

Building Materials
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Lecture
Wall Finishes

- 1. Laminate panel** is a type of manufactured timber made from thin sheets of substrates or wood veneer.
- It is similar to the more widely used plywood, except that it has a **plastic, protective layer** on one or both sides.
- Laminate panels are used instead of plywood because of their **resistance to impact, weather, moisture, shattering in cold (ductility), and chemicals.**



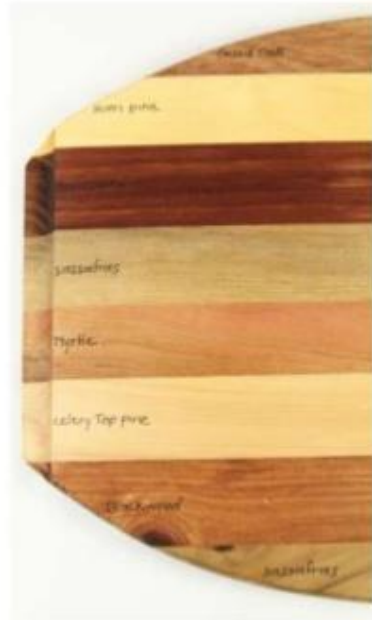
4. Laminate panel layers (called veneers) are **glued together with adjacent plies having their grain at right angles to each other for greater strength.**
5. The plastic layer(s) added for protection vary in **composition, thickness, color and texture** according to the application.



Types of Laminated Boards

A number of varieties of laminate panel exist for different applications.

- Plywood + ABS(similar to scratch resistant panels) laminate panels
- Plywood + FRP(Fibre reinforced plastic) laminate panels
- Plywood + aluminium laminated panels
- Lightweight composite panels



Sizes

The most commonly used thickness range from **1/8"** to **1/2"** and **3/8"**, in a variety of colours and textures.



Applications

Laminate panels are used in many applications that need **weather-proof**, impact resistant sheet material.

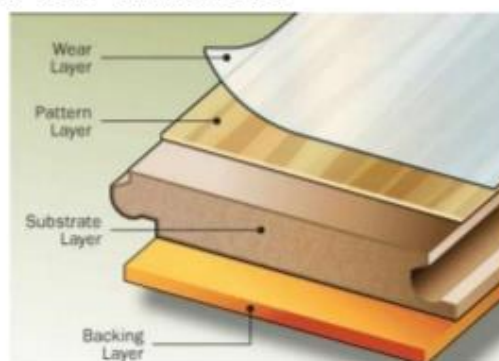
Typical end uses of spruce plywood are:

- Floors, walls and roofs in cleanrooms
- Vehicle internal body work
- Packages and boxes
- Road cases



At The Core

1. Laminated composites, plywood and veneered wood are all laminated wood products.
2. The difference is how they're made.
3. They all have ***a core with a coating or layer on both sides.***
4. The difference in laminated wood products typically is the **core of the material.**



Laminate Construction

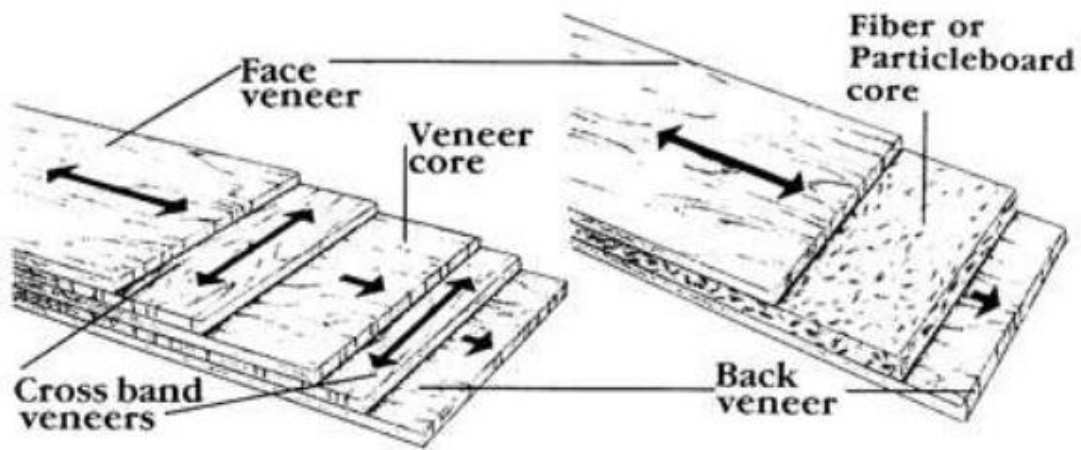
This photo is compliments of Mannington Laminate Floors



Plywood Core

1. Plywood is laminated wood. The core is made with multiply layers of real wood glued together to give it strength.
2. Even though not typically referred to as laminate, **plywood is nothing but laminated wood.**
3. The durability of plywood resides with its overlapping grain patterns.
4. Each consecutive layer is placed **perpendicular** to the **preceding** layer.





Composite Core

1. Laminated composite is **particleboard**. It consists of **particles or wood fibers glued together with resins, heat and hydraulic pressure**.
2. This type of laminated particleboard, sometimes referred to as MDL, or medium-density-laminate, resembles countertop laminate.



3. Builders and cabinetmakers use it for **cabinets** and **shelving** that is easy to clean and maintain because of its **slick, plastic surface** that resists moisture.
4. Most MDL cabinets are **solid color** -- typically **stark white** -- but imitation wood-grain patterns are available.



Laminate Flooring

1. Laminate flooring is a simulated wood product, which is one reason "laminated wood" has become part of builders vocabulary.
2. Laminate flooring consists of a **photographic layer**, or "picture," of wood similar to countertop laminate bonded onto wood composites, which usually is particleboard.
3. The laminate is topped off with a **durable clear layer** and a **moisture-barrier** backing underneath.



Laminate Flooring Facts

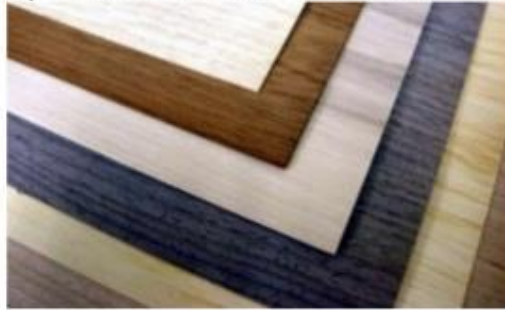
1. Laminate flooring is up to **50 percent cheaper than solid wood flooring.**
2. The disadvantage of laminate flooring over solid wood flooring is mostly **aesthetics.**
3. Laminate flooring doesn't have the natural beauty of real wood flooring and may **appear artificial.**
4. Hardwood flooring is more exclusive, and even though it shows scratches and is **less durable.**

1. Hardwood Flooring demands **higher resale value** than laminate flooring.
2. Laminate flooring is difficult if not impossible to repair if you can't locate a pattern that matches.
3. Hardwood flooring can be **sanded, patched and repaired** at any point.
4. The uniform quality of laminate flooring makes it **easier to work** with than real hardwood flooring.

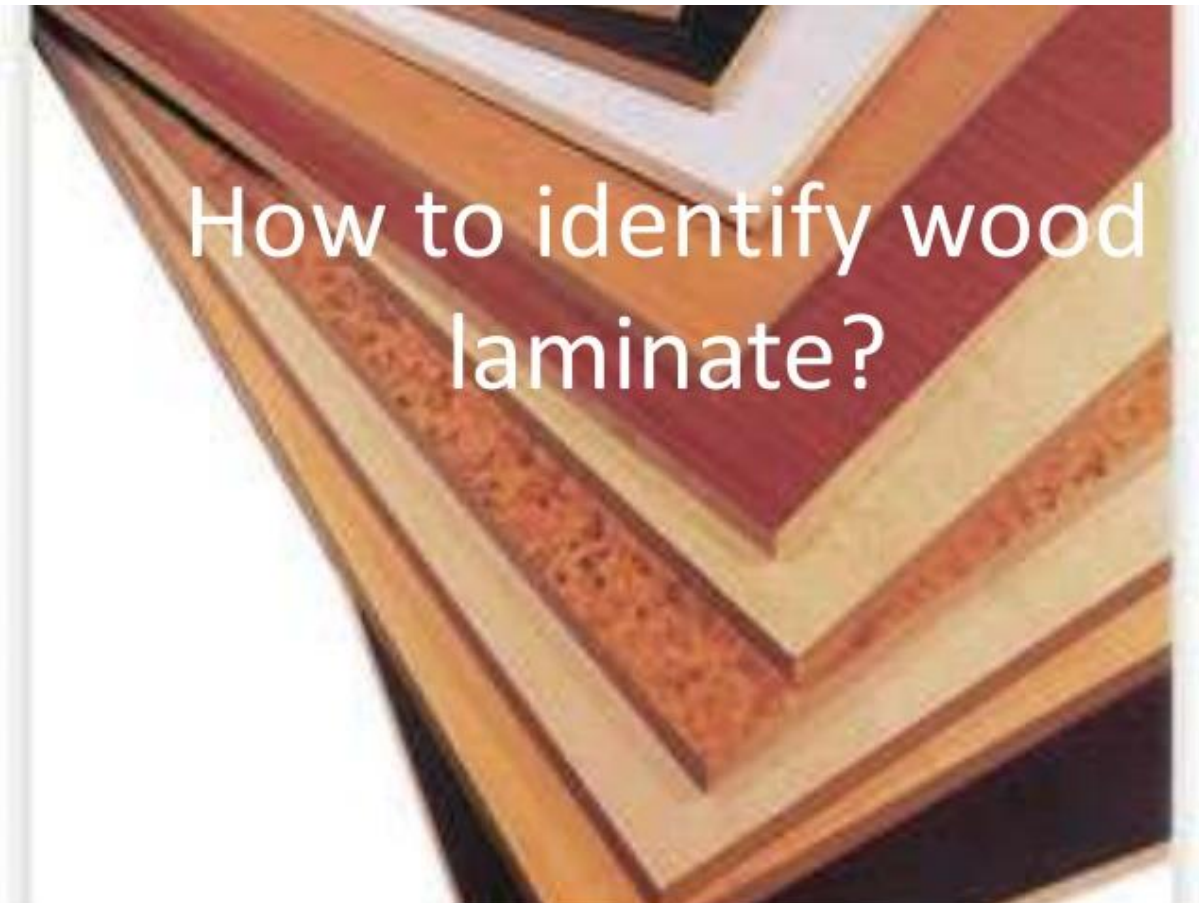


Veneer Laminates

1. Veneered wood is a laminate.
2. The veneer is a **thin layer of real wood**, typically **1/32 to 1/16 inch in thickness**, sliced from **logs in sheets**.
3. When glued to composites, plywood or solid wood, veneer helps produce a product natural in appearance but more affordable than solid wood for tables, chairs and other furniture.



How to identify wood laminate?



1. Identify laminated furniture by **unnatural grain patterns** on the sides.
2. Another indicator is **gaps**, or **flaps of veneer** that pull loose on corners or edges.
3. Cheaper laminated furniture might show **thicker flaps** of plastic laminate that pull loose around edges.
4. Laminated wood parts are affordable, structurally strong and **rival real wood** because at the core, it is **real wood**.
5. The majority of wood furniture purchased commercially is a **mixture of solid wood and veneered wood laminates**.

Bent Wood

1. Other types of laminated wood includes bent or curved items such as **chair legs, backs or other parts for furniture**.
2. Thin strips of wood, typically no thicker than 1/16 inch -- are glued together to form **circles, waves or just about any shape for specialized designs**.



Bent Wood

1. Locate individual layers of wood on curves to recognize laminated bent wood.
2. **Bent wood is durable and typically regarded as stronger than solid wood**, which can crack or split along grain lines.



Glue and Clamps

1. Woodworkers often laminate **two or three pieces of lumber** together to get thicker pieces.
2. The process involves **wood glue and clamps**. Recognize laminated furniture parts by a thin glue line along legs or when parts are thicker than 3/4 inch.
3. Construction lumber often refers to laminated timber, which is **thicker, bigger and strong** enough to support the roofs on large buildings. Laminated timber are numerous pieces stacked together or labeled as LVL (**laminated veneer lumber**) or Glulam (glued laminated beam).