

A guide to the use of Veneers in table top manufacturing

Useful Definitions

Veneers - Produced from various species of trees, and are thin slices of the valuable decorative timber, typically 0.6-0.7mm thick. Veneers are cut and joined together to make up layons of veneer that are then bonded to typically Medium Density Fibreboard or Chipboard panels to then be used in the manufacture of furniture components. Typically tops manufactured using Veneers are edged with a matching solid or coil edging material from the same species of timber.

Medium Density Fibreboard - MDF has a consistent structure and density and a very smooth surface. This makes it suitable for routed, veneered and lacquered finishes. The MDF production process involves grinding wood chips into fibres and binding them with synthetic resin under heat and pressure.

Chipboard (Particleboard) - CBD is a wood particleboard made of chips bonded with synthetic resin under pressure at high temperatures. CBD is less dense than MDF and marginally less expensive. CBD comes in various grades and Furniture Grade P2 is manufactured using finer wood chips and is suitable for veneered furniture production.

High Pressure Laminate - HPL is a sheet material approx. 0.9mm thick, durable laminate made from layers of paper and resin, the final paper layer having a coloured or wood effect finish and cured under high pressure. HPL is very resistant to impact damage and can be used for furniture components when bonded to a CBD or MDF core. Typically tops manufactured using HPL are edged with a matching 2mm PVC or ABS edging.

Compact Laminate – Similar to HPL made from layers of paper and resin but produced in thicknesses from 6mm – 13mm; has greater mechanical integrity and can be used for furniture components without the need to bond to a CBD or MDF core material.

Melamine Faced Chipboard - MFC is constructed from a decorative printed paper impregnated with a durable melamine coating covering a CBD core. This is a pre-bonded finished material, which requires no further fabrication except edging. Typically tops manufactured using MFC are edged with a matching 2mm PVC or ABS edging.

Melamine Faced Medium density fibreboard - MF MDF is constructed from a decorative printed paper impregnated with a durable melamine coating covering an MDF core. This is a pre-bonded finished material, which requires no further fabrication except edging. Typically tops manufactured using MFC are edged with a matching 2mm PVC or ABS edging.

The Manufacturing Process

The process of manufacturing can be split into 6 basic processes:

1. Cut and join the Veneer leaves to make up the veneer layons
2. Bond the veneer layons to the core material, usually MDF or CBD
3. Re-trim the veneered panel to the required component size
4. Edge the panel
5. Sand the panel
6. Finish the panel

The Final Look

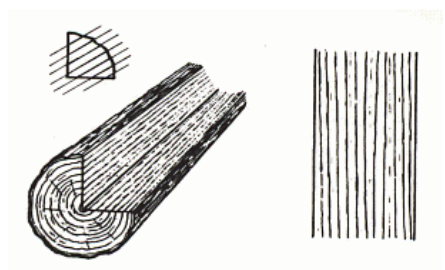
The final look of the veneered top can be influenced by 3 major factors:

1. The cut of the Veneer
2. The jointing method for the Veneer
3. The final finishing

The Cut of Veneer

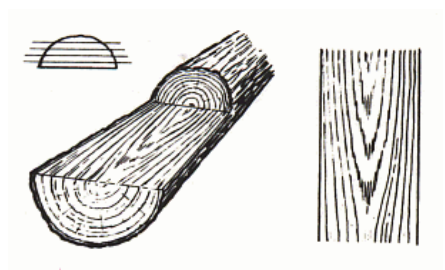
Quarter Cut

Veneers are produced by cutting at right angles to the growth rings in the logs. The variations in colour brought about by summer/winter growth produce a straight grain effect.



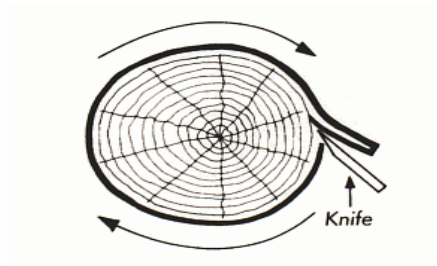
Crown Cut

Veneers are produced by slicing through logs, giving a less-straight grained Veneer with more figure and, in general, a more decorative finish.



Rotary Cut

The log is mounted on a lathe and rotated to produce an exceptionally wide Veneer.

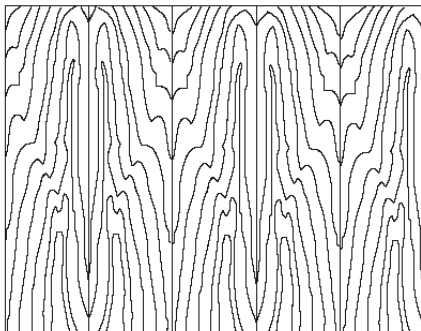


The Jointing Method for the Veneer

Book Matched

The most commonly used match in the industry. Every other piece of Veneer is turned over so adjacent pieces (leaves) are opened like the pages of a book.

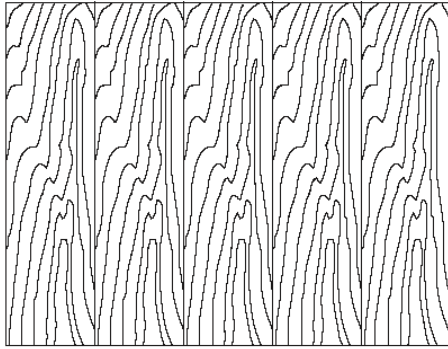
Veneer joints match, creating a symmetrical pattern, yields maximum continuity of grain. When sequenced panels are specified, prominent characteristics will ascend or descend across the match as the leaves progress from panel to panel. The alternate faces of the Veneer can also affect how light refracts off the face giving a pleasing colour.



Slip Match

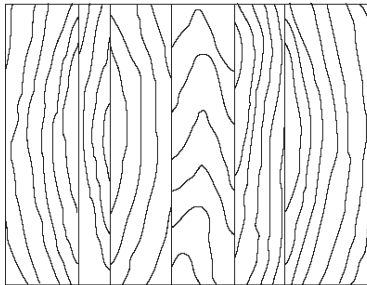
Adjoining leaves are placed (slipped out) in sequence without turning, resulting in all the same face sides being exposed. Grain figure repeats, but joints do not show visual grain match.

Note: The lack of grain match at the joints can be desirable. The relatively straight grain patterns of quartered Veneers generally produce pleasing results and a uniformity of colour because all faces have the same light refraction.



Random Match

Veneer leaves are placed next to each other in a random order and orientation, producing a “board-by-board” effect in many species. Conscious effort is made to mismatch grain at joints. Degrees of contrast and variation may change from panel to panel. This match is more difficult to obtain than book or slip match, and must be clearly specified and detailed.



The Final Finishing

Once sanded the Veneered tops are then finished using a 2 coat clear water based lacquer. The lacquer has a 30% sheen level and it is intended not to give a full grain finish, allowing the texture and structure of the Veneer to be apparent in the top finish.

Before the final polishing the Veneer can be coloured to artificially darken and alter the colour of the underlying Veneer. This process either uses ground stains that give a rich darker depth of colour or spray stains which are used to subtly alter the base colour of the Veneer.

Care of Veneered Tops

The lacquers we use for finishing require no maintenance. Cleaning should be carried out using a damp cloth and soft duster, a little vinegar or detergent can be added to the water to remove greasy marks. Spray and wax polishes must not be used.

The lacquer finish, due to the structure of the veneers does not guarantee an impervious coating. Any water or liquid spilt on the veneered surface should be wiped away immediately. Not doing this could lead to liquid penetration into the veneer which may cause the substrate material to blow. Wet heat eg. hot liquids can lead to lacquer blooming (clouding of the lacquer film). It is recommended that mats are used where hot drinks are used.

Veneer is a natural wood based material, extremes of moisture and heat can cause the veneers to expand and contract excessively causing the veneers to crack and split.

Points to Consider with Veneered Tops

It should be remembered that most natural timbers change colour on exposure to light. The amount and speed of change varies according to species of timber, the length of exposure and the intensity of the light. It is therefore likely that there will be an initial colour mismatch between new items of furniture and those that have been in use for some time, this colour difference will even out over a period of time. Wood is a natural material and we cannot guarantee the continuity of grain and texture in products or samples.

Ecology

We have an accredited FSC chain of custody management system and use timber-based materials, which are sourced from Countries which have a defined and implemented policy for the management of timber resources.