



 **MURPHY**



FAMILY OWNED AND
OPERATED SINCE 1909

AMERICAN MADE HARDWOOD PLYWOOD

Murphy Company

Murphy Company is a third generation, family-owned wood products manufacturer located in the Pacific Northwest. Hardwood and custom panel products are produced at our Eugene, Oregon facility. With over fifty years of quality production, the mill produces products exceeding industry standards and often, customer expectations.

The natural beauty of wood and the sheer number of veneer species create numerous options and versatility. Panel products can be used for cabinets, furniture, paneling and general construction projects.

“Custom Crafted” is our motto as we produce panel products to meet our customers’ requirements. Over ninety-five percent of our face veneers are hand-graded by our own veneer technicians. If a specific project or customer calls for a particular quality of veneer, we will match your specifications.

Additionally, our experienced sales staff has an in-depth working knowledge of our grading room. This creates a cohesive, cooperative transition from your custom request to final product delivery.

Whether it is standard hardwood plywood, custom wall paneling, or fully finished panels, Murphy can fulfill your needs. Please review the information in this brochure and contact us with any questions about how Murphy Company can exceed your expectations.



Stewardship

The importance of forest-based products to the economy cannot be overemphasized. In fact, forests provide over half of all major industrial raw materials. If managed properly, forest resources are indefinitely renewable, unlike products derived from metal and fossil-fuel.

Murphy’s veneer division uses each log to the fullest, converting all possible content to veneer and using the by-products for biomass, landscape products and other uses. Nothing is wasted.

Special emphasis is placed on sourcing raw materials for panel production from suppliers committed to sustainable practices and sourcing. Certifications for Murphy facilities include FSC® (Forest Stewardship Council®), SFI® (Sustainable Forest Initiative®), and PEFC™ (Program for the Endorsement of Forest Certification™).

Murphy Hardwood Plywood has achieved CARB Phase II exempt status, TSCA Title VI compliance and is one of the few hardwood panel producers in the country with HP-1 mill certification. This third-party, voluntary certification and testing is based on ISO/IEC 17065, 17025 and 17020 standards.

As a default, Murphy uses ULEF adhesive for panel manufacturing. It is both LEED and CARB2 compliant. Use of NAUF/NAF adhesives are available upon request.

Murphy industry association memberships include DHA® (Decorative Hardwoods Association), KCMA® (Kitchen Cabinet Manufacturers Association), AWFS® (Association of Woodworking & Furnishings Suppliers), NBMDA® (North American Building Material Distribution Association), APA® (Engineered Wood Association) and NAWLA® (North American Wholesale Lumber Association).



Hardwood Veneer

Nothing surpasses the warmth and beauty of real wood. Please find below photo representation of our most popular veneers. Other veneer species available upon request.



Alder - PS



Aromatic Cedar - PS



Ash - RC



Beech - PS



Birch - RC



Cherry - PS



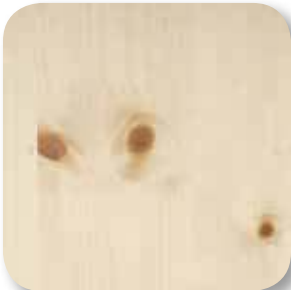
Fir VG - QS



Hickory - PS



Khaya - PS



Knotty Pine - PS



Maple - PS



Maple - RC



Poplar - RC



Red Oak - PS



Red Oak - RC



Sapele - PS



Walnut - PS



White Oak - PS



White Oak - QS



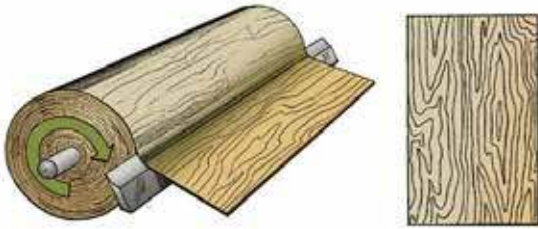
White Oak - RIFT

Veneer Codes: PS: Plain Slice, RC: Rotary Cut, QS: Quartered Sliced, RIFT: Rift Cut.

Note: The pictures do not cover the entire range of color, grain variation or characteristics for the given species.

Veneer Cuts

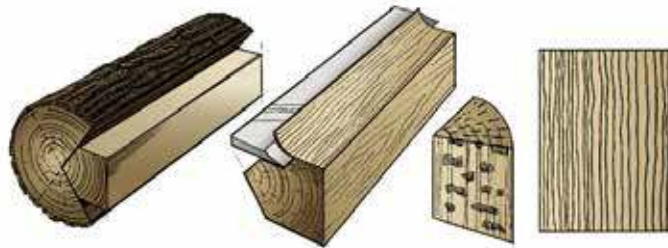
Depending on how a log is peeled, very different visual effects can be achieved with regards to the grain and characteristics. Logs from the same species, cut with different methods, will produce distinctive veneers.



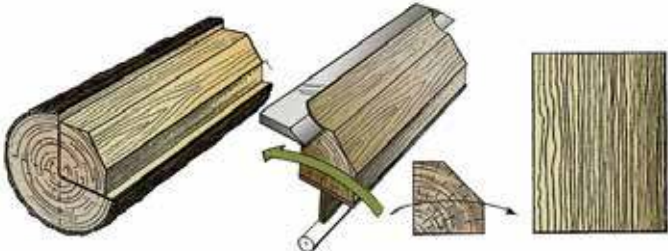
Rotary cut: Cut on a lathe, just like paper coming off a roll, rotary cutting can yield sheets of veneer with broad, variegated grain patterns. This process can produce a limited amount of full-sized, whole piece veneers. This is the most common veneer cut, generates the highest log yield, and is often the least expensive.



Plain sliced: Cut across the width of a half log, plain slicing produces the look of traditional sawn lumber. The log is mounted and cut along the growth rings, producing a combination of cathedral and straight grain patterns.

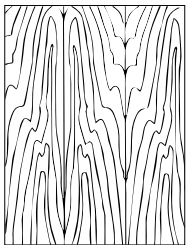


Quarter: A quarter log is mounted so the slicing knife cuts across the growth rings close to a right angle. The overall result is a narrow, straight grain appearance. This is a popular veneer cutting method for red and white oak as it produces a ray flake pattern.

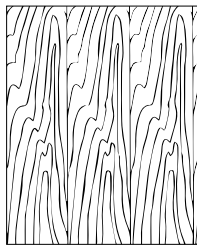


Rift: Producing similar effects to quarter slicing, rift cutting produces a narrow, straight tight, grain and is generally used only with red and white oak. This process, although costlier due to lower yields, provides a more uniform appearance and minimizes the ray flake pattern in white or red oak.

Veneer Matching



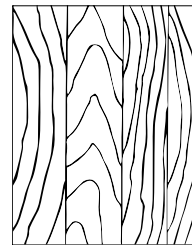
Book: Alternating leaves of veneer are turned over so adjacent leaves resemble pages of a book (mirror effect). This creates a symmetrical pattern and yields maximum continuity of the grain. Book is the most common match type.



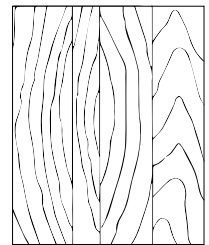
Slip: Adjoining veneer leaves are placed in sequence (without being turned) so the same side of the veneer leaves are exposed. Visually, the leaves do not match at the joints, but the grain is repeated in appearance. This enhances color uniformity as all faces have similar light reflection.



Plank: The veneer leaves of the same species are selected and assembled in a dissimilar way (in color, grain, or width) to simulate lumber planking. This match is typically used with rustic woods to ensure characteristic marks are evenly distributed throughout the sheet.



Pleasing: The veneer leaves are selected by color or similarity for uniformity but not necessarily grain pattern match. No sharp color contrasts are allowed at the joints.



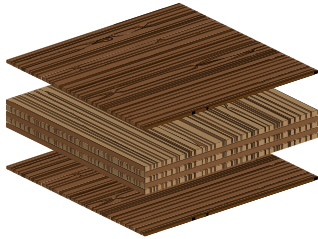
Random (Mismatch): The veneer leaves are assembled in random order without regard to matching grain or color. This provides a casual effect but works well with naturally uniform species.



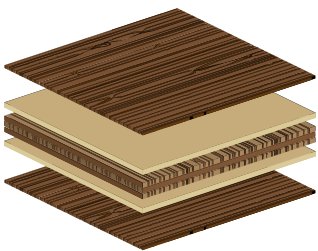
Murphy offers many core options on its hardwood plywood products (see table below). The four most common cores include:



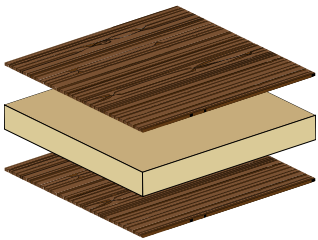
Veneer: Well-suited for cabinet and casework, veneer cores are manufactured by alternating the grain direction of each layer by 90 degrees. This cross layering creates exceptionally strong, lightweight and dimensionally stable hardwood plywood with excellent screw holding characteristics.



Calibrated: This is the choice for high-end cabinet and furniture manufacturing requiring exact tolerances. Calibrated cores feature a precision inner ply with an exacting thickness consistency across the sheet.



FiberPly: FiberPly features excellent machinability and superior screw holding combined with exceptional panel strength and durability. It features inner veneer layers and MDF layers under the hardwood face and back veneers. This core offers the strength and stability of a veneer core but offers a void-free surface for the face and back veneer, producing a rigid, smooth panel.



Composite: Using a particleboard (PB) or medium density fiberboard (MDF) core makes for a smooth, stable and flat plywood panel. This core type is perfect for projects requiring routing and shaping operations.

Core Characteristics

<u>Panel Core Type</u>	<u>Flatness</u>	<u>Surface Uniformity</u>	<u>Dimensional Stability</u>	<u>Screw Holding</u>	<u>Bending Strength</u>
Veneer	Fair	Fair	Excellent	Excellent	Excellent
Veneer (Murphy Calibrated)	Good	Good	Excellent	Excellent	Excellent
Combination Core w/ composite crossbands (FiberPly)	Excellent	Excellent	Good	Excellent	Excellent
Medium Density Fiberboard (MDF) (Murphy Composite)	Excellent	Excellent	Fair	Good	Good
Industrial Particleboard (Murphy Composite)	Excellent	Excellent	Fair	Fair	Good
Moisture Resistant MDF	Excellent	Excellent	Fair	Good	Good
Fire Rated Particleboard	Excellent	Good	Fair	Fair	Good
Fire Rated MDF	Excellent	Excellent	Fair	Good	Good

Laminates

Decorative Laminates

Decorative laminate surfaces can be used for furniture, interior cabinets, wall paneling, and store fixtures. With a fully integrated laminating line, Murphy can apply wood grain, solid colors, foil or vinyl laminates to panels. Murphy also offers Thermo-Fused Laminate as a more durable alternative (please see below for more information).

Many surfacing products are available and suitable for widespread decorative and functional applications. Paper and vinyl laminates are an attractive, functional, and affordable alternative to real wood surface components. Faux finishes and durable performance-grade top coated foils are available as well.

Custom printed decorative overlay options include (top-coated foils and vinyl):

- Decorative top coated papers, 23 gram to 120 gram
- High Quality Vinyl, 2 to 30 mil

ArmorLam™ (TFL)

Quite often a surface more durable than a standard laminate applied to a hardwood panel is desired. A common application is for cabinet interiors. Murphy's ArmorLam is perfect for such applications. White is the most common color but matching wood grain and other solid colors are available.

With the thermo-fused laminate (TFL) process, heat and pressure activates a resin-saturated overlay and permanently fuses the overlay to the substrate. Particleboard or MDF are often the substrate used as they present a consistent surface. The resulting finish is noted for its hardness, scratch and heat resistance, and color stability.

ArmorLam panels are widely used in cabinets, shelving, home storage, office furniture, closet system components, store fixtures and cabinets. It can also be specified for use in healthcare, hospitality, commercial and retail settings.

Custom Crafted

Custom Panels

- Standard panel size is 4' X 8'. Panels are also available in 4' X 6' and 4' X 7'.
- Inquire about oversized panels.
- Counter-front panels are available (cross-grain panel).
- ULEF glue is standard. NAUF or NAF glue available upon request.
- Moisture-resistant, exterior-grade glue available.

Custom Services

- Panels can be cut to custom size for additional labor savings.
- Edge-banding of edges (PVC or veneer available).
- Bullnose finish of edges.
- Dado panels to save on production labor.
- Drawer sides produced to your specifications.
- Custom UPC labeling.
- Special packaging to your specifications.



Murphy Company produces a wide variety of wall paneling products. Please ask your salesperson for more details or find additional information at murphyplywood.com/paneling.



Panel finishing can be expensive and time-consuming. Save labor costs and virtually eliminate finish emissions with Murphy finishing services. Our topcoat system uses 100% UV solids. All coloring system components are water-based and environmentally friendly.

PermaGuard® UV Topcoat

Our durable, clear finish, perfect for full panels, cabinets, vanity interiors, shelving, and drawers, is stain and chemical resistant. The UV curing process provides a finish more durable than catalyzed topcoats and is available in various sheens ranging from satin to high gloss.

The topcoat process includes application of a UV sealer and a double application of the top clear coat (two coats are applied instead of a single, thicker coat for a more durable finish).

Transparent and Solid Colors

Adding color to real wood can emphasize the grain and enhance its beauty. Murphy has the ability to apply transparent or solid colors to meet your specifications.

The Murphy finish line capabilities include application of the following on panel products:

- Flood coat.
- Stain (water-based stain applied to color veneer grain).
- Sealer (seals wood for further finishing. 100% UV solids).
- Primer (water-based primer provides solid base for color application).
- Toner (adds transparent tint to the final wood coloring).
- Color (water-based color finish).
- PermaGuard Topcoat (100% UV solids, two-step clear coat as described above).

Color Matching

Murphy works with many customers to color-match new and existing finishes.

If you have a color to match, Murphy works with the finish supplier to create the correct mix of finishing steps. Once the color-match recipe is in place, future orders can be finished and match-verified using our commercial spectrometer and software system.

From sample receipt to color approval, the first-time match process generally takes two weeks. Please ask your Murphy salesperson for additional details.

Color Examples



Palomino Maple
Transparent



White
Opaque



PermaGuard
Over Natural Maple



Whiskey Black Cherry
Transparent



Handling and Storage

Wood is a hygroscopic material and will readily exchange moisture with its environment according to the relative humidity. In humid conditions, wood will pick up moisture and swell. In low humidity situations, wood releases moisture and shrinks. Normal, minor fluctuations in humidity will have an insignificant impact on properly designed construction. To avoid problems, it is recommended to maintain a relative humidity range of 25-55%. Extremes in humidity (above 80% and below 20%) should be avoided.

The following recommendations will help minimize or avoid common issues with plywood panel movement and installation. Please see our website (www.murphyplywood.com/technical) for additional information.

Handling

Movement – Minimize damage to your panels by handling them as few times as possible. Plan the flow of materials to achieve a minimal movement goal. Please follow the precautions below to retain quality panel conditions.

Storage

Stacking – Maintain clean stacks with no edges protruding. Panels should be stacked flat on raised runners of equal thickness.

Light – The color of some hardwood veneers will change rapidly with exposure to direct sunlight. Keep panels covered and neatly stacked during storage.

Acclimatization

Allow at least 48 hours for panels to acclimate to the job site environment before installation. Again, the panels should be stacked flat on raised runners of equal thickness. The weight should be evenly distributed on the stack to help them acclimatize uniformly. If panels are not given enough time to acclimate to a new setting prior to fabrication or installation, they may warp.

Installation

Do not take panels to the job site until they are ready for installation (observe the above acclimatization step). Wall panels should not be installed over wet or unfinished drywall and an allowance for linear expansion should be included in the design.

Finishing

A light sanding and application of a sealer is recommended prior to staining of hardwood panels. Make sure to test a sample prior to final finishing. Please see our technical documentation section of the website for additional information.

Note: The pictures in this brochure are representative of veneers and panel finishes available. Grain patterns and color can vary from panel to panel. The pictures do not cover the entire range of color, grain variation or characteristics for the given wood species.

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