

VT INDUSTRIES | **veneer guidelines**



VT WOOD VENEERS

PLAIN SLICED NATURAL MAPLE

NATURAL VARIATIONS

The word natural brings to mind certain connotations like “beauty”, “warmth” and “purity”. Merriam-Webster defines natural as “occurring in conformity with the ordinary course of nature (the genetically controlled qualities of an organism): not marvelous or supernatural”.

Wood is a product of nature, and in some cases, will accentuate and enhance a project design when used in its purest, or natural, state. However, as a product of nature, each wood species has certain intrinsic and industry-acceptable characteristics, which can vary from tree to tree and flitch (half log) to flitch. It is precisely these naturally occurring variations that provide such richness and uniqueness to each project design.

Certain wood species such as natural maple and birch can vary widely in color range, which is why in many cases select white is specified so that the sapwood can be accumulated and spliced together to create a consistent color. The photos and information in this brochure are designed to assist you in specifying and receiving the product you envision.

When specifying "natural" maple and birch, the veneer will contain unlimited amounts of Sapwood (the light portion of the log) and/or Heartwood (the dark portion of the log) unselected for color.

If a light colored veneer is preferred, specify Select White (all Sapwood) maple or birch.

If a dark colored veneer is preferred, specify Select Red/Brown (all Heartwood)
Note, availability may be limited.



VT WOOD VENEERS

PLAIN SLICED SELECT WHITE MAPLE

HOW TO SPECIFY

Natural veneers, such as maple and birch, may contain sapwood/heartwood combinations, color streaks, spots and color variation from almost white to very dark. No backcharges will be accepted for allowable characteristics in natural veneers. To avoid these noticeable color and grain variations, select white veneers must be specified.

Below are the requirements for Maple Veneer Grades as recognized by WDMA and AWS.

PLAIN SLICED MAPLE CHARACTERISTICS

Species	Type & Cut	Grade	Sapwood	Heartwood	Color Streaks or Spots	Color Variation	Mineral Streaks	Small Burls or Pin Knots	Cross Bars
Maple	PI-SI Natural	A	Y	Y	Y	Y	S	1 per 3 sq. ft.	S
	PI-SI White	A	Y	N	S	S	S	1 per 3 sq. ft.	S
	PI-SI Red*	A	N	Y	Y	Y	S	1 per 3 sq. ft.	S
Y = Yes N = No S = Slight									

**Maple heartwood is so low in content that it is rarely available in sufficient quantities for commercial use. Chart information used with permission from HPVA® as referenced by WDMA I.S. 1-A.*

PLAIN SLICED MAPLE CHARACTERISTICS

Species	Type & Cut	Grade	Sapwood	Heartwood	Color Streaks or Spots	Color Variation	Mineral Streaks	Small Burls or Pin Knots	Cross Bars
Maple	PI-SI Natural	AA	Y	Y	S	Y	S	1 per 5 sq. ft.	S
	PI-SI White	AA	Y	N	S	S	N	1 per 5 sq. ft.	S
	PI-SI Red*	AA	N	Y	S	Y	N	1 per 5 sq. ft.	S
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VT WOOD VENEERS

PLAIN SLICED NATURAL BIRCH



OUR COMMITMENT TO THE ENVIRONMENT

With VT flush wood and stile & rail doors, you don't have to sacrifice beauty to protect the environment. VT Doors are manufactured in highly efficient, environmentally friendly facilities. VT Industries architectural wood doors are GREENGUARD Certified. They are also available with FSC certified materials and are listed on GreenSpec®.

Below are requirements for Birch Veneer Grades as recognized by WDMA and AWS.



PLAIN SLICED BIRCH CHARACTERISTICS									
Species	Type & Cut	Grade	Sapwood	Heartwood	Color Streaks or Spots	Color Variation	Mineral Streaks	Small Burls or Pin Knots	Cross Bars
Birch	PI-SI Natural	A	Y	Y	Y	Y	S	1 per 3 sq. ft.	S
	PI-SI White	A	Y	N	S	S	S	1 per 3 sq. ft.	S
	PI-SI Red	A	N	Y	Y	Y	S	1 per 3 sq. ft.	S
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	PI-SI White	AA	Y	N	S	S	N	1 per 5 sq. ft.	S
	PI-SI Red	AA	N	Y	S	Y	N	1 per 5 sq. ft.	S
Y = Yes N = No S = Slight									

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VT WOOD VENEERS

PLAIN SLICED WHITE BIRCH

HOW TO SPECIFY

Natural veneers, such as maple and birch may contain sapwood/heartwood combinations, color streaks, spots and color variation from almost white to very dark. No backcharges will be accepted for allowable characteristics in natural veneers. To avoid these noticeable color and grain variations, select white veneers must be specified.

Below are requirements for Birch Veneer Grades as recognized by WDMA and AWS.

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Species	Type & Cut	Grade	Sapwood	Heartwood	Color Streaks or Spots	Color Variation	Mineral Streaks	Small Burls or Pin Knots	Cross Bars
Birch	PI-SI White	A	Y	N	S	S	S	1 per 3 sq. ft.	S
	PI-SI Natural	A	Y	Y	Y	Y	S	1 per 3 sq. ft.	S
	PI-SI Red	A	N	Y	Y	Y	S	1 per 3 sq. ft.	S
Y = Yes N = No S = Slight									

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Birch	PI-SI White	AA	Y	N	S	S	N	1 per 5 sq. ft.	S
	PI-SI Natural	AA	Y	Y	S	Y	N	1 per 5 sq. ft.	S
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VT WOOD VENEERS

WOOD COLOR VARIATIONS

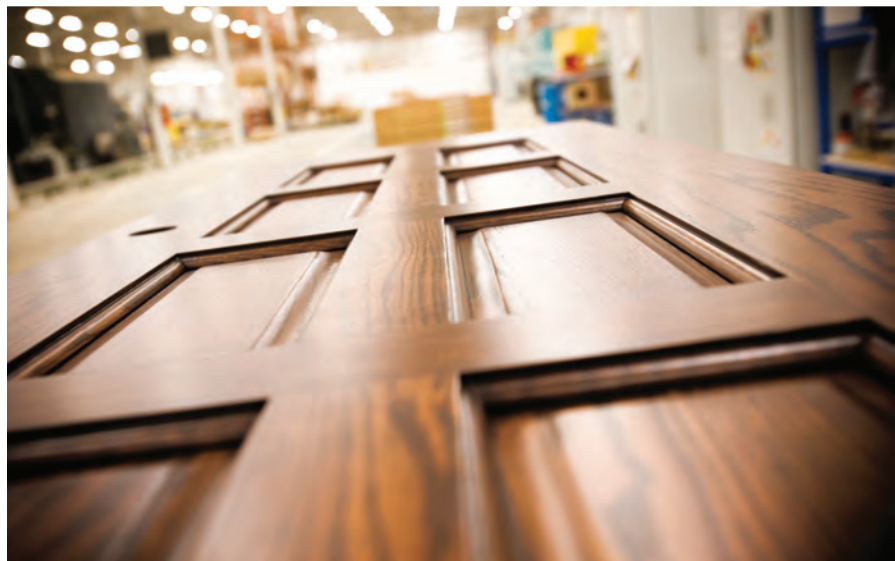


VARIATIONS AMONG SAME SPECIES

Although maple and birch show the greatest contrasts in color and grain, all wood species can vary from flitch to flitch. Environmental factors such as climate and soil content can make each veneer species exhibit a range of colors and textures.

FACTORY FINISH SAMPLES

All factory finish samples illustrate basic color, grain fill and gloss level of our finish systems. Wood is a product of nature and will vary in color and grain from tree to tree, or even within the same tree. Some doors will be lighter or darker even though they all receive the same color stain, but it's precisely those natural variations in density and texture that make wood doors so popular. For more information on our VT Color Choices, please refer to our Factory Finish brochure.



VT WOOD VENEERS

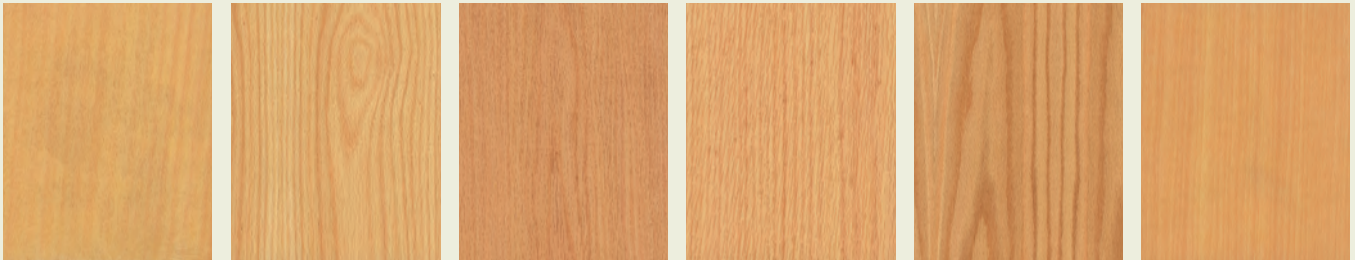
COLOR VARIATION SAMPLES

RANGE OF COLORS ON SAME SPECIES WITH DIFFERENT FLITCHES

Photos below show range of wood color variation using different flitches of same species. Veneers have clear finish – no stains were added to samples.



Cherry



Red Oak



White Maple

CUSTOM & PREMIUM GRADE DOORS

WHAT ARE CUSTOM & PREMIUM

VT Industries has always maintained the highest quality standards set forth by the architectural flush wood door industry – meeting or exceeding industry quality standards. The primary quality standards are 1) the Window & Door Manufacturers Association (WDMA I.S. 1-A) the Architectural Woodwork Standards (AWS) Quality Standards, sections 5 and 9.

WDMA is the industry standard for door manufacturers. The Architectural Woodwork Standards (AWS) are typically used in installations where the doors are blueprint matched with wall paneling and/or the doors are adjacent to millwork. Therefore, these standards match requirements on the doors to be consistent with the surrounding millwork. Most architectural and commercial doors are not directly associated with panels and/or millwork. Thus, the requirements in WDMA are more than adequate to assure consistent appearance amongst doors.

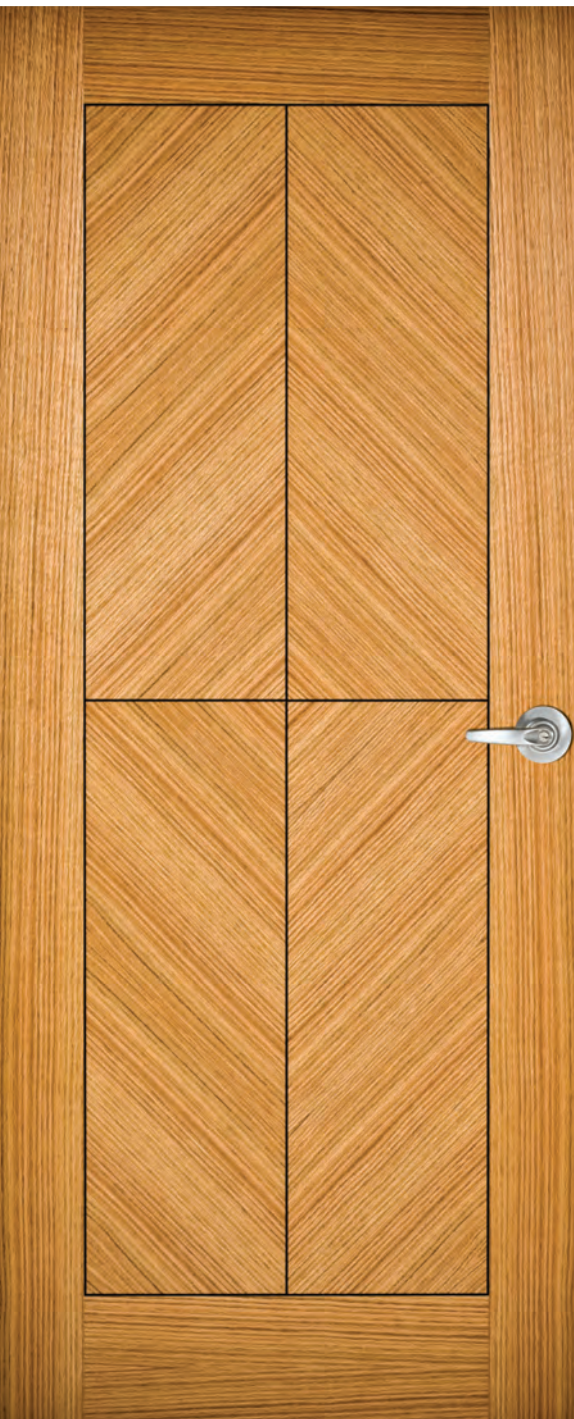
Both WMDA and AWS set two aesthetic grades for architectural wood doors; Custom and Premium. Custom is the standard grade intended for high quality work. This grade provides a well-defined degree of control over the workmanship, materials, and installation of a project. Premium grade is reserved for special projects or featured areas within a project. Premium doors are specified when the highest degree of control is required.

The difference between a custom and premium grade doors is the veneer grade, adopted from HPVA panel veneer grading tables, and veneer assembly. The table below provides a comparison. Note, AA grade veneer also requires wider minimums for face components with plain sliced and rotary sliced flitches.

Specifiers need to be aware that premium doors have a higher cost and availability may be limited because of the AA grade veneer, center balance, and wider flitch requirements. Also, if an aesthetic grade is not specified, custom grade is the default grade to be furnished. There is no difference in performance duty requirements for custom and premium doors.

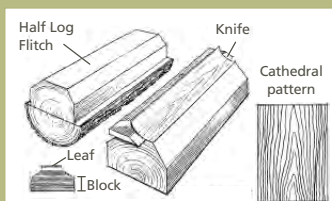
AESTHETIC GRADE

	Veneer Grade	Veneer Match	Veneer Assembly	Nominal Minimum Width of Face Components
Premium	AA Grade	Book or Slip	Balance Center	Plain Sliced - 5 inches Quarter Sliced - 3 inches Rotary Sliced - 5 inches
Custom	A Grade	Book or Slip	Running, Balance, or Center Balance	Plain Sliced - 4 inches Quarter Sliced - 3 inches Rotary Sliced - 4 inches



VT WOOD VENEERS

DECORATIVE VENEER CUTTING METHODS

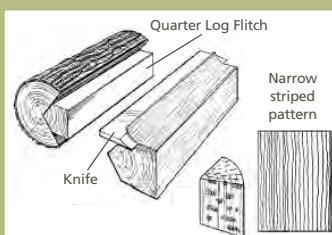


PLAIN SLICED OR FLAT CUT (SLICER):

Leaf width depends on log size and placement in flitch. Half Round is a somewhat similar pattern achieved by turning a half log flitch on a lathe.

PLAIN SLICED OR FLAT CUT VENEER

The half log, or flitch, is mounted with the heart side against the guide plate of the slicer. Cuts are made parallel to a line through the center of the log, producing a distinct figure. By keeping the veneer leaves in the same order in which they are cut, the leaves can be reassembled with only a very gradual grain figure transition from one panel to another.



QUARTER SLICED (SLICER):

Flake pattern is produced when slicing through medullary rays in some species, principally oak.

QUARTER SLICED VENEER

A quarter log, or flitch, is mounted so that the slicer cuts the log at a 45° angle to the axis lines of the log, creating a striped or straight grain effect. A flake effect is produced in oak veneers using this method.



RIFT CUT (LATHE):

Angle of cut is 15 degrees to the radial to minimize the ray (flake effect) in oak. Comb grain is the portion which has VERY tight and straight grain.

RIFT CUT VENEER

This method is generally restricted to Red and White Oak. A quarter log is mounted off center and cut slightly across the medullary rays common to oak, resulting in a straight grain without the flake effect of quarter sliced oak.



ROTARY (LATHE):

Wide Sheets. Broad pattern. Difficult matching. Used primarily on Economy or Commercial grades.

ROTARY CUT VENEER

A method of cutting in which the log is placed on a large lathe and turned against a fixed blade, so that a continuous cut is made round and round the log, more or less parallel at all times to the growth ring. The result is a wild, varied grain effect. Since the grain pattern is non-repetitive, it cannot be used for sequence matching.

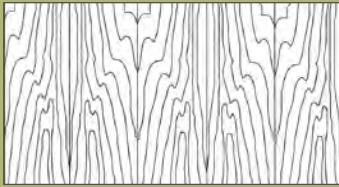
VT WOOD VENEERS

MATCHING OF VENEER COMPONENTS



TYPES OF VENEER MATCH

Once the decorative veneer cutting method is specified, the type of match at the joint line must be specified. The way in which the individual cuts are placed next to each other during the fabrication of the veneer face affects the appearance of the doors.



BOOK MATCH

Book Match is the most commonly used match in the industry. Every other piece of veneer is turned over so adjacent pieces are opened like two adjacent pages in a book. The veneer joints match and create a mirrored image pattern at the joint line, yielding a maximum continuity of grain. Book matching is used with plain sliced, and less often with other cuts of veneer.

BARBER POLE EFFECT IN BOOK MATCH

Because the "tight" and "loose" faces alternate in adjacent pieces of veneer, they may accept stain or reflect light differently, resulting in a noticeable color variation, often called "barber pole". These variations are not considered a manufacturing defect.



SLIP MATCH

Slip Match is the adjoining of veneer components in sequence without turning over every other piece. The grain figure repeats, but joints won't show a mirrored effect. Slip matching is often used in quarter cut, rift cut and comb grain veneers to minimize the barber pole effect.



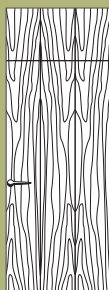
RANDOM MATCH

A random selection of veneer components from one or more logs. This produces a "board-like" appearance.

End Match



Continuous Match



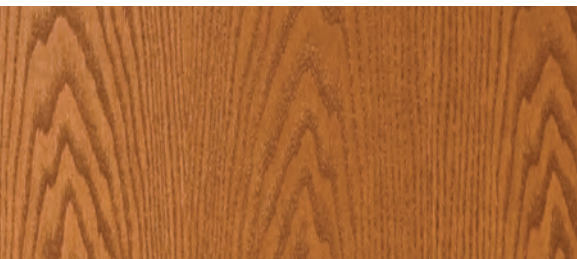
END MATCH

The End Match is generally selected for doors with transoms. This match utilizes a single piece of veneer that runs from the bottom to the top of the door. At the transom, a mirror image is created by turning the veneer at the joint.

CONTINUOUS MATCH

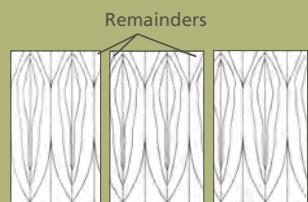
Continuous Match is when a single piece of veneer is utilized for both the face of the door and the transom.

ASSEMBLY OF VENEER COMPONENTS



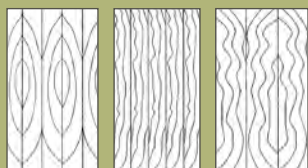
TYPES OF ASSEMBLY MATCH

The type of "assembly match" must be specified to obtain a desired appearance. Any sequence matching from opening to opening must be specified.



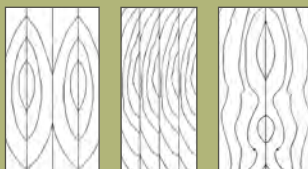
RUNNING MATCH

Non-symmetrical appearance on any single door face. Veneer pieces of unequal width are common. Each face is assembled from as many veneer pieces as necessary.



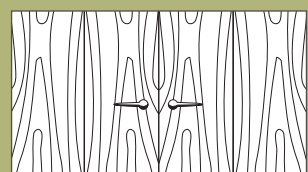
BALANCE MATCH

Symmetrical appearance. Each face is assembled from an even or odd number of pieces of uniform width before trimming. This match reduces veneer yield.



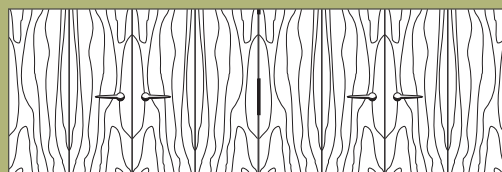
CENTER BALANCE MATCH

Symmetrical appearance. Each face is assembled from an even number of veneer pieces of uniform width before trimming. Thus, there is a veneer joint in the center of the panel. This match further reduces veneer yield.



PAIR MATCH

Pair match describes the way in which leaves of veneer are assembled for a pair of doors or a series of door pairs in the immediate vicinity.



SET MATCH

Set match describes the way in which the leaves of veneer are assembled for sets of doors hung adjacently.

BLUEPRINT MATCHED PANELS AND COMPONENTS

Manufactured to the exact sizes the manufacturer determines from the blueprints, clipping and matching each individual face to the project's specific needs. Each face will be matched in sequence with adjacent panels, doors, transoms, and cabinet faces as needed to provide for continuity. Unless specified, running match is standard.

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