

PROFFI305 (SQA Unit Code - FE4M 04)

Cut and assemble hand-crafted furniture



Overview

This standard addresses the competence required to assemble and complete hand-crafted furniture. This involves:

- 1 Planning the cutting process
- 2 Cutting and joining
- 3 Working in ways which maintain your own and others' safety

There is also a scope statement which defines the coverage of this standard.

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Performance criteria

Assemble hand-crafted furniture

You must be able to:

- P1 organise the **tools and equipment** and **adhesives** you will need so that you can work effectively and keep your work area tidy
- P2 make sure that you have clear and complete details of the **specification** to be met
- P3** check and confirm that **joints** are of the correct fit and that they marry up across the whole **assembly**
- P4 position **components** so that they are correctly aligned and within the required tolerances
- P5 secure and assemble **joints** using the specified **adhesives**
- P6 make adjustments to **joints** and alignments as necessary to make sure that the furniture is square and true
- P7 select the appropriate **cramps** for the **component** and **joint** and position them to give the best result
- P8 apply the appropriate level of pressure for the **joint** construction, its purpose within the furniture and material
- P9 protect **components** from damage during assembly
- P10 clean **joints** and surfaces of excess glue, debris and foreign objects
- P11 use **tools** safely and effectively
- P12 return **tools and equipment** to the correct storage locations when not in use
- P13 dispose of wastes safely to the designated location

Fit simple doors and drawers to hand-crafted furniture

You must be able to:

- P14 check and confirm that **doors and drawers** fit to within the specified tolerances for alignment and movement before fixing in position
- P15 make good any **fitting faults** which need to be dealt with for the specified quality to be achieved
- P16 accurately measure, mark and position the door fixings, drawer runners and kickers to produce the required fit
- P17 secure **doors, drawers**, in place using the specified fitting method
- P18 check and confirm that the fitted **doors** and **drawers** sit square and true and are correctly aligned and oriented.
- P19 use **tools** safely and effectively
- P20 return **tools and equipment** to the correct storage locations when not in use
- P21 dispose of wastes safely to the designated location

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Knowledge and understanding

You need to know and understand:

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- K1 the meaning of terms used in technical specifications for component production and assembly
- K2 the functions and uses of the different types of tools and equipment used in furniture assembly
- K3 what personal protective equipment to use and why
- K4 how to set out a work area for efficient working and the health and safety issues that can arise if a work area is disorganised and untidy
- K5 the growth and handling characteristics of different species of wood used in hand-crafted furniture, the importance of this to tensile strength, compression strength, seasoning, durability, degradation, infestation and density
- K6 how the characteristics of different materials affect the way they are cut and handled
- K7 what the consequences are of inaccurate measuring and cutting
- K8 what the consequences are of using poor technique in the construction of joints
- K9 when, where and why to use different sorts of cramps
- K10 how to protect furniture components from damage during assembly
- K11 how to use manual and powered tools and equipment safely in ways that protect yourself and others from risk

You need to know and understand:

Fit simple doors and drawers to hand-crafted furniture

- K12 the meaning of terms used in technical specifications for doors and drawers
- K13 the functions and uses of the different types of tools and equipment used in fitting doors and drawers
- K14 when and why to use marking out tools and gauges
- K15 different sorts of hinges and their uses
- K16 different types of drawer runners and kickers and their uses
- K17 how to set out a work area for efficient working and the health and safety issues that can arise if a work area is disorganised and untidy
- K18 the growth and handling characteristics of different species of wood used in hand-crafted furniture, the importance of this to tensile strength, compression strength, seasoning, durability, degradation, infestation and density
- K19 how the characteristics of different wood composites affect the way fittings are attached
- K20 how to use manual and powered tools and equipment safely in ways that protect yourself and others from risk
- K21 what your personal limitations are in respect of the PUWER regulations 1998

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Additional Information

Scope

Adhesives

Commercially available glues used in making hand-crafted furniture. These include polyvinyl acetate, urea or phenol formaldehyde, animal based glues, resorcinol, polyurethane and epoxy resins.

Assembly

The carcass, frame, drawer and doors of an item of hand-crafted furniture.

Assembly methods

These cover dry assembly, cramping, knock-up draw-boring assembly.

Assembly problems

Problems will be related to the quality of the components, whether they are within tolerance and whether any are incorrect, missing or damaged in some way. The person carrying out this role is responsible for identifying and making minor repairs or replacement. Problems which cannot be resolved in that way would be reported using the correct workplace procedures.

Components

The pieces from which an assembly is constructed.

Cramps

This unit covers the use of a wide variety of clamps including sash, G and edging/lipping cramps.

Doors and drawers

These may be made of natural timber or wood composites. Doors may be surface or flush fitted. This unit covers the fitting of single doors only. The types of drawers covered by this unit include those with false fronts, using mechanical runners.

Joints

The joints used in making hand-crafted furniture. They include insertion, knock-down, dove-tail, mitred dove-tail, mortise and tenon, mitred tenon, bridle, lap, mitre, tongue and groove, loose tongue, housing, dowel, biscuit and butt joints.

Materials

The softwoods, hardwoods and wood composites used in making hand-crafted furniture. Composites would include plywood, chipboard and MDF.

Specification

The set of instructions which describe the work to be carried out. The specification will detail the assembly to be produced and the nature of the fittings and carvings and mouldings to be attached. Specifications will usually be provided in written form or by diagrams. A competent person should also be able to work from verbal instructions.

Techniques

The techniques covered by this unit include, drilling, boring, sawing, planing, abrading and cutting.

Tools and Equipment

The mallets, hammers, screwdrivers, pins, cramps and measuring devices used in the making of hand-crafted furniture. Also includes powered tools such as sanders, routers, drills and power saws as well as workshop tools and

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devices such as bench hooks, winding sticks, shooting boards, mitre blocks of different angles, scratch stock.

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Suite Furniture; Furnishings and Interiors

Key words Contemporary Furniture Making; Traditional Furniture Making; Bed Making; Frame Making; Component Manufacture; Veneering; Modern Upholstery; Traditional Upholstery; Soft Furnishing; Cutting; Sewing; Hand Finishing;