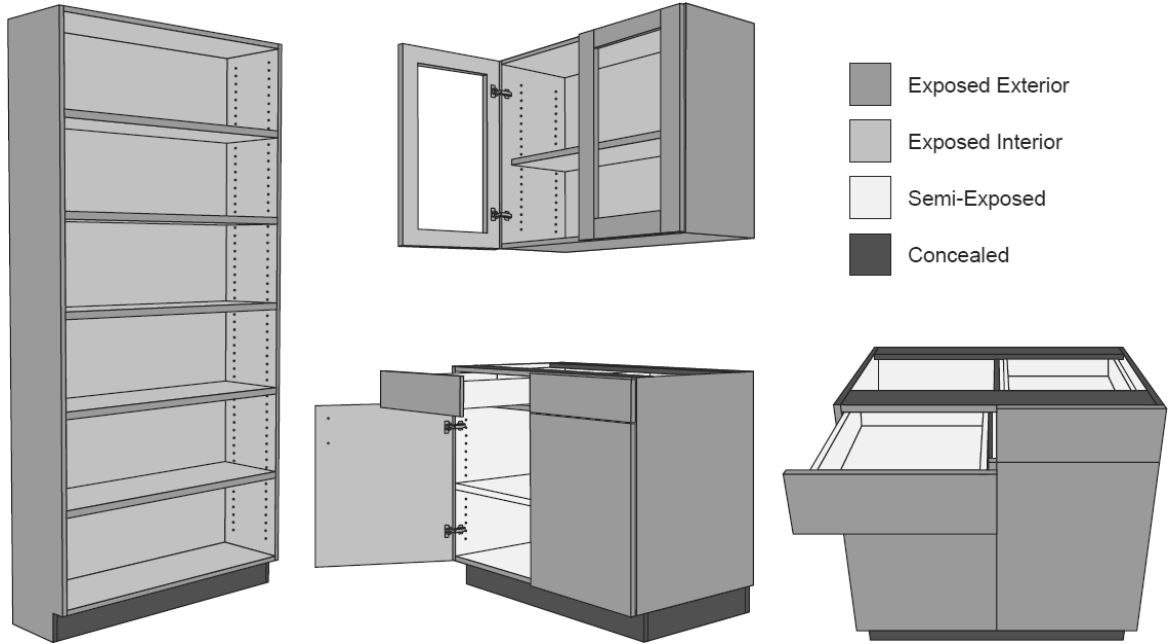


**Figure 47 – Flushness, Countertop**

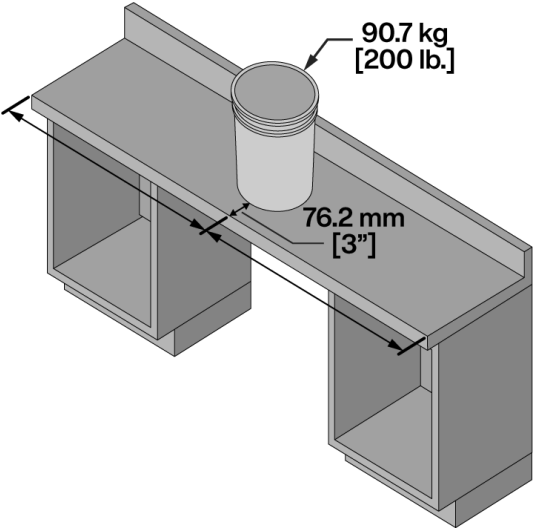
**Figure 48 – Gaps, Countertop**



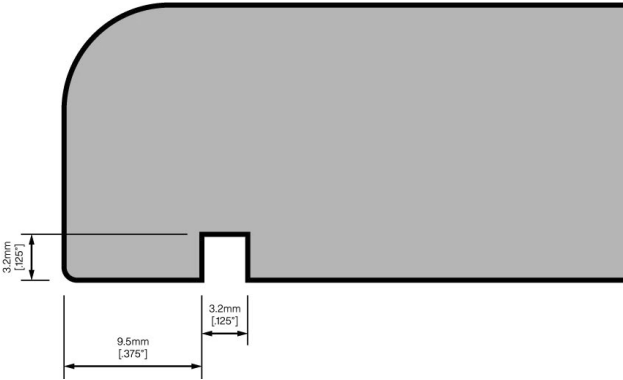
**Figure 50 – Cantilever Countertop**



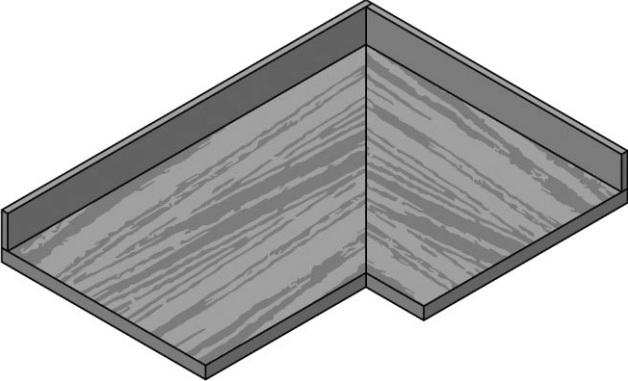
**Figure 86 – Casework Surfaces**



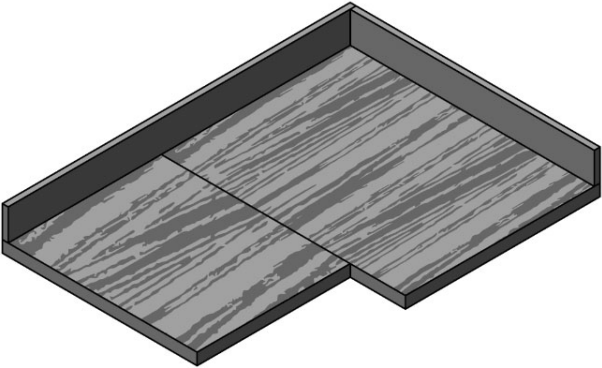
**Figure 110 – Countertop Span**



**Figure 111 – Drip Groove**



**Figure 112 – Directional Change,  
Mitered**



**Figure 113 – Directional Change,  
Solid Surface**

## 5.0 Supplemental Information

### 5.1 Glossary

- a) The Architectural Woodwork Institute Glossary can be found at:  
<http://www.awinet.org/standards/glossary>

### 5.2 Design Professional Responsibilities

- a) Examine product technical data sheets to determine if material performance (e.g. scratch and wear resistance) is appropriate for the project.

#### 5.2.1 Requirement Specifications

- a) Accessories, cutouts, and locations.
- b) Supports/bracket placement, quantity, and type.
- c) Grain or pattern direction.
- d) Chemical resistant finish or surfaces.
- e) Flame spread rating.
- f) Moisture resistance.
- g) Seismic fabrication and/or installation.
- h) Insulation from adjacent heating and cooling sources.
- i) Removable components.

#### 5.2.2 Wood Specifications

- a) Species
- b) Overall finished thickness
- c) Finish System
- d) Grain direction

##### 5.2.2.1 Solid Wood

- a) Work surface orientation; flat grain, edge grain, or end grain.

##### 5.2.2.2 Veneered Wood

- a) Method of slicing (plain, quarter, rift, or rotary).
- b) Matching of veneer leaves within the face of a countertop (i.e. book, slip, custom).
- c) End matching.
- d) Core type.

### **5.3 Surface Categories**

#### **5.3.1 Exposed**

- All visible surfaces of an installed countertop
- The exposed underside surface, greater than 1067 mm [42"] above the finished floor.

#### **5.3.2 Concealed**

- The underside of countertops that are 1067 mm [42"] or less above the finished floor.
- All non-visible surfaces attached to and/or covered by another surface.
- All non-visible blocking, spacers, etc., used for attachment.

### **5.4 References**

- a) AWI 100 - Submittals Standard (latest edition)
- b) AWI 200 - Care & Storage Standard (latest edition)
- c) AWI 300 - Materials Standard (latest edition)
- d) AWI Finishing Standard (latest edition)
- e) ANSI/AWI 0620 – Finish Carpentry/Installation Standard (latest edition)
- f) ISO 4586-3 High-pressure decorative laminates (HPL, HPDL) (latest edition)
- g) ANSI/HPVA HP-1 American National Standard for Hardwood and Decorative Plywood (latest edition)
- h) ASTM D1037 (latest edition)