

Overview

This standard covers a range of basic competences that you need to assemble engineering woodwork components. It will prepare you for entry into the engineering or manufacturing sectors, creating a progression between education and employment, or it will provide a basis for the development of additional skills and occupational competences in the working environment.

You will be expected to prepare for the engineering woodworking assembly activities by obtaining all the necessary job instructions, components, tools, equipment and any documentation that may be required.

In carrying out the engineering woodwork assembly operations, you will be required to work to instructions in order to produce the required assembly. You will also be expected to align the components correctly, and to assemble them in the correct order, using the appropriate fixing devices and adhesives. The assembly activities will also include making all necessary checks and adjustments, to ensure that components are correctly assembled and that the assembly is free from damage and has an appropriate cosmetic appearance. On completion of the woodwork assembly activities, you will be expected to return all tools and equipment to the correct location, and to leave the work area in a safe and tidy condition.

Your responsibilities will require you to comply with health and safety requirements and organisational policy and procedures for the engineering woodwork assembly activities undertaken. You will need to report any difficulties or problems that may arise with the assembly activities, and to carry out any agreed actions. You will work under a high level of supervision, whilst taking responsibility for your own actions and for the quality and accuracy of the work that you carry out.

Your underpinning knowledge will provide an understanding of your work, and will enable you to apply appropriate woodwork assembly techniques safely. You will understand the woodwork assembly process, and its application, and will know about the materials, tools and equipment used, to the required depth to provide a sound basis for carrying out the activities to the required specification.

You will understand the safety precautions required when carrying out the woodwork assembly operations, especially those involving the use of adhesives, and when using the assembly tools and equipment. You will be required to demonstrate safe working practices throughout, and will understand the responsibility you owe to yourself and others in the workplace.

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Assembling engineering woodwork components

Specific Standard Requirements

At least one of the assemblies produced must combine different assembly operations and assembly techniques, such as assembling a unit carcass requiring dowels and glue and fitting/hanging a door.

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Performance criteria

- You must be able to:*
- P1 work safely at all times, complying with health and safety legislation, regulations and other relevant guidelines
 - P2 obtain and prepare the appropriate components, tools and equipment
 - P3 use the appropriate methods and techniques to assemble the components in their correct positions
 - P4 secure the components, using the specified connectors and securing devices
 - P5 check the completed assembly to ensure that all operations have been completed, and that the finished assembly meets the required specification
 - P6 report any difficulties or problems that may arise with the assembly activities, and carry out any agreed actions
 - P7 leave the work area in a safe and tidy condition on completion of the assembly activities

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Knowledge and understanding

You need to know and understand:

- K1 the specific safety precautions to be taken whilst carrying out the engineering woodwork assembly activities (including any specific legislation, regulations or codes of practice relating to the activities, equipment or materials)
- K2 the importance of wearing appropriate protective clothing/equipment (PPE) during the woodwork assembly activities, and of keeping the work area safe and tidy
- K3 the hazards associated with producing wood and composite assemblies, and with the tools and equipment used, (such as use of hand power tools, trailing power leads, dust inhalation, using adhesives), and how they can be minimised
- K4 how to use and extract information from engineering drawings and related specifications (to include BS or ISO standard symbols and abbreviations, imperial and metric systems of measurement, workpiece reference points and system of tolerancing)
- K5 how to prepare the components in readiness for the assembly activities (such as visually checking for defects, marking for left or right handing)
- K6 the woodwork assembly methods and procedures to be used, and the importance of adhering to these procedures
- K7 the importance of assembling components in the correct order
- K8 how to mark out the necessary datum lines for the assembly operations
- K9 how the components are to be aligned, oriented and positioned prior to securing them, and the tools and equipment that are used for this
- K10 the various mechanical fasteners that will be used to secure the components, and their method of installation (such as nails, screws and special securing devices)
- K11 the application of adhesives within the assembly activities, and the precautions that must be taken when working with them
- K12 how to conduct any necessary checks to ensure the accuracy and quality of the assembly produced, and the type of equipment that is used
- K13 how to check that the assembly tools and equipment to be used are in a safe, tested and serviceable condition
- K14 why it is important to keep the tools and equipment clean and free from damage, to practice good housekeeping of tools and equipment, and to maintain a clean and unobstructed working area
- K15 when to act on your own initiative and when to seek help and advice from others
- K16 the importance of leaving the work area in a safe and clean condition on completion of activities (such as removing and storing tools, equipment and power leads, removing and disposing of waste)

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Additional Information

Scope/range related to performance criteria

- You must be able to:*
1. Carry out **all** of the following during the engineering woodwork assembly activities:
 - 1.1 adhere to procedures or systems in place for risk assessment, COSHH, personal protective equipment (PPE) and other relevant safety regulations
 - 1.2 follow job instructions, assembly drawings and procedures
 - 1.3 ensure that all tools, equipment, power tool cables and extension leads used are in a safe, tested and serviceable condition (where appropriate)
 - 1.4 ensure that components used are free from damage or other defects
 - 1.5 apply safe and appropriate assembly techniques and procedures at all times
 - 1.6 return all tools and equipment to the correct location on completion of the assembly activities

 2. Produce engineering woodwork assemblies, including **one** of the following:
 - 2.1 structural assemblies
 - 2.2 furniture units
 - 2.3 consoles
 - 2.4 jigs or fixtures
 - 2.5 doors and door frames
 - 2.6 frames or bulkheads
 - 2.7 models
 - 2.8 formers
 - 2.9 storage units
 - 2.10 show stands or cases
 - 2.11 patterns
 - 2.12 transportation units
 - 2.13 other specific assemblies

 3. Carry out **five** the following assembly activities, as appropriate to the assemblies produced:
 - 3.1 ensuring that correct components are used
 - 3.2 ensuring that the correct 'hand' of component is used at the appropriate position (left or right handed)

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- 3.3 ensuring the correct orientation, position and alignment of components
 - 3.4 using cramps and clamps to hold the components during the assembly activities
 - 3.5 drilling and countersinking/counterboring (where appropriate)
 - 3.6 securing components using mechanical fasteners (such as pins, screws, nails, special fasteners, dowels)
 - 3.7 securing components using prepared joints
 - 3.8 securing components using adhesives
 - 3.9 fitting of accessories (hinges, locks, handles, catches)
4. Carry out quality checks, to include **six** of the following, using appropriate equipment:
 - 4.1 dimensions
 - 4.2 positional accuracy
 - 4.3 finish
 - 4.4 flatness
 - 4.5 distortion/straightness
 - 4.6 completeness
 - 4.7 squareness
 - 4.8 profile (where appropriate)
 - 4.9 function (where appropriate)
 - 4.10 alignment
 - 4.11 fit/component security
 - 4.12 freedom from damage
 - 4.13 orientation
5. Produce engineering woodwork assemblies which meet **all** of the following:
 - 5.1 all components are correctly assembled and aligned, in accordance with the specification
 - 5.2 assemblies are dimensionally accurate within specification tolerances
 - 5.3 where appropriate, assemblies meet geometric tolerances (such as square, straight, angles free from twists)
 - 5.4 interlocking components (joints) are secure
 - 5.5 moving parts are correctly adjusted and have appropriate clearances

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