

PROFFI357 (SQA Unit Code - FE5Y 04) Produce furniture design prototypes



Overview

This standard addresses the competence required to produce prototypes of furniture designs. This involves:

- 1 interpreting information
- 2 selecting methods to monitor and control the process of producing a prototype
- 3 selecting materials, methods and techniques
- 4 evaluating and reporting on prototypes
- 5 working in ways that ensure your own and others' safety

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

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Performance criteria

Plan and monitor realisation processes

You must be able to:

- P1 identify and agree the aims for realising a design **prototype** with others involved in the project
- P2 select suitable media, materials and associated tools, equipment, **techniques and processes** to meet **design objectives**
- P3 plan and organise the resources needed to realise a viable **prototype** and to meet deadlines
- P4 monitor the realisation process to ensure that the **prototype** matches design and functional specifications
- P5 respond appropriately to any unforeseen **problems** encountered during the **realisation process**

Realise and evaluate prototypes.

You must be able to:

- P6 use small-scale **realisation techniques and processes** safely and with skill and creativity
- P7 realise the **prototype** to an adequate standard that enables **evaluation** to take place
- P8 identify and carry out an **evaluation** process that enables the **prototype** to be judged in terms of the agreed aims
- P9 analyse the results of the **evaluation** process and structure arguments in support of conclusions drawn
- P10 communicate the results of the **evaluation** process to relevant people

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Knowledge and understanding

You need to know and understand:

Plan and monitor realisation processes

- K1 how to predict the opportunities and constraints involved in realising a prototype
- K2 how to select suitable media, materials and associated tools, equipment, techniques and processes
- K3 how to estimate skills and time required for realisation
- K4 how to schedule stages of work to meet deadlines
- K5 how to monitor progress against plans
- K6 how to interpret and meet design objectives and client requirements
- K7 what design and functional specifications need to be met
- K8 what the features, potential, limitations, availability and uses are of media, materials and associated tools, equipment, techniques and processes used within the furniture industry
- K9 how project constraints and deadlines (e.g. costs, time, technical and performance standards and quality parameters) are specified and what your responsibilities are for meeting them
- K10 what regulations, environmental and health and safety considerations in the use of materials, processes and technology you are required to meet
- K11 what health and safety procedures to follow in the studio or workplace including the implications for your work of the HASAWA and COSHH Regulations, where to find out about relevant risk assessment details and control measures that have been set by your organisation

You need to know and understand:

Realise and evaluate prototypes.

- K12 how to carry out small-scale realisation techniques appropriate to your specialisation
- K13 how to work safely and efficiently in a studio or workplace
- K14 how to plan and carry out evaluation techniques to meet agreed aims (e.g. related to design objectives, specifications, client requirements and technical constraints of final design realisation)
- K15 how to gather and record data to support evaluation decisions (e.g. about performance, function, ease of use and user/audience response)
- K16 how to prepare and present evaluation reports
- K17 what the features, potential, limitations, availability and uses are of media, materials and associated tools, equipment and techniques and processes used in producing furniture design prototypes
- K18 what health and safety procedures to follow in the studio or workplace including the implications for your work of the HASAWA and COSHH Regulations, where to find out about relevant risk assessment details and control measures that have been set by your organisation
- K19 what practical testing techniques can be applied (e.g. for materials, technology, designs and products)

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K20 what evaluation techniques are usually applied in the furniture industry and what the uses and limitations are of different qualitative and quantitative approaches

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Additional Information

Scope

Evaluation

Evaluation is the systematic assessment of a prototype to identify whether or not a design will meet its objectives. Evaluation can be qualitative (in which case it measures perceptions such as visual appearance or tactile features etc) or quantitative (in which case it makes use of measurable characteristics such as strength, flexibility, torsion etc).

Design objectives

Any design has a number of objectives which it sets out to meet in terms of such features as form, functionality, performance, ease of use, costs. These will be specified in the brief given to the person whose role it is to produce the prototype.

Problems

Problems can occur in any part of the realisation and evaluation processes. They may arise from the materials and methods used to produce and/or evaluate the prototype, and may be technical (e.g. an inability to conform to the design as specified or operational (e.g. an inability to complete the realisation process in the timescale. The person carrying out this role would be expected to deal promptly with problems they were competent to resolve, reporting others to a higher authority.

Prototypes

Prototypes are 2D and 3D models, mock-ups, samples or test pieces made using small-scale realisation techniques. They are produced since designers need to understand how their final design will be made, function and perform to check that their ideas will work in practice and be suitable for the client. Prototypes may be made at any stage of the design development cycle.

Realisation techniques and processes

Small scale realisation techniques cover preparing, forming, joining, assembling, manipulating, editing and finishing the prototype ready for evaluation.

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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;