S.A.W
Skills and Assembly in Woodworking

Lesson 1: Understanding wood types for your crafts

Introduction

Wood is one of the most used materials in construction, furniture making, and other industries. In the woodworking industry, wood is the heart of this craft. To use it effectively, one needs to understand its types and characteristics. This module will guide you in learning about softwoods, hardwoods, and veneers, including their distinctive features and common uses.

Hardwood and **Softwood** are the two natural classifications of wood, which are based on their distinct characteristics and features. Below are the key features that separate the two materials.

Category	Hardwood	Softwood
Classification of trees	Angiosperms	Gymnosperms
Growth	Slower growing *(20+ years)*	Fast growing *(1-3 years)*
Durability	Most hardwood trees are durable and long-lasting when used in construction.	Most of the softwood trees are lower in density (weaker and less durable)
Application	Commonly used for flooring, cladding, paneling, screens, fences, construction, boats, and fine woodworking.	Softwood is commonly used for feature walls, ceilings, fencing, decking, and framing.

Hardwood comes from ***Angiosperm trees***. These trees are known for shedding their leaves each year and are also characterized by spreading seeds through growing fruit and flowers. These trees are also characterized to be ***deciduous trees*****.**

Due to its durable material, angiosperm trees produce a high-quality product that could last for 25+ years. Additionally, the dense structure allows the material to be suitable for load-bearing, decorative, and architectural applications.

Oak Trees

Maple Trees

Mahogany Trees

Walnut Trees

Softwood comes from ***Gymnosperm Trees***. These trees are characterized by typically reproducing using cones. They are also known to have "Naked seeds" in which their seeds are exposed and are not enclosed in an ovary, unlike Angiosperms.

These are also characterized to be ***coniferous trees.*** This wood is classified to be easier to work with due to its low density. They can be drilled, screwed, routed, and carved relatively easily, and can also form complex shapes.

Douglas Trees

Pine Trees

Rosewood Trees

Cypress Trees

Manufactured wood are ***man-made materials.*** These are created by binding or fixing wood fibers, particles, or veneers together with adhesives or resins. Instead of being cut directly from trees like hardwood and softwoods, these materials are engineered products designed to improve strength, stability, and reduce costs. These materials are widely used for construction, furniture making, and cabietry production.

Plywood

Plywood is perhaps the most well-known manufactured wood. Characterized by its thin layer, which is bonded with adhesive under high pressure, Plywood is widely used for sheathing, roofing, flooring, and formwork due to its durability and resistance to warping. They also serve as foundational material for furniture, especially in modern and contemporary designs.

Particle Board (Chipboard)

They are engineered from a blend of wood chips, sawmill shavings, and resin binders. This material is widely used in furniture manufacturing, and it serves as a core material for cabinets, shelves, and tables.

Medium-Density Fiberboard (MDF)

These materials are created by breaking down wood fibers into a pulp and then mixing them with wax and resin adhesive. This material is used for intricate designs and detailed woodworking. Additionally, MDF is often used for decorative moldings and trim work due to its easy way of shaping and finishing.

Hardboard

They are engineered through refining wood fibers into a pulp. This pulp is then combined with adhesives and compressed under high pressure. These are often used as backing materials for cabinets, which provide stability and support.

Terminologies

Decking – Flat boards or planks laid horizontally to create a surface, usually outdoors. It provides a walking surface or platform.

Framing – Skeletal or structural framework of a building made from wood or metal. It supports the structure, giving shape and strength to walls, floors, and roofs.

Sheathing – A layer of boards or panels attached to framing. Provides a base for roofing, siding, or flooring, and strengthens the structure

Cladding – The outer covering or skin applied to a building's exterior. It protects the structure from weather and improves its appearance.

Reference

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