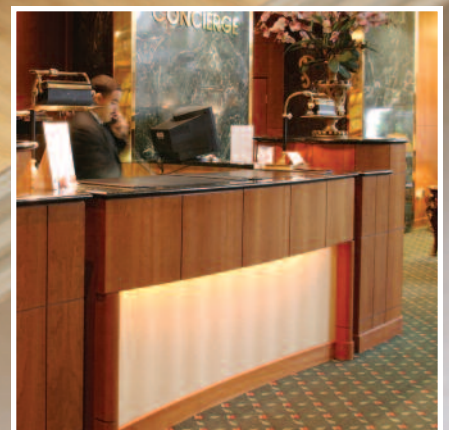
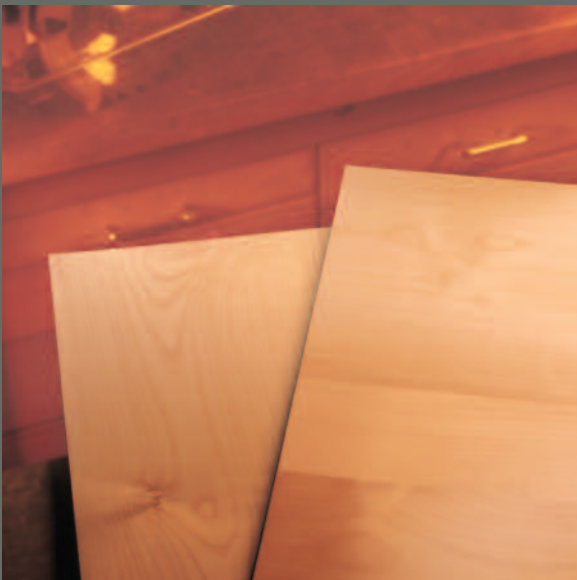


Lumber Melamine Hardwood Plywood Architectural Panels Colored Caulk Particle Board Exotic Lumber MDF Veneer Moulding Laminates Hardware Edgeband Adhesives Bendable Panels Lumber Melamine Hardwood Plywood



Panels Lumber Melamine Hardwood Plywood Architectural Panels Colored Caulk Particle



Plywood to Meet Your Construction and Manufacturing Needs

Our distribution centers stock a wide selection of exotic and domestic plywood with a variety of cores. Our inventory is ideally suited to meet the needs of cabinet, furniture and fixture manufacturers. The following products are in stock and ready-to-ship:

- A through D & shop grade plywood
- Architectural grade sequenced matched & numbered plywood
- Prefinished plywood
- Softwood plywood
- Sustainable plywood



Many of these products can be manufactured with cores that qualify toward the U.S. Green Building Council's LEED™ green building program. For assistance with products which may help you meet LEED requirements, refer to the chart on page three or contact your Hardwoods Incorporated sales representative. FSC-certified and CARB-certified hardwood plywood products are also available upon request.

For custom lay-up panels and veneer sheets, please turn to the Architectural Panels and Veneers section on page 21, or call your sales representative for assistance.



Photo courtesy of Columbia Forest Products



The mark of responsible forestry

FSC® C068144



www.columbiaforestproducts.com



www.timberproducts.com

Our distribution centers feature hardwood plywood from leading plywood manufacturers. A full range of grades of hardwood plywood is available, including hardwood plywood produced with FSC-certified wood that is laminated with a formaldehyde-free glue that can qualify toward points in the U.S. Green Building Council's LEED™ green building program (see chart on page three). Please talk with your sales representative for assistance with LEED compliant materials.

TECHNICAL REFERENCE

This technical reference is provided as a quick guide to plywood grades, plywood faces, and plywood cores found on our in-stock plywood. For a more comprehensive guide, please turn to page 22, or read our publication "Veneer and Architectural Panels Technical Reference Guide." Please call your local sales or spec rep to request a free copy!



PLYWOOD GRADES

The following information provides a quick overview of the HPVA face and back grade definitions.

Front Face Grade	Description
AA	Architectural grade. The best quality face grade for high-end uses, such as architectural paneling, doors and cabinets, case goods and premium furniture. Generally available by special order.
A	Where AA is not required, but excellent appearance is very important, as in cabinets and furniture. Select grade veneer for quality and color. A select veneer is composed of entirely heartwood or sapwood and is matched for both grain pattern and color. If spliced, leaves must be spliced and book-matched for a pleasing effect of color and grain. Minor infrequent burls, pin knots and inconspicuous small patches are allowed. Frequency of defects depends on species.
B	Where the natural characteristics and appearance of the species are desirable. B grade is composed entirely of heartwood or sapwood, but is matched for color only. Similar to A grade, but allows more numerous and larger burls, pin knots and color streaks.
C	Allows more numerous and larger burls, pin knots, color variations and rough-cut veneers. C grade is sound and smooth.
D	Sound grade free of open defects, but allows unlimited and more repaired defects than the C grades.
E	Sound grade with all repaired defects allowed.
SHOP	Shop grade contains minor imperfections and is guaranteed to be a minimum of 85% useable. Usually, the panel is a high-grade product, but due to some defect, did not make the standards for the high grade. It may have a broken corner, a small area of void, or a sanding error.

NOTE: Face grade allowable defects vary by species

Back Face Grade	Description
1	Allows color variation, no large sound knots, tight knots cannot exceed 3/8" in diameter. Core laps are not permitted. Worm holes and splits are required to be filled.
2	Color is not a consideration. Sound knots cannot exceed 3/4" in diameter. Repaired core laps and repaired knots permitted.
3	Knot holes of 1" in diameter are permitted.
4	Reject back grade not sound. Allows many open defects.

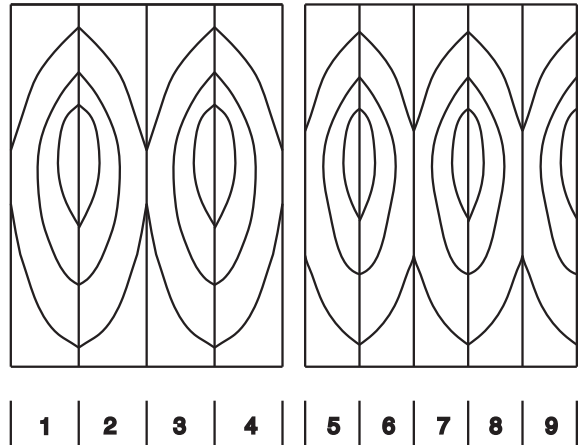
PLYWOOD FACES

The following is a description of the different faces found on most stocked plywood. Please check our plywood inventory (pages 17 to 20), or call your sales representative for further assistance.

Book- and Balance-Matched Face (BB)

Our architectural grade sequenced-matched and numbered panels have a plain-sliced or quarter-sliced book and balance matched face. Each panel face is assembled from veneer leaves of uniform width. (When edge-trimmed, the end leaves may be slightly smaller.) Panels may contain an even or odd number of leaves and distribution may change from panel to panel within a sequenced set.

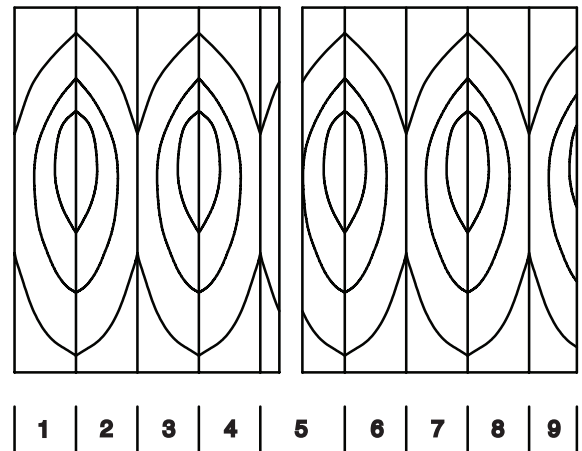
The plain-sliced species typically come in sets of 20 or more panels, while the quarter-sliced sets 20 or less.



Running Book-Matched Face (RB)

The majority of our stock plywood panels have a plain-sliced, running book-matched face. Plain-sliced veneer leaves are book matched, and then assembled from as many leaves as necessary to make a face. Any portion left over from the last leaf may be used as the start of the next panel.

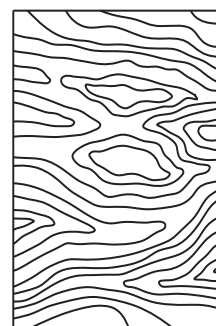
Running-matched panels can be sequenced and numbered, but are seldom used for adjacent wall panels.



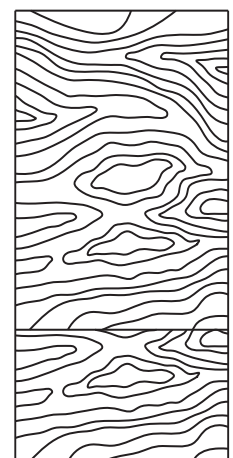
Whole-Piece Face (WPF) and Spliced Face (SF)

A single sheet of rotary-cut veneer that reveals a continuous grain pattern throughout the sheet. The majority of rotary-cut 4'x 8' panels are whole-piece face, whereas larger panels are typically split face.

Rotary-cut plywood appears bold and random. Matching at veneer joints is extremely difficult. Except to create a specific design effect, rotary-cut plywood panels are rarely used in fine architectural woodwork. Whole-piece faces are available only in rotary cut.



Whole-Piece Face



Spliced Face

PLYWOOD CORES (SUBSTRATES)

Medium-Density Fiberboard (MDF) Core

To form fiberboard, wood particles are reduced to fibers in a moderate-pressure steam vessel, combined with a resin, and bonded together under heat and pressure. Medium-density fiberboard (MDF) is one of the most rapidly growing composite board products. The surface is flat, smooth, uniform, dense, and free of knots or grain patterns. It makes a superb carrier for veneers and can be enhanced to a fire-retardant, moisture-resistant or bendable core. (See below.)

Particleboard Core (PB)

Particleboard is produced from wood particles of various sizes that are bonded together with a synthetic resin or binder under heat and pressure. This product is commercially classified by “density,” which is measured by the weight per cubic foot of the panel product. Medium-density industrial particleboard is used in the broadest applications of architectural woodwork. It is especially well suited as a core (substrate) for high-quality veneers and decorative laminates. It can be enhanced to a fire-retardant, moisture-resistant or bendable core. (See below.)

Veneer Core (VC)

To form veneer core, three or more layers (plies) of wood veneers are pressed and glued into a single sheet. Layers of veneer are pressed together in alternating perpendicular layers balanced on either side of a central core layer. This type of plywood is more prone to surface irregularities and defects, but exhibits greater strength in bending and in stress than other core types. High-quality, calibrated veneer core – with as many as 13 plies – is recommended for architectural veneer panels. This virtually eliminates surface irregularities and defects.

Veneer Core Grade	Description
J	Knot holes and other similar shaped openings are not allowed. Maximum width of splits or gaps is 1/8". Available, for the most part, by custom order.
K	Knot holes and other similar shaped openings cannot exceed 3/4" in diameter. Maximum width of splits or gaps is 1/4".
L	Holes cannot exceed 1" in diameter and splits and gaps cannot exceed 1/2" in diameter.
M	Holes cannot exceed 2 1/2" in diameter and splits and gaps cannot exceed 1".

Combination Core

Particleboard or fiberboard is combined in a balanced blend with veneer layers to form combination core.

Fire-Retardant Core

Particleboard and MDF cores can be treated during manufacturing to carry a UL stamp for Class I fire rating (flame spread 20; smoke developed 25).

Moisture-Resistant Core

Particleboard and MDF cores both are available with special resins that resist swelling when exposed to moisture.

Bendable Core

Kerfed particleboard and MDF cores are available for radius projects. Depending on the veneer (and veneer backer), a radius of 16 inches should be obtainable when applying a veneer prior to bending. Certain cores are capable of bending to five inches or less before applying the veneer face. See the section on bending panels, pages 47 and 48, for more information.

HARDWOOD PLYWOOD INVENTORY

Architectural Grade Hardwood Plywood Inventory

Species	Size	Grade	Core	Cut	Match
Anigre, Figured	3/4 x 49 x 97	AA-1	MDF	QTR	SM & N
	3/4 x 49 x 121	AA-1	MDF	QTR	SM & N
Cherry	3/4 x 49 x 97	A-1	MDF	PS	SM & N
	3/4 x 49 x 121	A-1	MDF	PS	SM & N
Mahogany, African	3/4 x 49 x 97	A-1	MDF	PS	SM & N
	3/4 x 49 x 121	A-1	MDF	PS	SM & N
Maple, White	3/4 x 49 x 97	A-1	MDF	PS	SM & N
	3/4 x 49 x 121	A-1	MDF	PS	SM & N
Walnut	3/4 49 x 97	A-1	MDF	PS	SM & N

QTR = Quarter Cut

PS = Plain Sliced

RC = Rotary Cut

SM & N = Sequence Matched and Numbered

Hardwood Plywood Inventory

Species	Size	Grade	Core	Cut	Match
Alder	1/4 x 48 x 96	A-1	MDF	PS	RB
	1/4 x 48 x 96	B-2	MDF	PS	RB
	1/4 x 48 x 96	B-4	VC	PS	RB
	3/4 x 49 x 97	A-1	VC	PS	PLANK
	3/4 x 49 x 97	B-2	VC	PS	RB
Ash, Natural	1/4 x 48 x 96	B-2	VC	RC	WPF
Ash, White	3/4 x 49 x 97	B-2	VC	PS	RB
	3/4 x 49 x 97	B-2	VC	RC	WPF
Birch, Natural	1/4 x 48 x 96	B-2	VC	RC	WPF
	1/4 x 48 x 96	B-2	MDF	RC	WPF
	1/4 x 48 x 96	B-4	VC	RC	WPF
	1/4 x 48 x 96	D-4	VC	RC	WPF
	1/4 x 48 x 96	SHOP	VC	PS RC	WPF SF RB
	1/2 x 48 x 96	B-2	VC	RC	WPF
	1/2 x 48 x 96	SHOP	VC	PS RC	WPF SF RB
	1/2 x 48 x 120	B-2	VC	RC	SF
	3/4 x 49 x 97	B-2	MDF	RC	WPF
	3/4 x 49 x 97	B-2	VC	RC	WPF
	3/4 x 49 x 97	D-3	VC	RC	WPF SF RB
	3/4 x 49 x 97	SHOP	VC	PS RC	WPF SF RB
	3/4 x 49 x 121	C-3	VC	RC	WPF SF RB

QTR = Quarter Cut

PS = Plain Sliced

RC = Rotary Cut

RB = Running Book Match

WPF = Whole-piece face

SF = Spliced face

Hardwood Plywood Inventory

Species	Size	Grade	Core	Cut	Match
Birch, Natural	1 x 48 x 96	B-2	VC	RC	WPF
	1-1/4 x 48 x 96	C-3	VC	RC	WPF
Birch, Natural (Prefinished 1 Side)	1/4 x 48 x 96	B-4	VC	RC	WPF
	3/4 x 49 x 97	B-2	VC	RC	WPF
	3/4 x 49 x 97	C-3	VC	RC	WPF
Birch, Natural (Prefinished 2 Side)	3/4 x 49 x 97	B-2	VC	RC	WPF
	3/4 x 49 x 97	C-3	VC	RC	WPF
Birch, Natural, Beaded	1/4 x 48 x 96	B-4	MDF	RC	WPF
Birch, White	1/4 x 48 x 96	B-2	MDF	RC	WPF
	1/4 x 48 x 96	B-4	VC	RC	WPF
	1/2 x 48 x 96	B-2	VC	RC	WPF
	5/8 x 48 x 96	B-2	MDF	RC	WPF
	3/4 x 49 x 97	B-2	VC	RC	WPF
	3/4 x 49 x 97	B-2	MDF	RC	WPF
Birch, White, Beaded	1/4 x 48 x 96	B-4	VC	RC	WPF
Cedar, Aromatic	1/4 x 48 x 96	B-4	MDF	PS	PLANK
Cherry	1/4 x 48 x 96	A-2	VC	PS	RB
	1/4 x 48 x 96	A-4	VC	PS	RB
	1/4 x 48 x 96	A-4	MDF	PS	RB
	1/4 x 48 x 96	B-2	MDF	PS	RB
	1/2 x 48 x 96	A-1	MDF	PS	RB SM&N
	1/2 x 48 x 96	A-2	VC	PS	RB
	1/2 x 48 x 96	B-2	VC	PS	RB
	3/4 x 49 x 97	A-1	VC	PS	RB SM&N
	3/4 x 49 x 97	B-2	VC	PS	RB
	3/4 x 49 x 97	B-2	MDF	PS	RB
	3/4 x 49 x 97	SHOP	VC	PS RC	WPF SF RB
Cherry, Beaded	1/4 x 48 x 96	B-2	MDF	RC	WPF
Hickory	1/4 x 48 x 96	A-4	VC	PS	RB
	1/4 x 48 x 96	B-2	MDF	PS	RB
	1/2 x 48 x 96	A-2	VC	PS	RB
	3/4 x 49 x 97	A-1	VC	PS	RB
	3/4 x 49 x 97	A-1	MDF	PS	RB
	3/4 x 49 x 97	B-2	VC	PS	RB
Hickory, Beaded	1/4 x 48 x 96	B-4	VC	RC	WPF

QTR = Quarter Cut PS = Plain Sliced RC = Rotary Cut RB = Running Book Match WPF = Whole-piece face SF = Spliced face

Hardwood Plywood Inventory

Species	Size	Grade	Core	Cut	Match
Mahogany	1/4 x 48 x 96	A-4	VC	PS	RB
	1/4 x 48 x 96	B-4	VC	PS	RB
	1/2 x 48 x 96	A-1	MDF	PS	RB SM&N
	3/4 x 49 x 97	A-1	VC	PS	RB SM&N
	3/4 x 49 x 97	B-2	VC	PS	RB
	3/4 x 49 x 97	SHOP	VC	PS RC	WPF SF RB
Maple, White	1/4 x 48 x 96	B-2	VC	RC	WPF
	1/4 x 48 x 96	B-2	MDF	RC	WPF
	1/4 x 48 x 96	B-4	VC	RC	WPF
	1/2 x 48 x 96	A-1	MDF	PS	RB SM&N
	1/2 x 48 x 96	B-2	VC	PS	RB
	1/2 x 48 x 96	B-2	MDF	PS	RB
	3/4 x 49 x 97	A-1	VC	PS	RB SM&N
	3/4 x 49 x 97	B-2	VC	RC	WPF
	3/4 x 49 x 97	B-2	MDF	RC	WPF
	3/4 x 49 x 97	SHOP	VC	PS RC	WPF SF RB
	3/4 x 49 x 121	A-4	VC	PS	RB SM&N
Maple, White (Prefinished 1 Side)	3/4 x 49 x 97	B-2	VC	RC	WPF
Maple, White (Prefinished 2 Sides)	3/4 x 49 x 97	B-2	VC	RC	WPF
Maple, White, Beaded	1/4 x 48 x 96	B-2	MDF	RC	WPF
Maple, Natural	1/4 x 48 x 96	B-4	VC	RC	WPF
	3/8 x 48 x 96	B-2	MDF	RC	WPF
	1/2 x 48 x 96	B-2	VC	RC	WPF
	3/4 x 49 x 97	B-2	VC	RC	WPF
	3/4 x 49 x 97	B-2	MDF	RC	WPF
	3/4 x 49 x 97	D-3	VC	RC	WPF SF RB
Maple, Natural (Prefinished 1 Side)	1/4 x 48 x 96	C-4	VC	RC	WPF
Maple, Natural (Prefinished 2 Sides)	3/4 x 48.5 x 96.5	C-2	VC	RC	WPF
	3/4 x 49 x 97	C-3	VC	RC	WPF
Maple, Natural, Beaded	1/4 x 48 x 96	B-2	VC	RC	WPF
	1/4 x 48 x 96	B-4	VC	RC	WPF
Pine, Knotty	1/4 x 48 x 96	B-4	VC	PS	PLANK
	1/2 x 48 x 96	B-2	VC	PS	RB
	3/4 x 49 x 97	B-B	VC	PS	RB
	3/4 x 49 x 97	B-2	MDF	PS	RB
	3/4 x 49 x 97	SHOP	VC	PS RC	WPF SF RB

QTR = Quarter Cut PS = Plain Sliced RC = Rotary Cut RB = Running Book Match WPF = Whole-piece face SF = Spliced face

Hardwood Plywood Inventory

Species	Size	Grade	Core	Cut	Match
Oak, Red	1/4 x 48 x 96	A-1	VC	QTR	QTR
	1/4 x 48 x 96	B-2	VC	RC	WPF
	1/4 x 48 x 96	B-2	MDF	RC	WPF
	1/2 x 49 x 97	A-4	VC	RIFT	RIFT
	1/2 x 48 x 96	B-2	VC	RC	WPF
	1/2 x 48 x 96	B-2	MDF	RC	WPF
	3/4 x 49 x 97	A-1	VC	QTR	QTR
	3/4 x 49 x 97	A-2	VC	PS	RB
	3/4 x 48 x 96	A-2	MDF	PS	RB
	3/4 x 48 x 96	B-2	VC	RC	WPF
	3/4 x 48 x 96	B-2	MDF	RC	WPF
	3/4 x 49 x 97	SHOP	VC	PS RC	WPF SF RB
	3/4 x 49 x 121	A-2	VC	PS	RB
Oak, Red, Beaded	1/4 x 48 x 96	A-4	MDF	RC	WPF
Oak, White	1/4 x 48 x 96	A-2	VC	QTR	QTR
	1/4 x 48 x 96	A-4	VC	PS	RB
	1/4 x 48 x 96	B-2	VC	RC	WPF
	3/8 x 48 x 96	B-2	VC	RC	WPF
	3/4 x 49 x 97	A-1	VC	PS	RB
	3/4 x 49 x 97	A-1	VC	QTR	QTR
	3/4 x 49 x 97	B-2	VC	RC	WPF
Walnut	1/4 x 48 x 96	A-4	VC	PS	RB
	3/4 x 49 x 97	A-1	MDF	PS	RB
	3/4 x 49 x 97	A-1	VC	PS	RB, SM&N

QTR = Quarter Cut PS = Plain Sliced RC = Rotary Cut RB = Running Book Match WPF = Whole-piece face SF = Spliced face

Softwood Plywood Inventory

Species	Size	Description
Fir	1/2 x 4' x 8'	AC Exterior
	1/2 x 4' x 8'	AB Marine Grade
	1/2 x 4' x 8'	MDO 2-sided
	3/4 x 4' x 8'	AC Exterior
	3/4 x 4' x 10'	AC Exterior
	3/4 x 4' x 8'	AB Marine Grade
	3/4 x 4' x 8'	MDO 2-sided