

SECTION 064216 - FLUSH WOOD PANELING

GENERAL

SUMMARY

Section Includes:

- Flush wood paneling (wood-veneer wall surfacing).
- Fire-retardant-treated materials.
- Installation materials.

Related Requirements:

- Section 057000 "Decorative Metal" for metal reveals at wood paneling.
- Section 061000 "Rough Carpentry" for wood furring, blocking, shims, and hanging strips required for installing paneling that is concealed within other construction before paneling installation.

ALLOWANCES

Wood Veneer Allowance: Wood veneer for paneling is part of **[Wood Veneer Allowance]** <Insert name of allowance>. Allowance includes the cost of veneer that is wasted due to selection, cutting, and trimming.

COORDINATION

Coordinate sizes and locations of framing, blocking, furring, reinforcements, and other related units of Work specified in other Sections to ensure that paneling can be installed as indicated.

PREINSTALLATION MEETINGS

Preinstallation Conference: Conduct conference at **[Project site]** <Insert location>.

ACTION SUBMITTALS

Product Data: For each type of product.

- Include data for fire-retardant treatment from chemical-treatment manufacturer and certification by treating plant that treated materials comply with requirements.

Sustainable Design Submittals:

- [<Double click to insert sustainable design text for recycled content.>](#)
- [<Double click to insert sustainable design text for regional materials.>](#)
- [<Double click to insert sustainable design text for certified wood.>](#)
- [<Double click to insert sustainable design text for adhesives.>](#)
- [<Double click to insert sustainable design text for composite wood.>](#)
- [<Double click to insert sustainable design text for installation adhesives.>](#)

Shop Drawings: For flush wood paneling.

- Include plans, elevations, sections, and attachment details.
- Show details full size.

Show locations and sizes of furring and blocking, including concealed blocking specified in other Sections.

For paneling produced from premanufactured sets, show finished panel sizes, set numbers, sequence numbers within sets, and method of cutting panels to produce indicated sizes.

For paneling veneered in fabrication shop, show veneer leaves with dimensions, grain direction, exposed face, and identification numbers indicating the flitch and sequence within the flitch for each leaf.

Apply [AWI Quality Certification] [WI Certified Compliance] Program label to Shop Drawings.

Samples: For each exposed product and for each color and finish specified, in manufacturer's or fabricator's standard size.

Samples for Initial Selection: For each type of exposed finish.

Samples for Verification: For the following:

Lumber for Transparent Finish: Not less than **5 inches (125 mm) wide by 12 inches (300 mm) long** **5 inches (125 mm) wide by 24 inches (600 mm) long**, for each species and cut, finished on one side and one edge.

Veneer Leaves: Representative of and selected from flitches to be used for transparent-finished paneling.

Veneer-Faced Panel Products for Transparent Finish: **8 by 10 inches (200 by 250 mm)** **12 by 12 inches (300 by 300 mm)** **12 by 24 inches (300 by 600 mm)**, for each species and cut.

Include at least one face-veneer seam and finish as specified.

INFORMATIONAL SUBMITTALS

Qualification Data: For **[Installer]** **[fabricator]**.

Product Certificates: For each type of product.

Quality Standard Compliance Certificates: [AWI Quality Certification Program] [WI Certified Compliance Program].

Evaluation Reports: For fire-retardant-treated materials, from ICC-ES.

QUALITY ASSURANCE

Fabricator Qualifications: Shop that employs skilled workers who custom-fabricate products similar to those required for this Project and whose products have a record of successful in-service performance.

Shop Certification: [AWI's Quality Certification Program accredited participant] [WI's Certified Compliance Program licensee].

Installer Qualifications: [Fabricator of products] [AWI's Quality Certification Program accredited participant] [WI's Certified Compliance Program licensee].

MOCKUPS

Build mockups to verify selections made under Sample submittals, to demonstrate aesthetic effects, and to set quality standards for materials and execution.

Build mockups of [typical paneling as shown on Drawings] <Insert description>.

Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

DELIVERY, STORAGE, AND HANDLING

Do not deliver paneling until painting and similar operations that might damage paneling have been completed in installation areas. Store paneling in installation areas or in areas where environmental conditions comply with requirements specified in "Field Conditions" Article.

FIELD CONDITIONS

Environmental Limitations without Humidity Control: Do not deliver or install paneling until building is enclosed, wet-work is complete, and HVAC system is operating and will maintain temperature and relative humidity at levels planned for building occupants during the remainder of the construction period.

Environmental Limitations with Humidity Control: Do not deliver or install paneling until building is enclosed, wet-work is complete, and HVAC system is operating and will maintain temperature between **60 and 90 deg F (16 and 32 deg C)** and relative humidity between **[25 and 55] [43 and 70] [17 and 50]** **<Insert numbers>** percent during the remainder of the construction period.

Field Measurements: Where paneling is indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication and indicate measurements on Shop Drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

Locate concealed framing, blocking, and reinforcements that support paneling by field measurements before being enclosed/concealed by construction and indicate measurements on Shop Drawings.

Established Dimensions: Where paneling is indicated to fit to other construction, establish dimensions for areas where woodwork is to fit. Provide allowance for trimming at site, and coordinate construction to ensure that actual dimensions correspond to established dimensions.

PRODUCTS

SOURCE LIMITATIONS

Source Limitations: Engage a qualified woodworking firm to assume undivided responsibility for production of paneling **[and] [wood-veneer-faced architectural cabinets] [ornamental woodwork] [wood trim] [wood frames] [and] [wood doors faced with veneers from same flitches as paneling]**.

PANELING FABRICATORS

Fabricators: Subject to compliance with requirements, **[provide products by the following] [provide products by one of the following] [available fabricators offering products that may be incorporated into the Work include, but are not limited to, the following]:**

<Insert, in separate subparagraphs, names and contact information for preapproved woodworking firms>.

PANELING, GENERAL

Quality Standard: Unless otherwise indicated, comply with the "Architectural Woodwork Standards" for grades of flush wood paneling (wood-veneer wall surfacing) indicated for construction, finishes, installation, and other requirements.

Provide inspections of fabrication and installation together with labels and certificates from [AWI] [WI] certification program indicating that woodwork complies with requirements of grades specified.

The Contract Documents contain requirements that are more stringent than the referenced woodwork quality standard. Comply with requirements of Contract Documents in addition to those of the referenced quality standard.

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FLUSH WOOD PANELING (WOOD-VENEER WALL SURFACING)

Grade: [Premium] [Custom] [Economy].

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Wood Species and Cut: [White oak, rift sliced] [Select white ash, plain sliced] [Sycamore, plain sliced] [Cherry, plain sliced] [Butternut, plain sliced] [Avodire, quarter sliced] <Insert species and cut>.

Veneer Matching Method:

Adjacent Veneer Leaves: [Book] [Slip] [Pleasant (Random)] match.

Within Panel Face: [Running] [Balance] [Center-balance] match.

Adjacent Veneer Leaves and within Panel Face: Slip, center-balance, or book match.

Panel-Matching Method:

No matching is required between adjacent panels. Select and arrange panels for similarity of grain pattern and color between adjacent panels.

[Premanufactured panel sets used full width] [Premanufactured panel sets selectively reduced in width] [Made-to-order, sequence-matched panels] [Made-to-order, blueprint-matched panels and components] within each separate area.

See Section 011000 "Summary" for requirements concerning flitches reserved by Architect.

Vertical Panel-Matching Method: [Continuous end match; veneer leaves of upper panels are continuations of veneer leaves of lower panels] [Architectural end book match; veneer leaves are individually book matched from lower panels to upper panels] [Architectural end slip match; veneer leaves are individually slip matched from lower panels to upper panels] [Panel end book match; panels are book matched from lower panels to upper panels] [Panel end slip match; panels are slip matched from lower panels to upper panels].

Panel Core Construction: [Hardwood veneer-core plywood] [Particleboard or MDF] [Fire-retardant particleboard or fire-retardant MDF].

Thickness: [3/4 inch (19 mm)] [As indicated on Drawings].

Exposed Panel Edges: [Inset solid-wood or wood-veneer matching faces] [Legs of metal channels forming reveals] [Applied solid-wood banding 11/16 inch (18 mm) thick by depth of panels] [Applied bronze flat bars 1/16 inch (1.6 mm) thick by depth of panels] <Insert description>.

Panel Reveals: [Matte black plastic laminate] [Bronze sheet] [Stainless steel sheet] [Bronze channels, 1 by 1 by 1/8 inch (25.4 by 25.4 by 3.2 mm) thick] [Stainless steel channels, 1 by 1 by 1/16 inch (25.4 by 25.4 by 1.6 mm) thick] <Insert description>.

Fire-Retardant-Treated Paneling: Panels are to consist of wood-veneer and fire-retardant particleboard or fire-retardant, medium-density fiberboard (MDF). Panels are to have a flame-spread index of [25] [75] or less and a smoke-developed index of 450 or less per ASTM E84, and be listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction.

Assemble panels by gluing and concealed fastening.

MATERIALS

Materials, General: Provide materials that comply with requirements of referenced quality standard for each quality grade specified unless otherwise indicated.

Wood Moisture Content: [5 to 10] [8 to 13] [4 to 9] percent.

Composite Wood Products: Provide materials that comply with requirements of referenced quality standard for each quality grade specified unless otherwise indicated.

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[<Double click to insert sustainable design text for composite wood products.>](#)

MDF: ANSI A208.2, [Grade 130] <Insert grade>.

Particleboard (Medium Density): ANSI A208.1, [Grade M-2] [Grade M-2-Exterior Glue].

Veneer-Faced Panel Products (Hardwood Plywood): HPVA HP-1.

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FIRE-RETARDANT-TREATED MATERIALS

Fire-Retardant-Treated Materials, General: Where fire-retardant-treated materials are indicated, use materials that are acceptable to authorities having jurisdiction and with fire-test-response characteristics specified as determined by testing identical products per test method indicated by a qualified testing agency.

Use treated materials that comply with requirements of referenced quality standard. Do not use materials that are warped, discolored, or otherwise defective.

Use fire-retardant-treatment formulations that do not bleed through or otherwise adversely affect finishes. Do not use colorants to distinguish treated materials from untreated materials.

Identify fire-retardant-treated materials with appropriate classification marking of qualified testing agency in the form of removable paper label or imprint on surfaces that will be concealed from view after installation.

Fire-Retardant-Treated Lumber and Plywood: Products with a flame-spread index of 25 or less when tested according to ASTM E84, with no evidence of significant progressive combustion when the test is extended an additional 20 minutes, and with the flame front not extending more than 10.5 feet (3.2 m) beyond the centerline of the burners at any time during the test.

Kiln-dry lumber and plywood after treatment to a maximum moisture content of 19 and 15 percent, respectively.

For items indicated to receive a stained or natural finish, use organic resin chemical formulation.

Mill lumber after treatment within limits set for wood removal that do not affect listed fire-test-response characteristics, using a woodworking shop certified by testing and inspecting agency.

Mill lumber before treatment and implement procedures during treatment and drying processes that prevent lumber from warping and developing discolorations from drying sticks or other causes, marring, and other defects affecting appearance of paneling.

Fire-Retardant Particleboard: Made from softwood particles and fire-retardant chemicals mixed together at time of panel manufacture to achieve flame-spread index of 25 or less and smoke-developed index of 25 or less per ASTM E84.

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For panels **3/4 inch (19 mm)** thick and less, comply with ANSI A208.1 for Grade M-2 except for the following minimum properties: modulus of rupture, **1600 psi (11 MPa)**; modulus of elasticity, **300,000 psi (2070 MPa)**; internal bond, **80 psi (550 kPa)**; and screw-holding capacity on face and edge, **250 and 225 lbf (1100 and 1000 N)**, respectively.

For panels **13/16 to 1-1/4 inches (20 to 32 mm)** thick, comply with ANSI A208.1 for Grade M-1 except for the following minimum properties: modulus of rupture, **1300 psi (9 MPa)**; modulus of elasticity, **250,000 psi (1720 MPa)**; linear expansion, 0.50 percent; and screw-holding capacity on face and edge, **250 and 175 lbf (1100 and 780 N)**, respectively.

Fire-Retardant Fiberboard: MDF panels complying with ANSI A208.2, made from softwood fibers, synthetic resins, and fire-retardant chemicals mixed together at time of panel manufacture to achieve flame-spread index of 25 or less and smoke-developed index of 200 or less per ASTM E84.

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INSTALLATION MATERIALS

Furring, Blocking, Shims, and Hanging Strips: [**Softwood or hardwood lumber**] [**Fire-retardant-treated softwood lumber**], kiln-dried to less than 15 percent moisture content.

Anchors: Select material, type, size, and finish required for each substrate for secure anchorage. Provide metal expansion sleeves or expansion bolts for post-installed anchors. Use nonferrous-metal or hot-dip galvanized anchors and inserts at inside face of exterior walls.

Installation Adhesive: Product recommended by panel fabricator for each substrate for secure anchorage.

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FABRICATION

Sand fire-retardant-treated wood lightly to remove raised grain on exposed surfaces before fabrication.

Arrange paneling in shop or other suitable space in proposed sequence for examination by Architect. Mark units with temporary sequence numbers to indicate position in proposed layout.

Lay out one elevation at a time if approved by Architect.

Notify Architect seven days in advance of the date and time when layout will be available for viewing.

Provide lighting of similar type and level as that of final installation for viewing layout unless otherwise approved by Architect.

Rearrange paneling as directed by Architect until layout is approved.

Do not trim end units and other nonmodular-size units to less than modular size until after Architect's approval of layout. [**Indicate trimming by masking edges of units with nonmarking material.**]

Obtain Architect's approval of layout before start of assembly. Mark units and Shop Drawings with assembly sequence numbers based on approved layout.

230 Complete fabrication, including assembly, to maximum extent possible, before shipment to Project site.
231 Disassemble components only as necessary for shipment and installation. Where necessary for fitting at
232 site, provide ample allowance for scribing, trimming, and fitting.

233 Notify Architect seven days in advance of the dates and times paneling fabrication will be
234 complete.

235 Shop cut openings, to maximum extent possible, to receive hardware, appliances, plumbing fixtures,
236 electrical work, and similar items. Locate openings accurately and use templates or roughing-in diagrams
237 to produce accurately sized and shaped openings. Sand edges of cutouts to remove splinters and burrs.

238 **SHOP FINISHING**

239 General: Finish paneling at fabrication shop as specified in this Section. Defer only final touchup,
240 cleaning, and polishing until after installation.

241 Shop Priming: Shop apply the prime coat including backpriming, if any, for[**transparent-finished**]
242 paneling specified to be field finished. See Section 099300 "Staining and Transparent Finishing" for
243 material and application requirements.

244 Preparation for Finishing: Comply with referenced quality standard for sanding, filling countersunk
245 fasteners, sealing concealed surfaces, and similar preparations for finishing paneling, as applicable to
246 each unit of work.

247 Backpriming: Apply two coats of sealer or primer, compatible with finish coats, to concealed
248 surfaces of paneling.

249 Transparent Finish:

250 Grade: [Premium] [Custom] [Economy] [Same as item to be finished].

251 Finish: System - [1, nitrocellulose lacquer] [2, precatalyzed lacquer] [3, postcatalyzed lacquer] [4,
252 water-based latex acrylic] [5, conversion varnish] [6, synthetic penetrating oil] [7, catalyzed vinyl]
253 [8, water-based crosslinking acrylic] [9, UV curable acrylated epoxy, polyester, or urethane] [10,
254 water-based UV curable] [11, catalyzed polyurethane] [12, water-based polyurethane] [13,
255 catalyzed polyester].

256 Wash Coat for Closed-Grain Woods: Apply wash-coat sealer to woodwork made from closed-
257 grain wood before staining and finishing.

258 Staining: [None required] [Match approved sample for color] [Match Architect's sample].

259 Open Finish for Open-Grain Woods: Do not apply filler to open-grain woods.

260 Filled Finish for Open-Grain Woods:[**After staining, apply wash-coat sealer and allow to dry.**]

261 Apply paste wood filler and wipe off excess. Tint filler to match stained wood.

262 Sheen: [**Flat, 15-30**] [**Satin, 31-45**] [**Semigloss, 46-60**] [**Gloss, 61-100**] gloss units measured on
263 60-degree gloss meter per ASTM D523.

264 **EXECUTION**

265 **PREPARATION**

266 Before installation, condition paneling to humidity conditions in installation areas.

267 Before installing paneling, examine shop-fabricated work for completion and complete work as required,
268 including removal of packing and backpriming.

INSTALLATION

Grade: Install paneling to comply with quality standard grade of paneling to be installed.

Install paneling level, plumb, true in line, and without distortion. Shim as required with concealed shims. Install level and plumb to a tolerance of **1/8 inch in 96 inches (3 mm in 2400 mm)**. Install with no more than **1/16 inch in 96-inch (1.6 mm in 2400-mm)** vertical cup or bow and **1/8 inch in 96-inch (3 mm in 2400-mm)** horizontal variation from a true plane.

For flush paneling with revealed joints, install with variations in reveal width, alignment of top and bottom edges, and flushness between adjacent panels not exceeding **[1/32 inch (0.8 mm)] [1/16 inch (1.5 mm)]**.

Anchor paneling to supporting substrate with [concealed panel-hanger clips] [splined connection strips] [blind nailing].

Do not use face fastening unless **[covered by trim] [otherwise indicated]**.

Complete finishing work specified in this Section to extent not completed at shop or before installation of paneling. Fill nail holes with matching filler where exposed.

Apply specified finish coats, including stains and paste fillers if any, to exposed surfaces where only sealer/prime coats are shop applied.

See Section 099300 "Staining and Transparent Finishing" for final finishing of installed paneling.

ADJUSTING AND CLEANING

Repair damaged and defective paneling, where possible, to eliminate defects. Where not possible to repair, replace paneling. Adjust for uniform appearance.

Clean paneling on exposed surfaces. Touch up shop-applied finishes to restore damaged or soiled areas.

END OF SECTION 064216