THE VENEERING PROCESS

Engineered Wood Flooring Days
Slicing and Sawn

Veneering—where have we been?

• Veneer Slicing
• Veneer Sawn

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What is wood veneer?

Wood is a natural material. Thus, its appearance is influenced by a number of factors uncontrolled by man.

A thin sheet of wood, rotary cut, sliced, or sawed from a log, bolt, or flitch.
Slicing

Log selection
Flitching
Cooking
Slicing
Drying
Grading
Sales

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Log Selection

Specie Region
Specie characteristics
Selection
Transportation
Flitching

Opening the log
Determines the final grain pattern
  – Plain Slice vs. Quarter
Minimize yield loss
Flitching

Debarking
Cutting
Prep for Cooking

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Cooking

Softens the wood for slicing
Helps determines color “Alder”
After Cooking

Flitch cleaning
Finish cut to length
Channel cut or Flitch plane

“The clock is ticking”
Slicing

The actual process of cutting the log into thin sheets of veneer.
Slicing (Half-round)

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Slicing (slice)

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Veneer Cuts

- Plain/Flat Slicing
- Half Round Slicing
- Quarter Slicing
- Rift Slicing
- Rotary Slicing
Plain/Flat Slicing

Most Common in Furniture
Cathedral grain
Typical specie

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Plain/Flat Slicing

CUTTING LINE

Half Log Flitch

Knife

Plain Sliced
Or Flat Sliced
(GLICER)

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

Cathedral Pattern

Flat Cut: Plain Sliced - Figure 1300-02

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Half Round Slicing

Very Common
Smaller logs
Typical species
– Maple & Cherry
Half Round Slicing

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Quarter Slicing

Uses a quarter section of the log
Cut perpendicular to the growth rings
Lower yield
Grain pattern will change
Quarter Slicing

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Rift Slicing

Very high quality
Used only with Oak
Provides a more consistent look/ pattern then Qtr slice
Minimum to no flake
Rift Slicing

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Rotary Slicing

Low grade
Lower value logs
Good yields
Full sheets
Core material

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Rotary Slicing

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Rotary Slicing

Burls
- Walnut
- Maple
- Redwood
- Ash

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Typical Rotary Cut Pattern

Generally has a “wild” appearance.
As the knife hits the veneer, loose side and a tight side is created.

Loose and tight side are indicated by the way the veneer curls.
Cell Polarization

Book matched, alternating sections reverse the angle of the cells that appear on the face.

Cells that pickup highlights on one veneer, cast a shadow in adjoining leaves.

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Barber Pole Effect

Tight side loose side can create a barber pole effect
May be eliminated by slip match.
May be minimized by applying “wash coat”
Veneer Core Composing

Clipping defects on the fly
Veneer is reassembled using EVA glue thread
Produces an endless ribbon of veneer

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Veneer Core Composing

Heinrich Kuper GmbH & Co.KG

- Anlage für die Herstellung von Mittellagen
- manufacturing veneer for plywood

Video 03/2008

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Drying

Reduce MC% to 8-12%
Specie specific
Timing is everything!
EMC “equivalent moister content”

<table>
<thead>
<tr>
<th>Humidity</th>
<th>EMC</th>
<th>Wood MC</th>
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<tbody>
<tr>
<td>19 - 25</td>
<td>5%</td>
<td>5%</td>
</tr>
<tr>
<td>26 – 32</td>
<td>6%</td>
<td>6%</td>
</tr>
<tr>
<td>33 - 39</td>
<td>7%</td>
<td>7%</td>
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<tr>
<td>40 - 46</td>
<td>8%</td>
<td>8%</td>
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<tr>
<td>47 - 52</td>
<td>9%</td>
<td>9%</td>
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</tbody>
</table>

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Grading Lines

Sort & grade as you buy veneer

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Veneer Sawn

Sawn from lumber or cants
Frames saws or band saws
Lumber slicers
Veneer Sawn

Lumber and Cants
Better yields
Sizes
Poor yields
Saw kerfs
Higher material cost

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Perfect processing machines must be fitted with perfect tools. To ensure that this happens Fill has developed optimal saw bands for our thin kerf band saws. A choice of either hard alloy or stellite saws can be used for wet or dry cutting. In addition we offer you optimum service machines for saw bands.

**FILL SAW BAND**

- Highest precision is achieved by band saw manufacture using specially developed production lines
- Internal quality control
- Adjustment to precise customer requirements through constant research and development
- Maximum tool life through adjustment of the cutting materials
- Finest cuts of 0.9 to 1.6 mm for economic lamella sawing
- Tensions > 400 N/mm² possible
- No clamping and setting for standard applications
Equipment & the Process

Clipping
Cutting
Splicing
Inspection and Repair
Veneer Cross Clipper

Veneer cut to rough length
Defecting - removal of unwanted natural characteristics
Yield
Cutting

Saws and Guillotines
Produces a parallel edge in preparation for splicing
– Defecting
– Yield
Guillotines

Single Knife

One knife with a back fence

Double Knife

Both knives cut simultaneously
Splicing

Joins veneers together on edge to form a single sheet

Types:

- Hand taping
- Zig-Zag
- Longitudinal Splicer
- Cross Feed Splicer
Questions

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