S.A.W
Skills and Assembly in Woodworking

Lesson 9: Wood Preparation for Wood Joinery

Introduction

In Woodworking, being able to work on a clean surface of wood is beneficial for the individual, allowing them to create a beautiful piece of art. Every key step in the preparation stage is essential for the outcome to bloom. From the selection of the proper wood, the proper measurements and dimensions, the illustration of plans, and the actual practical process involved, these are needed in order for the planned woodworking project to be conducted efficiently and effectively.

Wood preparation

Choosing the right type of wood is a crucial part of your woodworking project. One must identify the type of wood for its durability, workability, and financial cost. A common mistake for beginners is choosing of the wrong wood for the project. In most cases, finished outputs would not last long due to their durability, or some of the planned designs are compromised due to the wood's overall structure. To be guided, here are the 3 wood types for you to decide which one fits your project

Wood Types			
Category	**Hardwood**	**Softwood**	**Manmade wood**
Strength	Generally, high density is excellent for long-lasting use.	Usually weaker than hardwood	It varies; some engineered woods are designed for strength, and some are designed for workability
Workability	It may be difficult to shape, but it yields durable results	Easy to work with and is great for beginners and rapid projects	Highly workable, it has a consistent texture and is easy to cut.
Appearance	Has rich natural grains and is excellent for high-end visuals	Simpler, smoother look and has less grain impact	Veneers and coatings allow for aesthetic flexibility
Outputs	Furniture, flooring, constructions, and bases for musical instruments	Construction framing, panels, fences, DIY crafts, and firewood	Varies depending on its use

After appropriately choosing the right wood for your project, it is important to design and illustrate the concept of the project. The illustration must be realistic and accurate. Measurements must be properly displayed so that the project can be followed. Illustration, on the other hand, is the “golden selection” made to have proper proportions to the project.

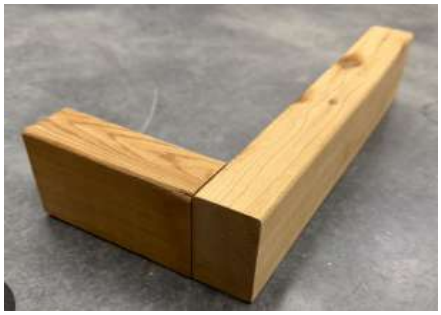
- Define the purpose of the project
  - It is essential to set the functional and spatial constraints of the project.
- Research and gather inspiration
  - Refine the style and finalize the proportion ideas.
- Concept Sketches
  - Explore layout and basic forms of the project.
- Refine technical Drawings
  - Finalize dimensions and measurements
- Mock-ups
  - Make a model of the concept (optional stage)
- Build procedure
  - Stepwise construction roadmap

Introduction to Wood Joinery

Woodworking joinery is the process of connecting pieces of wood together to create a sturdier and more lasting piece of furniture or a structure. They are most commonly used for furniture and wood framing structures for buildings and houses.

The history of wood joinery can be traced back to when we didn’t have any advanced technology to aid us in construction. It can be traced back to ancient Egypt and China, where some of the joints were used in their furniture and other objects. As time progressed, wood joinery became more complex as it became a common staple for many of the constructions during the time.

Types of Wood Joinery



- **Butt Joint**

  The **Butt Joint** is the most basic type of wood joint. It is made by having two wooden pieces sit side by side, with the butt of one workpiece adjacent to the butt of another workpiece. Unlike the other wood joineries, the two workpieces are not shaped or carved but are usually glued to each other.

- **Cross-halving Joint**

  The **Cross-Halving Joint** is done by removing two materials from the two workpieces so that at the point of intersection, they can overlap. This joint is most commonly used in structural framings such as wall framing, roof framing, and floor framing due to its interlocking feature.

- **Corner-Halving Joint**

  Just like the Cross-Halving Joint, the **Corner Halving Joint** is done by removing two materials from the two workpieces, more specifically, the one corner of the two workpieces, so that at the point of intersection, they can overlap. This joint is most commonly used in structural framings such as wall framing, roof framing, and floor framing due to its interlocking feature.

- **Dovetail Half-lap Joint**

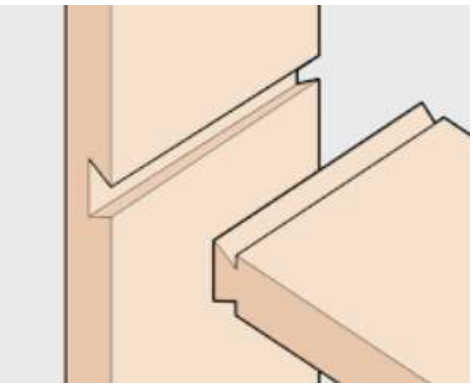
  The **Dovetail Half-Lap joint** is made by having one workpiece with the end being a dovetail in a half-lap form, and the other workpiece having a dovetail housing on its surface. This would make it an extremely effective way of locking parts together

- **Dado Joint**

  The **Dado Joint** obtained its name from the word die or plinth. It resembles a trench that cuts into one workpiece, and another workpiece slides into it. Unlike a groove, a dado runs perpendicular to the grain. This joint is commonly used in shelving systems like cabinets and bookshelves.

- **Dovetail housing Joint**

  The dovetail housing joint is a type of housing joint that has one piece with the dovetail trench section, and the other piece has the distinct dovetail piece that slides into the housing. This joint is commonly used in shelf structures such as cabinets and bookshelves



Terminologies

Wood Joinery– A woodworking technique that utilizes two workpieces to have a shaped feature that allows them to lock in with each other, creating a strong and effective lock.

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.

Trench – In woodworking, it is used to describe a hollowed area in a workpiece using a chisel, and another workpiece could slide into it in order to create a joint.

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