

Subject: Building Material & Construction - II

Topic: Block Boards, Veneer and Laminates

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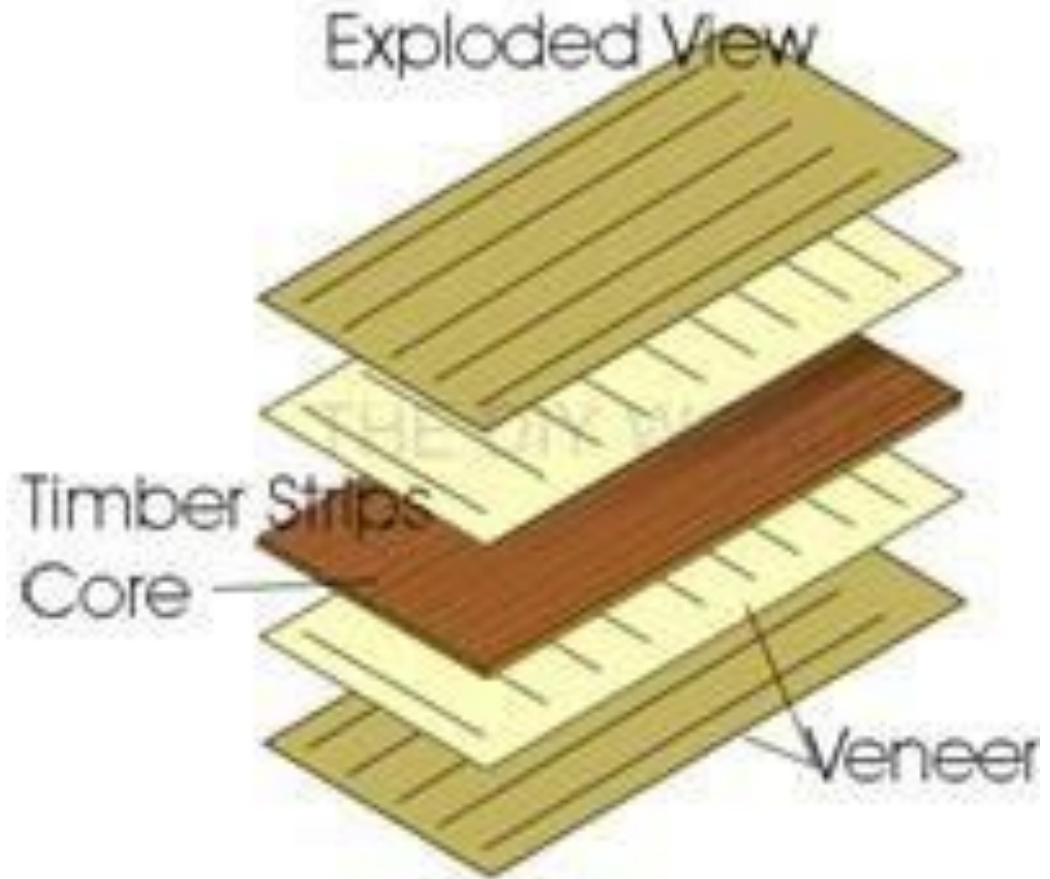
Block board is a piece of wood with a **plywood core** and **thin veneer panels** on the top and bottom sides.

The plywood core is made of **high-quality natural wood board strips** after heat treatment and the spliced block boards are covered with two layers of **high-quality veneers on both sides**, and then pressed by **cold and hot press**.

A finished block board panel typically ranges in depth from about **3/8-inch to 1 3/16-inches**. Block board is made for **interior use**, because the wood strips are glued with interior glues and the layers are hot-pressed to form a solid panel.



Block board is made up of a core of softwood strips. The strips are placed edge to edge and sandwiched between veneers of hardwood. A single veneer on both sides is known as 3-ply. A double veneer on both sides is called 5-ply. The sandwich is then glued under high pressure.



## Processing of Blockboard

### **1. Slicing**

The logs of timber are sliced at first for making the raw of blocks. Strips may be 25 mm.

### **2. Rotary Cutting**

For outer layer, logs are cut at rotary cutting. Thus veneer for coating is obtained.

### **3. Gluing**

To attach the slices glue or adhesives are used eg. Urea formaldehyde, Phenol formaldehyde which is called plastic resin. Exterior grade block board requires phenol formaldehyde. Gluing is done under high pressure.

### **4. Drying**

The blocks are dried to reduce the moisture as well as water content left inside blocks. For drying the blocks are kept before the sun. The moisture content is reduced to 10-12%. After proper drying, they are ready for making a sandwich.

### **5. Attaching**

Blocks are attached together used softwood or hardwood as required for interior or exterior grade required.

### **6. Finishing**

Final finishing giving lamination, a coating is done.

### **Interior Grade Blockboard**

These grades are made for indoor uses which are resistant to moisture and called MR (Moisture Resistant) eg. Furniture, door, window shutter.

### **Exterior Grade Blockboard**

This variety of blockboard is manufactured for outdoor uses. These are called BWP (Boiling Water Proof) or as BWR (Boiling Water Resistant). This high quality of resistance is because of the adhesives used here are also good in quality.

### **Softwood Block board**

Solid blocks of wood are used to make each blockboard sheet those are attached together using glue. The sheets are called strips or battens. The surface is covered with hardwood veneers.

### **Hardwood Block board**

Hardwood is dense, heavy, costly, strong as the core is made from hard sheets. The coating is also by hardwood.



**veneER**

## Veneer

Veneer is the finest expression of wood.

It is a thin decorative covering of the wood applied to any other material.

A thin layer of wood cut from log.

Decorative timber veneer is generally produced from the highest quality logs.

This means that there are no faults such as knots, discoloration or gum vein.

Veneer logs are steamed or pickled to soften their structure and are then sliced or rotary peeled into leaves. The thickness of these leaves generally varies from 0.80 to 3mm

Thickness: 0.5 mm , 1 mm , 2 mm

Size: 8' x 4' , 10' x 4' , 12' x 4'





**LAMINATES**



A sheet of material made by bonding two or more sheet or layers.

It is made out of paper , at the base there is a graph paper , in middle there is a normal paper and at top there may be two papers Indian paper or European paper.

It cannot be used in exterior.

It is affected by sunlight (color fades). Process

- Firstly craft paper is kept.
- On it barrier paper is kept and the design paper is place on it.
- On it tissue paper is placed and it is transparent.
- All the paper are soaked in plastic based resins.
- Brown paper which form base are soaked in melamine resin.
- Soaked papers become hard and brittle after drying.
- Then the layers are kept in a tray and is hot pressed by cylinder , in each tray 16–18 laminates are made.
- By hydraulic cylinders the sheets are pressed

There are mostly two types of laminates:

- A) High pressure laminates.
- B) Low pressure laminates .

**High pressure laminates:** They are manufactured by brand Sunmica or Formica , are hard decorative sheets that are commonly fixed by carpenters over plywood while making furniture.

**Low pressure laminates:** They are only decorative paper is soaked in Melamine resin and the laminated paper is then directly bonded to Particle board or Fiber Board.

**Compact laminates :** They are thicker type of laminates having thickness ranging from 3 mm to 30 mm . These laminates are self supporting and hence are glued to woods or any other material. Both the top and bottom side of compact laminates have decorative finishes

[https://www.youtube.com/watch?v=WaqZ\\_cNDkrM](https://www.youtube.com/watch?v=WaqZ_cNDkrM)