



# **PIABC LEVEL 2 NVQ DIPLOMA IN FURNITURE MAKING**

Qualification Number: 600/0001/1

## **Qualification Specification**

**Updated: 21 March 2018**

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## EXECUTIVE SUMMARY

This is a nationally recognised qualification which requires the learner to possess or acquire the competencies and knowledge of straight forward furniture making: Traditional, modern, framemaking, component making, mattress making, hand and spray finishing. The qualification also requires knowledge of health and safety in a workshop environment and a contribution to the efficient working practices.

It is expected that the prospective learner will have had sufficient initial assessment by the centre to establish the likely success of the learner, together with the learner specific learning requirements to maximise success.

Programmes leading to this qualification can be organised and delivered by providers who have gained centre and qualification approval from PIABC. To achieve this they need to complete the PIABC centre and qualification approval procedures available from ***[www.piabc.org.uk](http://www.piabc.org.uk)***.

Success in this qualification prepares learners to advise others on the most appropriate method to produce accurate components in a safe, effective and efficient manner.

The qualification was developed under the Qualifications Credit Framework (QCF) and comprises of units from a number of Sector Skills Councils and therefore Assessors should use the associated relevant Assessment Strategies.

## AIM

This national qualification is competence based with a requirement to understand the associated underpinning knowledge.

The aim of the qualification is to acknowledge an individuals achievement whilst promoting a wider understanding of health and safety, efficient working and the development of hand and machine skills. Those achieving the qualification will be able to produce furniture or furniture components and apply related knowledge in a commercial setting.

The qualification is intended for those who have access to a range of tools and equipment to carry out a range of operations. The qualification contains Level 2 units only. Learners who have already obtained relevant units can claim APL for the units already achieved.

The qualification also provides the competency qualification component of the apprenticeship programme.

## OUTCOMES

In setting out a clearly-defined level of achievement, this qualification will:

1. Confirm and enhance the knowledge and job satisfaction of learners - providing them with a means of progression to higher level job roles and qualifications.
2. Provide employers with an open and transparent basis for judging the suitability of learners for employment and promotion.
3. Facilitate job movement throughout the timber sector and other related areas of the timber industry.

Specific outcomes for the qualification are listed under the individual unit description.

## TARGET GROUP

This Level 2 qualification is appropriate for those working in furniture making workshops or factories, wanting to gain recognition for the competencies and understanding in the basic operation of wood working machines.

Learners are likely to be working as furniture, or component makers/manufacturers, including mattress manufacture

<b>Job role</b>	<b>Type of company</b>
Traditional Furniture maker	Any sized company having access to machines producing component s for the furniture or construction industry or similar.

Modern furniture maker	Any sized company having access to machines producing components for the furniture or construction industry or similar.
Frame/Component maker	Any sized company having access to machines producing components for the furniture or construction industry or similar.
Upholsterer	Traditional or modern manufacture.
Mattress manufacturer	Any sized company having access to workshop facilities for mattress making activities.

## ENTRY REQUIREMENTS

There are no entry qualifications or age limits required for this qualification.

Assessment for this qualification is open to any learner who has the potential to reach the standards laid down for this qualification. An initial assessment of past experience and current skills, knowledge and understanding should be carried out prior to commencement, to determine suitability for this qualification.

Aids or appliances, which are designed to alleviate disability, may be used during assessment, providing they do not compromise the standard required.

## PROGRESSION

Success in this qualification prepares learners for progression in the timber and furniture industries to a position where they can assume a level of responsibility for not only machine use but also for a workshop or department. Natural progression would be to take the Level 3 NVQ in Furniture Making. Learners may have the opportunity to progress into Supervisory and Management roles taking suitable qualifications or equally may have opportunities to study related crafts such as joinery or cabinet making – both of which have national qualifications and Apprenticeships at Levels 2 and 3. Learners are encouraged to consider belonging to a professional institute or similar. Centres are encouraged to make learners aware of wood machining and related professional bodies.

## QUALIFICATION STRUCTURE

The qualification was developed under the Qualifications Credit Framework (QCF) and comprises of units from a number of Sector Skills Councils and therefore Assessors should use the associated appropriate Assessment Strategies.

The qualification is made up of mandatory and optional units. The mandatory units cover those areas which have a common approach, such as safety and the principle learning outcomes for the job role. The optional units offer a choice that can be combined to meet the needs of an individual's specific job role together with the organisations and learners preferences.

Guided Learning Hours (GLH) is the number of hours of teacher supervised or directed study time required to teach an individual unit or qualification. GLH have been calculated unit by unit - in isolation of each other - such that the unit is a stand alone unit, therefore centres may find that where learners are completing a number of units to achieve the complete qualification actual overall GLH will reduce (i.e. the actual GLH for the entire qualification is unlikely to be a sum total of the individual units taken).

Learning time will clearly be reduced if learners hold QCF credits from prior learning. Learners will also be expected to carry out additional reading, practice and other work to complete each unit and prepare for assessment.

Credit values are determined by the total learning hours (teaching + demonstrations + practice + reflection + assessment - including developing competence in the work environment etc) divided by 10. For example 7 credits reflect a total learning time of 70 hours. Learning time is usually much greater than GLH. Credit values have been calculated unit by unit - in isolation of each other - such that the unit is a standalone unit; therefore centres may find that where learners are completing a number of units to achieve the complete qualification, actual learning time will reduce (i.e. the actual learning time for the entire qualification is unlikely to be a sum total of the credits of the individual units taken).

Rules of Combination are used to define the structure of QCF qualifications and specify the minimum credits which must be achieved through a particular combination of units to gain a full qualification.

## RULES OF COMBINATION

### PIABC Level 2 NVQ Diploma in Furniture Making

#### Rules of Combination

Learners have five qualifications to choose from: Furniture Making - Component Manufacture Furniture Making - Contemporary and Frame Making Furniture Making - Mattress Manufacture Furniture Making - Traditional Furniture Making - Veneering.

To achieve one of these qualifications learners must complete two units from Mandatory Group A; two units from one of the Pathway Groups B1 to B5; and a minimum of one optional unit from Group C.

Total of 5 pathways options available – A minimum of 5 units per pathway required.

The minimum credit value of the qualification is **37 credits**.

#### Group A (mandatory)

Unit No.	Unit Title	Credits	Guided Learning Hours
A/600/8286	Make sure your own actions reduce risks to health and safety within a furniture/interiors related workplace	6	27
A/600/8398	Work effectively in a furniture/interior-related commercial environment	13	56

**Pathway Groups (B1 – B5) (learners need to choose one of the five pathways B1 to B5 groups)**

**B1 (Component Manufacture Pathway)**

Unit No.	Unit Title	Credits	Guided Learning Hours
L/600/8244	Set up and operate woodworking machinery	15	82
L/600/8129	Assist with the operation of furniture production machinery	11	49

**B2 (Contemporary and Frame Making (including beds) Pathway)**

Unit No.	Unit Title	Credits	Guided Learning Hours
K/600/8123	Prepare and assemble furniture using mechanical fixings	4	15
D/600/8250	Maintain tools and equipment used in furniture making and installation	8	40

**B3 (Mattress Manufacture Pathway)**

Unit No.	Unit Title	Credits	Guided Learning Hours
T/600/8240	Mattress assembly and tufting	4	11
H/600/8282	Prepare fabrics and components for use in upholstery	4	14

**B4 (Traditional Pathway)**

Unit No.	Unit Title	Credits	Guided Learning Hours
L/600/8132	Make and assemble wooden components of hand crafted furniture	13	61
H/600/8251	Prepare resources for use in making hand-crafted furniture	9	48

**B5 (Veneering Pathway)**

Unit No.	Unit Title	Credits	Guided Learning Hours
M/600/8236	Match, measure and mark out veneers	10	70
A/600/8238	Lay veneers by hand and press method	14	90

**Group C (learners need choose a minimum of one optional unit)**

<b>Unit No.</b>	<b>Unit Title</b>	<b>Credits</b>	<b>Guided Learning Hours</b>
K/600/8123	Prepare and assemble furniture using mechanical fixings	4	15
R/600/8231	Join and Joint veneers	13	76
T/600/8125	Prepare and Lay veneers	10	45
D/600/8233	Attach fittings to furniture	7	28
F/600/8127	Prepare to apply finishing processes to production furniture	15	65
J/600/8128	Apply finishing processes to production furniture	16	70
L/600/8129	Assist with the operation of furniture production machinery	11	49
J/600/8131	Produce workshop equipment	7	25
L/600/8132	Make and assemble wooden components of hand crafted furniture	13	61
M/600/8236	Match, measure and mark out veneers	10	70
A/600/8238	Lay veneers by hand and press method	14	90
R/600/8133	Apply stains, sealers and primers	11	41
F/600/8242	Develop customer relationships	10	43
L/600/8244	Set up and operate woodworking machinery	15	82
K/600/8249	Finish furniture by hand held spray gun	10	24
D/600/8250	Maintain tools and equipment used in furniture making and installation	8	40
H/600/8251	Prepare resources for use in making hand-crafted furniture	9	48
K/600/8252	Strip down and store items of furniture	11	18
D/600/8247	Interpret and use supporting technical information	7	31
F/600/8256	Create decorative effects on hand-crafted furniture	6	39
M/600/8253	Finish hand-crafted furniture	9	31
M/600/8270	Survey a location for the placement of furniture components	12	61

D/600/8278	Assess and repair items of furniture	15	59
Y/600/8134	Prepare hand-crafted furniture for finishing	7	14
D/600/8135	Prepare location for assembly and placement of furniture	4	13
F/600/8239	Re-instate a location after assembly and placement of furniture	4	14
A/600/8241	Mattress quilting operations	5	8
R/600/8245	Prepare and construct upholstery foundations	13	13
Y/600/8246	Produce complex seamed components	12	16
H/600/8248	Fit and fix work surfaces	6	23
F/600/8130	Prepare to upholster standard items of modern furniture	9	10
H/600/8234	Upholster standard items of modern furniture	28	10
K/600/8395	Produce simple seamed components by hand and machine	9	13
A/600/8255	Upholster standard items of traditional furniture	20	22
L/600/8258	Prepare specifications for furniture to be assembled in location	10	48
F/600/8273	Produce upholstery templates	4	14
M/600/8432	Produce table treatments	8	26
F/600/8435	Produce simple bed treatments	8	26
J/600/8436	Produce scatter and bolster cushions and padded items	10	32
L/600/8437	Prepare fabrics and components for use in soft furnishings	5	26
L/600/8289	Cut fabrics and components for use in soft furnishings	5	12
R/600/8438	Cut fabrics and components for use in upholstery	5	12
Y/600/8439	Produce loose covers	12	45
T/600/8240	Mattress assembly and tufting	4	11
H/600/8282	Prepare fabrics and components for use in upholstery	4	14
M/600/8429	Produce standard window treatments	12	46

## QUALIFICATION LEVEL

This is a Level 2 qualification.

### Level 2 Descriptor

#### Summary

Achievement at Level 2 reflects the ability to select and use relevant knowledge, ideas, skills and procedures to complete well-defined tasks and address straightforward problems. It includes taking responsibility for completing tasks and procedures and exercising autonomy and judgement subject to overall direction or guidance.

#### Knowledge and Understanding

- Use understanding of facts, procedures and ideas to complete well-defined tasks and address straightforward problems.
- Interpret relevant information and ideas.
- Be aware of the types of information that are relevant to the area of study or work

#### Application and action

- Complete well-defined, generally routine tasks and address straightforward problems
- Select and use relevant skills and procedures
- Identify, gather and use relevant information to inform actions
- Identify how effective actions have been

#### Autonomy and accountability

- Take responsibility for completing tasks and procedures
- Exercise autonomy and judgement subject to overall direction or guidance

*Source: Regulatory arrangements for the Qualifications and Credit Framework OFQUAL 2008*

## **PROGRAMME ORGANISATION**

Programmes leading this qualification can be organised and delivered by providers who have gained centre and qualification approval from PIABC. To achieve this they need to complete the PIABC centre and qualification approval procedures available from [www.piabc.org.uk](http://www.piabc.org.uk). In completing the documentation and the approval visit, centres need to demonstrate their ability to deliver high quality education leading to the qualification. Centres are expected to employ robust quality assurance processes. PIABC will appoint its own moderators to ensure the effective operation of these processes and the maintenance of standards of quality.

The organisation of the qualification is at the discretion of the centre and will take into account the aims, aspirations and experience of the learners.

Centres are encouraged to choose the most suitable curriculum model for their learners. Whilst the sequential delivery of parts of the unit is a possibility and may provide the most straightforward way of determining completion, it may be that some degree of integration of elements will occur, or that other methods of delivery are more appropriate to meet the needs of learners. It should be noted however that the whole unit and all the learning outcomes will be assessed.

Centres must ensure that adequate arrangements are in place for supporting learners. This could be either through separate tutorial sessions or through the use of time within structured study sessions. Centres using on-line or other forms of open learning must ensure that appropriate tutorial support is provided for learners.

The employer's engagement in learning and assessment opportunities will be paramount in securing timely achievement and a participative role should be encouraged.

In relevant circumstances, centres are recommended to provide career related information and guidance to their learners.

## **GUIDANCE ON LEARNING AND TEACHING**

Some learners will have undertaken a related learning course prior to or in conjunction with this qualification – especially if they are following a nationally recognised Apprenticeship. However, those learners employed in the timber and related industries, completing this qualification without following a recognised training programme will come to the qualification with varying levels of existing knowledge and/or practical experience of some parts of the syllabus. Training needs should be identified and gaps in knowledge and competency should be filled with a planned delivery of an individual learning plan. This should be utilised in preparing for teaching and assessment. The sharing of knowledge which has the potential to lead to a high level of understanding should be encouraged by the use of staff with direct experience in the wood machining and related industries. This must, of course, be balanced against a sound understanding of the theoretical understanding.

The relationship between theory and practice is a theme that should be reflected in the assessments for the programme. Therefore in structured learning and individual work, learners should be aware of the requirement to develop a theoretical understanding to their practical work and a practical application to their theoretical understanding.

Those developing learning programmes should expect to achieve all the learning outcomes. It may be useful to have workbooks for use either at home or in the workplace.

## **QUALIFICATION DESCRIPTION**

This qualification follows the QCF principles for designing units and qualifications and contains the features listed as follows:

- Unit QCF reference number, title, level, guided learning hours and credit value.
- Each unit consist of:
  - Learning Outcomes that show what the learners will be able to understand, know or demonstrate.
  - Assessment Criteria that show what the learners can do or produce in order to show that they have met the learning outcome.
  - Some Units also indicate the intended scope of the performance criteria
- To successfully complete a Unit, learners must meet all the learning outcomes by showing that they have achieved all the assessment criteria with consideration to the intended scope.

## **UNIT CONTENT: LEARNING OUTCOMES AND ASSESSMENT CRITERIA**

This is a nationally recognised qualification which requires the learner to possess or acquire the competencies and knowledge of basic tasks. The qualification also requires knowledge of health and safety in a workshop environment. Those achieving the qualification will be able to apply this knowledge in the production of furniture and/or products in a commercial setting.

Learners who have already obtained relevant units can claim APL for the units already achieved.

## **F/503/8136 Make sure your actions reduce risks to health and safety within your workplace**

**Level:** 2  
**GLH** 27  
**Credit value:** 6

### **Assessment Guidance**

This unit is for everyone at work (whether paid, unpaid, full or part-time). It is about having an appreciation of significant risks in your workplace, knowing how to identify and deal with them.

This unit is about the health and safety responsibilities for everyone in your workplace. It describes the competences required to make sure that:

- your own actions do not create any health and safety hazards
- you do not ignore significant risks in your workplace, and
- you take sensible action to put things right, including: reporting situations which pose a danger to people in the workplace and seeking advice

Fundamental to this unit is an understanding of the terms "hazard", "risk" and "control".

### **Learning Outcomes and Assessment Criteria**

#### **Learning Outcome – The learner will:**

#### **Assessment Criterion - The learner can:**

- |   |  |
|---|--|
| 1. Be able to identify the hazards and evaluate the risks in your workplace:  | 1.1 Identify which workplace instructions are relevant to your job role  |
|   | 1.2 Identify those working practices in your job role which could harm you or others   |
|   | 1.3 Identify those aspects of your workplace which could harm you or others  |
|   | 1.4 Check which of the potentially harmful working practices and aspects of your workplace present the highest risks to you or to others |
|   | 1.5 Deal with hazards in accordance with workplace instructions and legal requirements   |
|   | 1.6 Correctly name and locate the people responsible for health and safety in your workplace   |
|   | 1.7 Report to the people responsible for health and safety in your workplace those hazards which present the highest risks               |
| 2. Know how to identify the hazards and evaluate the risks in your workplace: | 2.1 Define what "hazards" and "risks" are  |
|   | 2.2 State your responsibilities for health and safety as required by the law covering your job role                                      |
|   | 2.3 Describe the hazards which exist in your workplace and the safe working practices which you must follow.                             |
|   | 2.4 Describe the particular health and safety hazards which may be present in your own job role and the precautions you must take        |

**Learning Outcome –  
The learner will:**

**Assessment Criterion - The learner can:**

- |   |   |
|---|---|
| 3. Be able to reduce the risks to health and safety in your workplace:  | 2.5 Explain the importance of remaining alert to the presence of hazards in the whole workplace   |
|   | 2.6 Explain the importance of dealing with, or promptly reporting, risks  |
|   | 2.7 Define the responsibilities for health and safety in your job role/description  |
|   | 2.8 Describe the safe working practices for your own job role   |
|   | 2.9 Identify the responsible people you should report health and safety matters to.   |
|   | 2.10 State where and when to get additional health and safety assistance  |
| 4. Know how to reduce the risks to health and safety in your workplace: | 3.1 Carry out your work in accordance with your level of competence, workplace instructions, suppliers or manufacturer's instructions and legal requirements  |
|   | 3.2 Control those health and safety risks within your capability and job responsibilities   |
|   | 3.3 Pass on suggestions for reducing risks to health and safety to the responsible people   |
|   | 3.4 Make sure your behaviour does not endanger the health and safety of you or others in your workplace   |
|   | 3.5 Follow the workplace instructions and suppliers' or manufacturers' instructions for the safe use of equipment, materials and products   |
|   | 3.6 Report any differences between workplace instructions and suppliers' or manufacturers' instructions   |
|   | 3.7 Make sure that your personal presentation and behaviour at work: <ul style="list-style-type: none"><li>• protects the health and safety of you and others,</li><li>• meets any legal responsibilities, and</li><li>• is in accordance with workplace instructions</li></ul> |
|   | 3.8 Make sure you follow environmentally-friendly working practices   |
|   | 4.1 Define and describe your scope and responsibility for controlling risks   |
|   | 4.2 State the workplace instructions for managing risks which you are unable to deal with   |
|   | 4.3 Identify the suppliers' and manufacturers' instructions for the safe use of equipment, materials and products which you must follow   |
|   | 4.4 Explain the importance of personal presentation in maintaining health and safety in your workplace  |
|   | 4.5 Explain the importance of personal behaviour in maintaining the health and safety of you and others   |
|   | 4.6 Describe the risks to the environment which may be present in your workplace and/or in your own job role  |

## **F/503/5995 Contribute to the effectiveness of work in a commercial setting**

**Level:** 2  
**GLH** 30  
**Credit value:** 5

**Learning Outcome – Assessment Criterion - The learner can:**

**The learner will:**

1. Plan and organise own work
  - 1.1 Ensure you have the required authority to complete the required activity
  - 1.2 Comply with current legislation including working safely
  - 1.3 Check that you understand the particular work activity and your role within it
  - 1.4 Check that the area is clean, tidy and free from hazards before starting work
  - 1.5 Check that required resources and equipment are ready before starting work
  - 1.6 Check the job documentation prior to starting work
  - 1.7 Complete the activity as planned without any undue delay
  - 1.8 Complete all documentation accurately and legibly and pass it on to the next stage
2. Know how to plan and organize their work
  - 2.1 Describe your job roles, responsibilities and levels of authority
  - 2.2 List the current legislation and describe how it applies to your role
  - 2.3 Describe the work activity and your role in that activity
  - 2.4 Explain how you would check that the area is clean, tidy and free from hazards including listing the hazards and possible consequences
  - 2.5 List the resources required for the activity
  - 2.6 Describe how to check that the equipment is ready for use
  - 2.7 Identify the documentation and show how it is used
  - 2.8 Describe the workplace procedures for monitoring the progress of the activity and keeping others informed
  - 2.9 Show how the documentation is completed and describe the next stage
3. Work effectively with other team members
  - 3.1 Treat others with respect at all times
  - 3.2 Communicate with others using the appropriate method
  - 3.3 Give constructive support and feedback to appropriate personnel
  - 3.4 Receive support and feedback from personnel
4. Know how the work effectively with others
  - 4.1 Explain how treating others with respect contributes to workplace efficiency
  - 4.2 State what methods of communication to use and when to use them
  - 4.3 Describe how to identify when assistance may be needed and the how this may be given

- 4.4 Explain why it is important to receive feedback and support
- 4.5 Describe how to give constructive feedback and support
- 4.6 Explain why it is important to give constructive feedback and support
- 5. Contribute to problem solving and improvements
  - 5.1 Respond to any problems that occur during the work activity
  - 5.2 Report any problems that occur and the actions taken
  - 5.3 Identify and share opportunities for improving workplace practices and procedures using the appropriate method
- 6. Know how to contribute to problem solving and improvement
  - 6.1 Describe the most common problems that may occur and how these are solved
  - 6.2 Describe the reporting procedure for problems
  - 6.3 Describe how to identify opportunities for improvement
  - 6.4 Describe how suggestions for improvements should be made and to whom
  - 6.5 Explain how the identification of improvements can benefit you and the organisation

## L/600/8244 Set up and operate woodworking machinery

<b>Level:</b>	2
<b>GLH</b>	82
<b>Credit value:</b>	15

### Assessment Requirements:

For this unit you must select 3 machines, at least one machine from sawing, also one or more from either planing, sanding, morticing, CNC/NC, boring or profiling, can include one other from sawing.

#### Sawing machines

- Dimension saw, Rip / table saw, cross-cut saw, narrow band saw, band re-saw

#### Planing machines

- Surface Planer, Thickness Planer, Combination planer, four side moulder

#### Sanding machine

- Linisher, Bobbin, Disc

#### Mortice and tennon machine

- chisel morticer, tenoner,

#### CNC/NC machines

- CNC, NC

#### Boring Machine

- Pillar drill, Vertical drill-single/multi head, Horizontal drill- single/multi head, Profiling Machines Spindle moulder, five sider moulder, Router

#### Profiling Machines

- Spindle moulder , Five sider moulder, Router

### Learning outcomes

*The learner will:*

1. Be able to prepare and set up machinery and materials

2. Be able to modify materials to form timber and timber-based products

### Assessment criteria

*The learner can:*

1.1 Obtain and clarify necessary work information  
1.2 Check that resources are suitable for the work  
1.3 Ensure resources meet information requirements  
1.4 Take corrective action when resources are incomplete or unsuitable  
1.5 Ensure machinery meets information requirements  
1.6 Set up machinery to enable it to be used safely and effectively  
1.7 Confirm machinery is ready to carry out machining operations on specified materials  
1.8 Identify when repairs to machinery are necessary

2.1 Comply with the relevant health and safety legislation  
2.2 Ensure support personnel are in place before and during operations  
2.3 Operate and maintain machinery in compliance with manufacturer's recommendations and industry codes of practice

- 2.4 Complete machining operations within the allocated times and operational constraints
  - 2.5 Produce finished products to the information requirements
  - 2.6 Take corrective action in the event of machinery malfunction or material fault
- 3. Be able to contribute to a safe working environment
    - 3.1 Carry out work practices to keep areas clean, and free from debris and waste
    - 3.2 Identify potential hazards to self and others arising from own work practices
    - 3.3 Prevent hazards by taking corrective action
    - 3.4 Carry out work practices to comply with the given information
- 4. Know how to prepare, set up machinery and modify materials
    - 4.1 Describe what sources of information to use
    - 4.2 Explain effective lines and methods of communication
    - 4.3 Identify the location of resources
    - 4.4 Describe relevant dimensional control aids and their uses, e.g. templates, jigs
    - 4.5 Explain how to run the machine operating systems
    - 4.6 Explain how to achieve the correct positioning and securing of tooling
    - 4.7 Identify resources /timber and timber-based materials and their characteristics, uses and limitations
    - 4.8 Explain the compatibility of materials with machines
    - 4.9 Describe common defects and discrepancies in resources and machines
    - 4.10 Explain how to identify common defects and discrepancies in resources and machines
    - 4.11 Identify the correct use of relevant lubricants
    - 4.12 Describe what constitutes the work environment
    - 4.13 Explain documentation requirements to be followed
    - 4.14 Identify the particular machine to be used
    - 4.15 Explain relevant health and safety legislation for the machines to be used
    - 4.16 Explain environment control equipment used with the machines
    - 4.17 Explain how to interpret specifications
    - 4.18 Identify characteristics, uses and limitations of resources
    - 4.19 Identify characteristics, uses and limitations of the chosen machines
    - 4.20 Explain how damage can be caused to materials and machines
    - 4.21 Describe how to avoid damage to materials and machines
- 5. Understand how to contribute to the provision of a safe working environment
    - 5.1 Describe own responsibilities with regard to current legislation and guidance
    - 5.2 Explain common forms of accident and health hazards involving employees
    - 5.3 Describe types of fire control equipment and its use in the workplace
    - 5.4 Explain safe methods of removal and disposal of waste materials/components

- 5.5 Describe relevant Personal Protective Equipment (PPE) and how to use it correctly
- 5.6 Describe risk assessment techniques

## Range

### Information

Information on the work required and practices to follow can be obtained from a range of sources including drawings, cutting lists, specifications, spoken and written instructions, regulations and legal requirements, official guidance, manufacturers' instructions, security instructions and other organisational requirements.

### Resources

The resources covered by this unit address both machinery and materials as well as support personnel and job documentation.

Typical materials within furniture manufacture would include:

- timber (e.g. hard woods such as oak and mahogany and soft woods such as pine)
- timber-based materials (e.g. composites)

### Corrective actions

The person carrying out this work would be expected to be competent to isolate equipment until a malfunction is dealt with and to report a malfunction to the relevant person(s) to deal with it.

In the event of hazards arising from work activities they would be expected to correct hazards which were within their own authority to address, report hazards to the person in charge and warn others of fire, accident or equipment failure.

### Machinery/machines

Typical machinery within furniture manufacture would include; For this unit you must select 3 machines, at least one machine from sawing, also one or more from either planing, sanding, morticing, CNC/NC, boring or profiling, can include one other from sawing.

### Work practices

The work practices to be followed to maintain safety relate to:

- following instructions
- following company procedures and official guidance
- identifying hazards
- cleaning up and disposing of waste in your own work area and areas to which you have access
- securing tools and equipment
- using personal protective equipment
- following organisational policy on personal behaviour
- maintaining an acceptable level of personal hygiene

## L/600/8129 Assist with the operation of furniture production machinery

**Level:** 2  
**GLH** 49  
**Credit value:** 11

### **Learning outcomes**

*The learner will:*

1. Be able to load machinery

2. Know how to load machinery

3. Be able to assist with machinery operation

4. Know how to assist with machinery operation

### **Assessment criteria**

*The learner can:*

1.1. Ensure there is a specification of the required materials  
1.2. Refer aspects of the specification which are unclear or incomplete to a supervisor  
1.3. Confirm that the machine has been set and is ready to receive the materials  
1.4. Select and load materials of the required quality and quantity to meet the specification  
1.5. Ensure loaded materials are secure in the correct position  
1.6. Ensure work holding devices and guards are in place  
1.7. Report that loading is complete  
1.8. Reject and report materials which are damaged or of unacceptable quality

2.1. Explain terms used to describe materials used in furniture production  
2.2. Describe how to check different types of materials against a specification  
2.3. State authorised personnel to set machines for operation  
2.4. Describe how to handle and load materials to prevent them being damaged  
2.5. Explain how to recognise damaged or poor quality materials  
2.6. Describe how to recognise different types of damage that can occur

3.1. Assist with start up of machinery  
3.2. Operate the machinery within safe working limits  
3.3. Monitor progress of the operation against specifications  
3.4. Adjust the operation as necessary to ensure the required outcome  
3.5. Report deviations from progress which are outside your control and responsibility  
3.6. Maintain accurate and complete records of the operation and outputs  
3.7. Effect an emergency stop if machine operation constitutes a danger  
3.8. Report emergency actions to a supervisor  
3.9. Report operational progress using required procedures

4.1. Describe pre-start up checks  
4.2. Explain the importance of carrying out pre-start up checks  
4.3. State the safe working limits for the machinery

- 4.4. Explain how to adjust the controls to keep machinery within safe working limits
- 4.5. Outline the expected progress of the operation in terms of timing, stages and outputs
- 4.6. State reporting procedures and why it is important to do this promptly
- 4.7. Describe the information recorded about the operation
- 4.8. Explain the implications of not keeping accurate and complete records
- 4.9. 4.9 Explain the importance of maintaining work schedules

5. Understand health and safety procedures in the workplace

- 5.1. Use safe handling and lifting techniques when loading materials
- 5.2. Follow safe working procedures when loading and working near powered equipment
- 5.3. Wear the appropriate personal protective equipment for the machine and materials
- 5.4. Explain how to recognise materials that are damaged or of poor quality
- 5.5. Describe personal limitations in respect of the Provision and Use of Work Equipment Regulations (PUWER) regulations 1998
- 5.6. Describe the work implications of the Health and Safety at Work Act (HASAWA), Control of Substances Hazardous to Health (COSHH) regulations
- 5.7. Explain where to find organisation risk assessment details and control strategies
- 5.8. Describe personal protective equipment to be worn
- 5.9. Explain the importance of using personal protective equipment
- 5.10. Describe situations that would constitute a danger and require use of an emergency stop

Range:

Specification

The set of instructions which describe the materials to be loaded and the nature and expected progress of the operations to be carried out.

Materials

The materials relevant to wood machining are lengths of hard and soft woods, and composite boards. The materials in the case of veneering presses are the veneers and cores to which the veneer is to be applied

Machinery

The type of machinery covered by this unit includes wood machining equipment and veneer presses.

Report

Reporting of progress may involve telling the operator or supervisor as well as completing required records, either in written form or electronically

Operations

The machine operations covered by this unit include feeding of woods into wood machining equipment, and the mechanical spreading of adhesives during veneering

**Danger**

Danger may arise from malfunction, breakages of materials or from an operator becoming trapped by some moving part.

## K/600/8123 Prepare and assemble furniture using mechanical fixings

Level:	2
GLH	15
Credit value:	4

### Learning outcomes

*The learner will:*

1. Be able to prepare components and equipment

2. Be able to assemble and check and complete components

3. Know how to prepare and assemble components

### Assessment criteria

*The learner can:*

1.1. Select materials tools and equipment  
1.2. Check that equipment is safe and set to required position  
1.3. Check the work specification  
1.4. Inspect joint surfaces to ensure they are free of substances  
1.5. Mark out components within tolerance specifications  
1.6. Drill and bore holes for mechanical fasteners  
1.7. Ensure that components are matched so that they are uniform  
1.8. Ensure that components are sorted according to type  
1.9. Deal with damaged components or surfaces  
1.10. Report damage that prevents completion of preparations  
1.11. Maintain tidy work area and complete preparations in required time

2.1. Lay components and tools out for assembly  
2.2. Check that components match colour/grain specification  
2.3. Complete assembly according to work specifications  
2.4. Use correct fasteners in mechanical joints  
2.5. Use template and jigs  
2.6. Report assemblies not finished to specification  
2.7. Deal promptly with problems and report those that cannot be solved  
2.8. Assemble components to specified quality and tolerance levels

3.1. Describe terms used in technical specifications for furniture  
3.2. Describe the characteristics of wood composites  
3.3. Explain how characteristics of wood composites affect handling and preparation of components  
3.4. Explain how to handle power tools safely  
3.5. Describe relevant personal protective equipment  
3.6. Explain the importance of using personal protective equipment  
3.7. Describe the requirements of an efficient work area  
3.8. Describe health and safety issues that may result from a disorganised workplace  
3.9. Explain how to recognise and deal with equipment faults  
3.10. Explain the importance of assembling components in a particular sequence  
3.11. Describe the types of mechanical fixings and their uses  
3.12. Explain the consequences of incorrect sorting of components  
3.13. Explain the importance of using correct techniques and equipment for filing, sanding, scraping, drilling and boring

- 3.14. Describe preparations required for making mechanical joints
- 3.15. Outline expected work rates

## Range

### Tools and equipment

Hand operated and machine equipment. May include: sanding, scraping, filing, drilling, boring, stapling, pinning, screwing

### Work specifications

The set of instructions which describe the work to be carried out, including details of qualities of components to be used, the method of fixing and tolerances to be achieved. The specifications will also detail the assembly to be produced and the time in which this must be completed. In the context of these standards a tolerance of +/- 0.5 mm would be expected.

### Substances

This includes grease, adhesives, solvents and general manufacturing debris

### Mechanical fasteners

The screws, staples, pins and bolts used in modern furniture production methods.

### Components

The pieces that are assembled to create furniture items. They may be made of wood composites, metals or plastics.

### Joints

The joints used in making production furniture whether for the domestic or office market. These include mechanical joints which are pinned screwed or stapled together

### Assembly

An assembly is some part of an item of furniture which will be combined with other assemblies to make the full item. For example kitchen/ bedroom units or other knock down type assemblies.

## D/600/8250 Maintain tools and equipment used in furniture making and installation

**Level:** 2  
**GLH** 40  
**Credit value:** 8

### **Learning outcomes**

*The learner will:*

1. Be able to check and maintain the condition of tools

2. Be able to keep tools in working condition

3. Know how to check tools and keep them in working condition

4. Know how to maintain workplace health and safety

### **Assessment criteria**

*The learner can:*

1.1. Check the condition of tools regularly  
1.2. Sharpen cutting edges to keep tools in effective working condition  
1.3. Oil and grease tools to prevent damage  
1.4. Keep tools clean and free from dust and debris  
1.5. Identify tools that are damaged and remove for repair  
1.6. Ensure tools are stored safely and tidily in designated locations

2.1. Assess how to bring tools back into working condition  
2.2. Report tools which are beyond repair  
2.3. Use appropriate equipment and techniques to achieve the required tolerances  
2.4. Use tests to check the condition of the tool  
2.5. Ensure tools are of the required sharpness and performance accuracy before use

3.1. Describe tools used in making and installing components and wooden furniture by hand  
3.2. Explain how to assess the condition of tools  
3.3. Describe how to bring tools into a working state  
3.4. Describe how to recognise damaged tools that need more than routine maintenance  
3.5. Describe different types of damage to tools including  
• damage that can be repaired  
• damage that cannot be repaired  
3.6. Describe where and how often to oil and grease tools  
3.7. Identify correct oils and grease to use for tools  
3.8. Describe the importance of keeping tools clean and free of dust and debris  
3.9. Outline the importance of keeping cutting edges sharp  
3.10. Explain how to test tools for sharpness and performance accuracy  
3.11. Describe the importance of storing tools correctly

4.1. Follow safe working practices when handling tools, materials, equipment, oils and greases  
4.2. Wear the appropriate personal protective equipment (PPE)  
4.3. Explain the implications of the Health and Safety at Work Act (HASAWA) and Control of Substances Hazardous to Health (COSHH) Regulations  
4.4. Explain relevant organisational risk assessment and control

measures

4.5. Describe the potential hazards that can arise from defective and faulty tools

Range

Sharpening

Grinding stones, strops, files and slip stones.

It is expected that care and maintenance of tools should reflect those in general use within the craft. For example furniture makers may be required to use sharpening techniques using traditional oil stones for producing a sharpening angle to edges such as mortice, firmer and bevel edge chisels, smoothing and block planes. Fine tuning of hand tools such as smoothing and block planes may be required for traditional furniture making crafts which involve working to fine tolerances.

Damage

Damage can arise from wear, misuse or from faults in the materials being worked. Examples might include blunting and notching of cutting edges, missing or bent teeth on saws or frayed or cut electric cables, Screwdriver blade damage

Tools and equipment

Hand tools, electric and air-powered tools, measuring devices, workshop tools, devices and equipment.

Furniture making crafts may be required to sharpen a range of hand tools which could include: knives, planes, chisels, scrapers, gauges and turning and carving tools.

Care and maintenance of tools may include screwdrivers, cramps, drills, squares, mallets, mitre blocks bench hooks

Working condition

The level of sharpness and performance accuracy needed to produce hand-crafted furniture accurately and to a high quality finish. Typically this involves tolerances of within +/- 2mm for sharp edges, +/- 2 degrees for angles and sharpness of drill bits. May include the condition of screwdrivers, cramps, drills, squares, mallets, mitre blocks bench hooks. Oiling, greasing and wax application.

Personal protective equipment (PPE)

Ear, eye, hand, feet and respiratory protection

## L/600/8132 Make and assemble wooden components of hand crafted furniture

**Level:** 2  
**GLH** 61  
**Credit value:** 13

### **Learning outcomes**

*The learner will:*

1. Be able to cut, shape and mould wooden components

2. Be able to cut and joint wooden components for hand-crafted furniture

### **Assessment criteria**

*The learner can:*

1.1. Organise tools and equipment for effective working  
1.2. Maintain a tidy work area  
1.3. Ensure specification details are clear and complete  
1.4. Check materials are free of flaws and suitable for the component  
1.5. Discard damaged materials  
1.6. Accurately measure and mark out lines/profiles within the specified tolerances  
1.7. Use effective techniques for alignment of surfaces  
1.8. Check and confirm moulded components have the required contour  
1.9. Demonstrate use of correct adhesives and pressure when gluing materials  
1.10. Minimise waste through choice of materials and measuring and marking them out for cutting  
1.11. Handle materials and components without damaging them  
1.12. Cut components to size and shape, keeping within required tolerances  
1.13. Return tools and equipment to correct storage locations

2.1. Organise tools and equipment for effective working  
2.2. Maintain a tidy work area  
2.3. Orient materials to be used in the correct face and grain alignment  
2.4. Check materials are free of flaws and suitable for joint construction  
2.5. Discard damaged materials  
2.6. Ensure details of joints to be produced are clear and complete  
2.7. Use suitable methods to measure, mark out and control the dimensions of the cuts  
2.8. Cut joints accurately to within the required tolerances  
2.9. Ensure that joints fit correctly  
2.10. Deal with joint faults that arise  
2.11. Clean and sand components as required  
2.12. Ensure that joint components meet the specified quality for alignment shape and grain orientation  
2.13. Use appropriate techniques to check joints and assembly for square  
2.14. Return tools and equipment to correct storage locations

3. Understand how to cut, shape, mould and joint wooden components for hand-crafted furniture

- 3.1. Explain terms used in technical specifications for component production and assembly and for joints
- 3.2. Describe the functions and uses of types of tools and equipment used in furniture assembly
- 3.3. Compare handling characteristics of different species of wood used in hand-crafted furniture
- 3.4. Describe flaws that would affect the utility of a piece of wood within furniture construction
- 3.5. Explain why it is important to work with the grain of wood
- 3.6. State the implications of not working with the grain of wood
- 3.7. State how characteristics of different wood composites affect the way they are cut and handled and their suitability for different joint constructions
- 3.8. Outline the consequences of inaccurate measuring and cutting
- 3.9. Outline the consequences of using poor technique when shaping materials
- 3.10. Describe the mechanics of joint construction
- 3.11. Explain the limitations of different jointing components and alternative jointing techniques that can be used

4. Know how to work in ways which maintain your own and others' safety

- 4.1. Describe appropriate personal protective equipment (PPE) and its importance
- 4.2. Explain potential health and safety issues that can result from a disorganised and untidy work area
- 4.3. Use tools safely and effectively
- 4.4. Explain the safe use of manual and powered tools and equipment
- 4.5. Describe safe use of adhesives to include;
- 4.6. use of personal protective equipment
- 4.7. adequate ventilation
- 4.8. Dispose of waste safely to the designated location in accordance with current legislation
- 4.9. Describe personal limitations in respect of the Provision and Use of Work Equipment Regulations (PUWER) regulations 1998
- 4.10. Describe workplace implications of the Health and Safety at Work Act (HASAWA) and Control of Substances Hazardous to Health (COSHH) Regulations
- 4.11. Describe relevant organisational risk assessment details and control methods

Range:

#### Tools and Equipment

The hand and powered tools used in the making of hand crafted furniture, including basic fixed and portable wood working machinery. Hand tools include rulers, pencils, vernier callipers, chisels, planes, cramps, saws, drills, drill bits, squares, mallets, scrapers, honing stones, knives, gauges as well as workshop tools and devices such as bench hooks, winding sticks, shooting boards, mitre blocks of different angles, scratch stock, work benches. Examples of powered tools would include biscuit jointers, sanders, routers, drills and saws. Examples of machinery would include lathes, presses, bandsaw, dimension saw, surface planer and thicknesser

### Specification

The set of instructions which describe the work to be carried out, including details of the qualities (colour, grain), the nature of the joints to be made and the tolerances to be achieved. In the context of this unit, tolerances to within (0.5mm) would be expected. Specifications will usually be provided by verbal, written form or by diagrams from research. A competent person should also be able to work from verbal instructions

### Components

The pieces from which an assembly within hand-crafted furniture is constructed

### Materials

The softwoods, hardwoods and wood composites used in making/ furniture. Composites would include plywood, chipboard and MDF. Woods may be of an oily or resinous nature, have a ripple or interlocking grain and be of a burr or pippy structure

### 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

### Cutting

Using saws (e.g. tenon, dovetail, dimension or band), planes (e.g. jack, smoothing, block, scraper, rebate, shoulder or bullnose), chisels (e.g. bevel-edged, mortice, firmer and paring) and routers

### Techniques

The techniques covered by this unit are chiselling, drilling, boring, sawing, planing, moulding, scraping, abrading, splicing, and matching, squaring and precise measurement

### Joints

The joints used in making hand-crafted furniture. They include insertion, scarf, rub joints, 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

## H/600/8251 Prepare resources for use in making hand-crafted furniture

**Level:** 2  
**GLH** 48  
**Credit value:** 9

### **Learning outcomes**

*The learner will:*

1. Be able to prepare equipment tools and the work area

2. Know how to prepare equipment tools and the work area

3. Be able to select and prepare materials and surfaces

### **Assessment criteria**

*The learner can:*

1.1. Select the correct tools and equipment to carry out the work specified  
1.2. Check and confirm that the tools and equipment are in working condition  
1.3. Ensure that the correct equipment components are selected and set in place  
1.4. Ensure that equipment is correctly set up for operation and that guards are in place  
1.5. Select and lay out required workshop devices to complete the work  
1.6. Clear and clean adequate working space for the tools and equipment  
1.7. Ensure that environmental conditions are suitable

2.1. Describe the types of workshop tools, equipment and devices that are used in making wooden furniture by hand  
2.2. Explain checks required for the condition of tools and equipment  
2.3. Explain types of components needed to achieve different specifications  
2.4. Explain the implications of using the wrong components  
2.5. Explain the implications of setting up equipment incorrectly

3.1. Organise tools to work effectively  
3.2. Maintain work area tidy  
3.3. Ensure that there are complete details of the required materials and preparations  
3.4. Select materials of the required types and dimensions  
3.5. Check that the selected materials are free of irregularities and suitable to be worked on  
3.6. Determine the face side of the material to be used for the best match to:  
 structural requirements  
 the desired visual effect  
3.7. Measure the material to the required tolerances  
3.8. Keep wastage as low as possible  
3.9. Make all markings clearly and cleanly  
3.10. Use the most suitable technique and tools to produce the required surface finish  
3.11. Return tools to the correct storage locations  
3.12. Report tools which require maintenance

4. know how to select and prepare materials and surfaces

- 4.1. Explain the different sorts of workshop tools and devices used in making wooden furniture by hand
- 4.2. Describe materials, tools and techniques used for making hand-crafted furniture
- 4.3. Explain why specific materials, tools and techniques are used
- 4.4. Explain why the face mark is used and its purpose
- 4.5. Describe how the face mark relates to the movement of timber
- 4.6. Explain how to identify the face side of material
- 4.7. Describe the importance of correct and accurate surface preparation
- 4.8. Describe the growth characteristics of different hard and soft woods
- 4.9. Explain the implications of growth characteristics on working with different hard and soft woods
- 4.10. Explain the handling characteristics of different sorts of wood composites
- 4.11. Explain the implications of handling characteristics on working with different sorts of wood composites
- 4.12. Explain how to handle materials without causing damage
- 4.13. Describe the units of measurement used to specify length, width, thickness and performance accuracy
- 4.14. Describe the tolerance levels typically used in hand-crafted furniture

5. Be able to follow safe working practices

- 5.1. Handle tools and equipment safely
- 5.2. Follow safe working procedures
- 5.3. Wear the appropriate personal protective equipment (PPE)
- 5.4. Dispose of wastes safely using designated procedures and disposal areas

6. Know health and safety regulations and procedures in the workplace

- 6.1. Describe the personal protective equipment (PPE) Describe the importance of wearing personal protective equipment (PPE)
- 6.2. State the importance of disposing of waste materials safely
- 6.3. Identify who to report extraction and ventilation problems to
- 6.4. State how to dispose of waste in accordance with current legislation

## Range

### Tools and equipment

The chisels, planes, cramps, saws, drills, drill bits, squares, mallets, scrapers, honing stones, knives 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 devices such as bench hooks, shooting boards, mitre blocks of different angles, scratch stock.

Drill bits, work holding devices, chucks and key, blades and abrasives.

### Environmental conditions

The cleanliness, temperature, ventilation and humidity characteristics of the working area.

### Specifications

Specifications are details as to the work to be carried out and the materials, adhesives, tools, equipment and work area selection and preparations needed.

### Materials

The materials used in constructing hand-crafted furniture. These include softwoods (e.g. pine), hardwoods (e.g. mahogany) and wood composites (typically plywood, chipboard and MDF). Materials also include mouldings, fittings, ground work and components such as dowelling used in joint making.

### Surface finish

Smooth, planed and sanded surface finishes will be needed, depending on the intended use of the material within the furniture item.

### Techniques

Sawing, planing, sanding and jointing.

Personal protective equipment (PPE)

Ear, eye, hand, feet and respiratory protection.

## M/600/8236 Match, measure and mark out veneers

<b>Level:</b>	2
<b>GLH</b>	70
<b>Credit value:</b>	10

### **Learning outcomes**

*The learner will:*

1. Be able to measure and mark out veneers

2. Be able to match veneers

### **Assessment criteria**

*The learner can:*

- 1.1. Select veneers which meet the quality requirements in the work specification
  - 1.2. 1.2. Check veneers have no intermittent or full faults and set aside any which do
  - 1.3. Match veneers for pattern, grain orientation and light refraction requirements
  - 1.4. Minimise waste by the choice of veneers and measuring and marking them out for cutting
  - 1.5. Handle veneers to avoid damaging them
  - 1.6. Measure and mark veneers accurately to size and shape, keeping within the required tolerances
  - 1.7. Use safe and effective techniques to make the cuts
  - 1.8. Ensure that veneer surfaces to be glued are free of irregularities and are sanded and cleaned to the required surface finish
  - 1.9. Store the veneers in appropriate conditions
  - 1.10. Follow safe working procedures
  - 1.11. Ensure the work area is kept clean and tidy
  - 1.12. Dispose of wastes safely to the designated area
  - 1.13. Describe the kinds of natural faults and handling damage that can occur with veneers
  - 1.14. Assess how to identify faults which render the veneer unusable
  - 1.15. Demonstrate the importance of keeping waste to a minimum
  - 1.16. Illustrate how to balance and match veneers
  - 1.17. Describe the growth and handling characteristics of different species of wood
  - 1.18. Define how growth and handling affect how veneers are cut, stored
  - 1.19. Describe the consequences of inaccurate measuring and cutting
  - 1.20. Demonstrate how to ensure safety of self and others when using cutting tools and equipment
- 
- 2.1. Match veneers for quality, size and shape to meet the design requirements
  - 2.2. Set aside any veneers of unacceptable quality
  - 2.3. Handle the veneers to avoid damaging them
  - 2.4. measure and align the veneers to form the required size when jointed
  - 2.5. Make the joints of the required type
  - 2.6. Deal with any joint faults that arise
  - 2.7. Check and confirm that the results meet the specified quality
  - 2.8. Store the joined and jointed veneers in appropriate conditions to keep them in the required state for application

3. Know how to measure mark out and match veneers

- 3.1. Apply terms used in technical specifications for veneers
- 3.2. Outline the characteristics used to describe the quality of a veneer
- 3.3. Describe the handling characteristics of different types and qualities of veneer
- 3.4. Classify how to protect veneers from damage
- 3.5. Give the importance of flattening and damping veneers during storage
- 3.6. Classify personal limitations in respect of provision and use of work equipment regulations
- 3.7. Describe the work implications of the Health and Safety at Work Act (HASAWA) and Control of Substances Hazardous to Health (COSHH)
- 3.8. Explain where to find organisation risk assessment details and control measures
- 3.9. Distinguish when and why quartered panel and stringed sheet jointing methods are used
- 3.10. Describe what to look for when matching different veneers
- 3.11. Describe faults that occur with jointing veneers and how to overcome them
- 3.12. Define quality checks to be carried out on jointed veneers

#### Range

##### Veneers

Veneers used in making furniture are made of natural timber (Softwood and Hardwood). Examples of the types of timbers from which veneers are made would include hard and soft woods such as walnut, oak, ash, mahogany, cherry, maple or pine.

##### Conditions

The conditions under which veneers require to be kept includes flattening and damping them to ensure that they remain in a suitable state for working

##### Quality

The quality of a veneer can be described in terms of the grain fineness and orientation, its colour, hue and decoration, moisture content and light refraction characteristics. Veneers require to be matched for these qualities for use in straight, slip laid, leaf laid, book match and edge veneering

##### Work specification

The set of instructions which describe the work to be carried out, including details of the qualities of the veneer to be produced, the length, width and shape of veneer required and the nature of the joints to be made. In the context of these standards, length, width and shape tolerances to within +/- 0.5mm would be expected. The specification will also detail the storage condition requirements for the veneers. Table tops or chest of drawer tops with crown cut or slip matched veneers would be typical of furniture seen.

##### Joints

The joints used in making standard veneers would include the making of quartered panels, edged sheets and stringed sheets. These are influenced by the design required, which will be stated in the specifications. Joints must be accurately matched for grain orientation, colour and hue, decoration and light refraction qualities.

## A/600/8238 Lay veneers by hand and press method

<b>Level:</b>	2
<b>GLH</b>	90
<b>Credit value:</b>	14

### **Learning outcomes**

*The learner will:*

1. Be able to lay hand-crafted veneers

2. Know how to lay hand-crafted veneers

### **Assessment criteria**

*The learner can:*

1.1. Ensure groundwork is prepared for the veneering process and is secure, clean, free of debris and damage  
1.2. Ensure that groundwork is at the required temperature for the adhesive type to be used  
1.3. Position the veneers on the specified surface  
1.4. Follow the specified veneering method, using safe and effective technique  
1.5. Ensure adhesives are mixed in accordance with the manufacturers' instructions and COSHH regulations  
1.6. Ensure adhesive is applied evenly across the ground work within the optimum time  
1.7. Apply even and appropriate pressure to the veneer according to the veneer type and surface  
1.8. Carefully handle the veneers to avoid damage  
1.9. Deal effectively with any faults that arise  
1.10. Store the veneers in appropriate conditions to keep them in the required state for working

2.1. Explain terms used in technical specifications for veneers  
2.2. Describe handling damage that can occur with veneers  
2.3. Explain how to avoid damage with veneers  
2.4. Describe types of fault that can occur with veneering and how to deal with them  
2.5. Explain how atmospheric conditions can affect the veneering process  
2.6. Explain why veneers may need to be flattened and damped during storage  
2.7. Describe the consequences of not flattening and damping veneers  
2.8. Explain when and why different veneering methods are used  
2.9. Explain the implications of open times, shelf life and setting times of adhesives for the way you work  
2.10. Describe the different types of adhesives  
2.11. State the absorption capabilities of adhesives through veneers  
2.12. Explain the compatibility of different types of adhesives with veneers  
2.13. Describe problems associated with adhesives and how to overcome them  
2.14. Explain the uses and benefits of different ways of pressing  
2.15. State the consequences of inaccurate positioning  
2.16. Explain where, when and how to use different types of adhesives  
2.17. Describe the importance of good preparation to the quality of

the work

3. Be able to fit inlays to groundwork

- 3.1. Check the inlay design and type matches the specification
- 3.2. Determine the best sequence to follow to achieve the specified result
- 3.3. Ensure groundwork is prepared for the fitting process and is secure, clean, free of debris and damage
- 3.4. Ensure that groundwork is at the required temperature for the adhesive type to be used
- 3.5. Ensure that the inlay fits the groundwork laterally and vertically
- 3.6. Clean the surface so that it is free of any excess adhesives
- 3.7. Key the surface using appropriate tools and techniques
- 3.8. Ensure that the finish meets the specification
- 3.9. Deal effectively with any faults
- 3.10. Follow the specified fitting method, using safe and effective techniques
- 3.11. Handle the inlays to avoid damaging them
- 3.12. Store the inlays in appropriate conditions to keep them in the required state for application

4. Understand how to fit inlays to groundwork

- 4.1. Explain terms used in technical specifications for inlays
- 4.2. Describe the purpose of different tools and equipment used in fitting inlays
- 4.3. Compare the differences between veneered and stringing inlays and the depth of inlay required for each
- 4.4. Explain the handling damage that can occur with inlays
- 4.5. Describe how to avoid handling damage
- 4.6. Describe the faults that can occur with inlay fitting
- 4.7. Explain how to deal with inlay fitting faults
- 4.8. Explain how atmospheric conditions can affect the fitting process
- 4.9. Describe methods of storing inlays
- 4.10. Explain the purpose of storing inlays according to prescribed methods
- 4.11. Explain when and why different fitting methods are used
- 4.12. Describe the open times, shelf life and setting times of adhesives
- 4.13. Describe the impact on working methods of open times, shelf life and setting times of adhesives
- 4.14. State the absorption capabilities of adhesives through inlays

5. Understand health and safety procedures in the workplace

- 5.1. Safely handle adhesives and apply them effectively to groundwork
- 5.2. Deal safely and promptly with adhesive spillages and splashes
- 5.3. Dispose of unwanted adhesives safely in the designated location and in accordance with COSHH Regulations
- 5.4. Explain how to dispose of waste in accordance with current legislation
- 5.5. Use the correct Personal Protective Equipment (PPE) for the adhesives and equipment being used
- 5.6. Describe the work implications of the Health and Safety at Work Act (HASAWA) and Control of Substances Hazardous to Health (COSHH)
- 5.7. Explain where to find organisation risk assessment details and control strategies

## Range

### Veneers

The veneering methods covered by this unit are hand laying and manually operated pressing. Inlay fitting methods are dry fitting, pressing and the use of adhesives.

### Adhesives

Commercially available glues used in making furniture. These include polyvinyl acetate, urea or phenol formaldehyde, animal based glues, and resorcinol.

### Conditions

The conditions under which veneers require to be kept includes flattening and damping them to ensure that they remain in a suitable state for working

### Surface

The surfaces to which veneers are applied in the context of this unit cover top, edge, back and underneath positions, as well as curved and flat surfaces.

### Veneering methods

The veneering methods covered by this unit are hand laying and manually operated pressing. Inlay fitting methods are dry fitting, pressing and the use of adhesives.

### Faults

Veneer laying faults can arise as a result of misalignment, discolouration, marking or blistering of the veneer or glue penetration. The person carrying out this role is responsible for identifying and making minor repairs where these can be achieved without affecting the quality of the work. Problems which cannot be resolved in that way would be reported to a senior crafts person using the correct workplace procedures.

### Inlays

The types of inlays covered by this unit are veneered and stringing. They are made of wood, other natural material or man-made materials.

### Work specification

The set of instructions which describe the work to be carried out, including details of the surfaces to be veneers and inlays to be used, the methods to be applied and the adhesives to use. The specification will also detail the storage condition requirements for the veneers. Panels of crown veneer with inlay stringing and cross banded border would be typical.

### Tools and equipment

The tools and equipment used within hand-crafted furniture production environments for laying veneers and fitting inlays covers veneering hammers, heated and unheated presses, heated cauls, adhesive rollers, edge clamps, veneer pins, adhesive pots, brushes and glue sticks, flat irons and sand bags.

### Conditions

The conditions under which veneers and inlays require to be kept include flattening and damping them to ensure that they remain in a suitable state for working. The environmental conditions needed for effective working relate to temperature, humidity and ventilation.

### Personal Protective Equipment (PPE)

Ear, eye and respiratory protection as well as protective gloves and footwear.

## R/600/8231 Join and Joint veneers

<b>Level:</b>	2
<b>GLH</b>	76
<b>Credit value:</b>	13

### **Learning outcomes**

*The learner will:*

1. Be able to select and cut sheet veneers

2. Know how to select and cut sheet veneers

3. Be able to join sheet veneers

### **Assessment criteria**

*The learner can:*

1.1. Select veneers which meet the colour, grain, grade and quality requirements in the work specification  
1.2. Check veneers for intermittent or full faults  
1.3. Set aside, identify and report unsuitable veneers  
1.4. Measure and mark out cuts to be made to within the specified tolerances  
1.5. Minimise waste by choice of veneers and measuring and marking out  
1.6. Handle veneers to avoid damaging them  
1.7. Set up the cutting equipment  
1.8. Control cutting process to ensure that veneers are of accurate size and shape  
1.9. Complete cutting process within the required time  
1.10. Follow safe working procedures when setting up and operating cutting equipment  
1.11. Deal with minor equipment problems  
1.12. Report difficult to solve equipment problems  
1.13. Transfer surplus and cut veneers to designated storage location

2.1. Describe natural faults and handling damage that can occur with veneers  
2.2. Identify faults in the veneer that make it unusable  
2.3. Explain the importance of keeping waste to a minimum  
2.4. Explain the consequences of inaccurate measuring and cutting  
2.5. Describe how to set up cutting equipment safely  
2.6. Explain different types of equipment fault  
2.7. Describe how to recognise and deal with equipment faults

3.1. Match veneers for grain, colour and quality to meet design requirements  
3.2. Measure and align veneers to form the required design when jointed  
3.3. Set up the jointing equipment to ensure that edges are correctly aligned and jointed to the required tolerances, without distortion of the veneer  
3.4. Control the jointing process to ensure results meet the specified quality  
3.5. Deal with minor equipment problems and joint faults  
3.6. Report difficult to solve equipment problems and joint faults  
3.7. Follow safe working procedures when setting up and operating jointing equipment

- 3.8. Check and confirm that veneers meet the specification
- 3.9. Transfer completed veneers to the designated storage location
- 3.10. Complete work within the required time

4. Know how to join and joint veneers

- 4.1. Explain when and why quartered panel and stringed sheet jointing methods may be used
- 4.2. Describe what to look for when matching for straight, figured or burr veneers
- 4.3. Identify types of furniture product which use veneer
- 4.4. Explain the implications of different types of veneer and veneer design for the jointing process
- 4.5. Explain faults that can occur with jointing veneers
- 4.6. Describe how to deal with jointing faults
- 4.7. Explain quality checks to be carried out on completed veneers
- 4.8. Describe the implications of forwarding on work that does not pass the checks
- 4.9. Explain handling characteristics of veneers
- 4.10. Outline ways of protecting veneers from damage during cutting and storage
- 4.11. Describe the work implications of the Health and Safety at Work Act (HASAWA) and Control of Substances Hazardous to Health (COSHH)
- 4.12. Explain where to find out about organisational risk assessment and control measures
- 4.13. Describe the meaning of terms used in technical specifications for veneers
- 4.14. Describe personal limitations in respect of the Provision and Use of Work Equipment (PUWER) regulations 1998
- 4.15. Explain expected work rates

Range:

Veneers

Veneers used in furniture production are made of natural timber and may be of feather, burr, flame or crown designs. Typical timbers would include softwoods and hardwood (e.g. walnut, mahogany, Ash, Maple, Oak, cherry, pine), manmade veneers, laminates and foils

Equipment

The machine equipment used within modern furniture production environments for cutting and jointing veneers. Cutting equipment includes standard cross cut and machines and guillotines. Jointing equipment includes stitching machines and tape machines. Laser cutters

Equipment problems

These relate to none functioning, missing or damaged tools and equipment or equipment parts. The person carrying out would be expected to solve any equipment problem for which maintenance engineers are not required. Where a problem does require a maintenance engineer the person would be expected to report the problem to a more senior person

Jointing faults

Jointing faults can arise from misalignment of panels, marks and damage to the veneers. The person carrying out this role is responsible for identifying and making minor repairs where these can be achieved without affecting the quality of the work. Problems which cannot be resolved in that way would be reported using the correct workplace procedures

## T/600/8125 Prepare and lay veneers

**Level:** 2  
**GLH** 45  
**Credit value:** 10

### **Learning outcomes**

*The learner will:*

1. Be able to prepare equipment and materials for veneering

2. Know how to prepare equipment and materials

### **Assessment criteria**

*The learner can:*

- 1.1. Organise the materials, tools and equipment
  - 1.2. Work effectively and keep work area tidy
  - 1.3. Check required work specification and resources
  - 1.4. Check that adhesives are in date
  - 1.5. Prepare surfaces to receive the veneer by ensuring they are free of irregularities, defects, dust and debris
  - 1.6. Follow manufacturer's instructions when preparing the adhesives
  - 1.7. Maintain adhesives in the required condition for use until needed
  - 1.8. Follow safe working procedures when lifting and moving heavy items
  - 1.9. Follow COSHH procedures when handling adhesives and de-greasing agents
  - 1.10. Return unused adhesives and de-greasing agents to the designated storage areas
  - 1.11. Dispose of wastes safely using designated procedures and disposal areas
  - 1.12. Complete preparations within the required time
- 
- 2.1. Describe terms used in technical specifications for veneering
  - 2.2. Describe why different surfaces require different preparations
  - 2.3. Describe the consequences of inadequate preparation
  - 2.4. Describe the importance of seasoning regarding contraction, expansion and moisture content
  - 2.5. Describe occasions when it may be necessary to use de-greasing agents to ensure adhesives will take
  - 2.6. Give the reasons why it may be necessary to use de-greasing agents
  - 2.7. Compare different adhesives
  - 2.8. Outline the consequences of not preparing adhesives properly
  - 2.9. Describe implications for the preparation process of the pot life, shelf life, open time and curing time of adhesives
  - 2.10. Describe the importance of handling and storing adhesives and de-greasing agents in line with specified procedures
  - 2.11. Define a work schedule
  - 2.12. Describe how to dispose of waste in accordance with current legislation

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|--|---|
| 3. Be able to lay veneers                        | <ul style="list-style-type: none"> <li>3.1. Check the adhesives and core are in the required condition</li> <li>3.2. Apply the adhesive evenly and to the required thickness</li> <li>3.3. Set up the pressing tools and equipment to ensure required pressure and temperature will be applied and the specified cycle followed</li> <li>3.4. Control the pressing process so that the results meet the specified quality</li> <li>3.5. Handle the veneers and cores to avoid damaging them</li> <li>3.6. Deal with equipment problems and pressing faults</li> <li>3.7. Report difficult to solve problems and faults</li> <li>3.8. Follow safe working procedures when setting up and operating veneering tools and equipment</li> <li>3.9. Trim and cut veneered panels to required size</li> <li>3.10. Check the veneered surfaces meet the specification before passing them on</li> <li>3.11. Transfer completed items to the designated storage location</li> <li>3.12. Return unused adhesives to the designated storage areas</li> <li>3.13. Dispose of wastes safely using designated procedures and disposal areas</li> <li>3.14. Complete the process within the required time</li> </ul> |
| 4. Know how to lay veneers                       | <ul style="list-style-type: none"> <li>4.1. Define terms used in technical specifications for veneers</li> <li>4.2. Describe the different types of cramp available and their purpose</li> <li>4.3. Describe the consequences of using incorrect temperature, pressure or cycle times</li> <li>4.4. Describe handling characteristics and effects of pressing different types of veneers</li> <li>4.5. Describe how to protect veneers from damage during pressing and storage</li> <li>4.6. Describe types of faults that can occur when applying veneers,</li> <li>4.7. Describe how to recognise faults and how to resolve them</li> <li>4.8. Outline causes of discolouration in veneers and ways to prevent it</li> <li>4.9. Describe relevant quality checks on completed veneers</li> <li>4.10. Estimate the consequences of passing on work that does not meets quality checks</li> <li>4.11. Explain work rates to be met</li> </ul>   |
| 5. Understand workplace health and safety issues | <ul style="list-style-type: none"> <li>5.1. Describe the work implications of the Health and Safety at Work Act (HASAWA) and Control of Substances Hazardous to Health (COSHH)</li> <li>5.2. Explain where to find organisation risk assessment details and control strategies</li> <li>5.3. Describe personal limitations in respect of the Provision and Use of Work Equipment Regulations (PUWER 1998)</li> </ul>  |

## Range

### Veneers

Natural timber and may be of feather, burr, flame or crown designs. Typical timbers would include walnut, mahogany, cherry, pine.

### Tools and equipment

The machine equipment used within furniture manufacturing environments for applying veneers. May include single and multi-press machines and mechanical adhesive spreaders. Pressing may be done using hot or cold cramps. Adhesives may also be applied using manual or mechanical spreaders.

### Surfaces

The surface of the furniture item which is to be veneered. Surfaces need to be prepared so that the veneer can be firmly bonded. The kind of preparation will depend on the substrate, the type of adhesive and pressing to be carried out. Typical preparations may include keying, sanding, tothing and de-greasing.

### Work specification

The set of instructions which describe the work to be carried out, including details of the qualities (colour, grain, grade) of the veneer to be used and the moisture content. The specification will also detail the choice of adhesive, the type of pressing and the time within which the veneering process must be completed.

### Adhesives

Preparation may include mixing, handling, storage and disposal of wastes to current legislation.

### Equipment problems

These relate to non-functioning, missing or damaged equipment or equipment parts. The person carrying out this work would be expected to deal with any equipment problem for which maintenance engineers are not required. Where a problem does require a maintenance engineer, the person would be expected to report the problem to a more senior person.

### Pressing faults

Blisters, glue penetration, misalignment or marking. The person carrying out this role is responsible for identifying and making minor repairs where these can be achieved without affecting the quality of the work. Problems which cannot be resolved in that way would be reported using the correct workplace procedures.

## D/600/8233 Attach fittings to furniture

<b>Level:</b>	2
<b>GLH</b>	28
<b>Credit value:</b>	7

### Learning outcomes

*The learner will:*

1. Be able to attach fittings and fit doors, falls and drawers

2. Understand how to attach fittings, doors, falls and drawers

### Assessment criteria

*The learner can:*

1.1. Ensure required tools, equipment and fitting are available to achieve the work specification  
1.2. Check fittings conform to the specification  
1.3. Replace and discard fittings of unacceptable quality  
1.4. Position the fittings for correctness of fit within required tolerances  
1.5. Ensure surfaces are in a suitable condition prior to attaching fittings  
1.6. Attach fittings using the required fitting method  
1.7. Complete preparations in the required time  
1.8. Check the doors, falls and drawers against the specification and report any that do not meet the required quality.  
1.9. Reject damaged or incorrect doors, falls and drawers  
1.10. Ensure that doors, falls and drawers fit to within specified tolerances for alignment and movement  
1.11. Make good fitting faults  
1.12. Complete the fitting within the required time  
1.13. Complete quality checks and confirm that they have been met before passing on the work

2.1. Explain terms used in technical specifications regarding fitting furniture doors, falls and drawers  
2.2. Describe different types of fittings used in furniture production and their purpose  
2.3. Explain quality checks to be made before fittings are used  
2.4. Describe consequences of not carrying out quality checks, of incorrect positioning of fittings and of not securing furniture fittings correctly  
2.5. Explain when and why different methods for attaching fittings are used  
2.6. Outline functions and uses of types of equipment used in furniture assembly  
2.7. Describe handling characteristics of natural timber and wood composites  
2.8. Explain how handling characteristics affect the fitting of doors, falls and drawers and the making good of fitting faults  
2.9. Explain how to check that doors, falls and drawers match a specification  
2.10. Describe why it is important to check that fit tolerances are met  
2.11. Explain the importance of using the correct techniques and equipment for filling, sanding, scraping, drilling and boring of natural woods and wood composites to make good any fitting faults

2.12. Describe the fitting faults that can be made good and when it is necessary to reject and report a fault

### 3. Understand health and safety in the workplace

- 3.1. Follow safe working procedures when setting up and operating powered equipment
- 3.2. Follow Control of Substances Hazardous to Health (COSHH) procedures when handling adhesives
- 3.3. Explain how to handle powered tools safely to protect oneself and others from risk
- 3.4. Describe personal limitations in respect of the Provision and Use of Work Equipment (PUWER) regulations 1998
- 3.5. Describe the work implications of the Health and Safety at Work Act (HASAWA) and Control of Substances Hazardous to Health (COSHH)
- 3.6. Explain where to find organisation risk assessment details and control strategies
- 3.7. Describe how to dispose of waste in accordance with current legislation

#### Range:

##### Equipment and tools

The hand operated and machine equipment used within furniture making environments for sanding, scraping, filing drilling, boring, stapling, pinning, screwing, cramping/pressing, gauging and removing faults in wooden components.

##### Specification

The set of instructions which describe the work to be carried out, including details of the qualities (type, size, number) of the fittings to be used, the fitting methods to be used and the fitting tolerances to be achieved. The specification will also detail the time within which the work must be completed. In the context of these standards, tolerances for fittings to within +/- 0.5mm would be expected, and tolerances of within +/- 0.5mm for doors, falls and drawers.

##### Doors, falls and drawers

These may be made of natural timber or wood

##### Fittings

These fittings can be from the following list:

Hinges, mouldings, handles, runners, stops, locks, castors, catches, brackets, action mechanisms, pre-cut glassware.

##### Fitting method

Fittings are attached by screwing or pinning, or combinations of these

## **F/600/8127 Prepare to apply finishing processes to production furniture**

**Level:** 2  
**GLH** 65  
**Credit value:** 15

### **Learning outcomes**

*The learner will:*

1. Be able to prepare workpieces for finishing

2. Know how to prepare work pieces for finishing

3. Be able to prepare furniture coating materials

### **Assessment criteria**

*The learner can:*

1.1 Organise the materials, tools and equipment  
1.2 work effectively and maintain tidy work area  
1.3 Ensure that you have the required work specification and relevant materials, tools and equipment  
1.4 Check the workpiece and identify faults  
1.5 Select and apply appropriate fillers and stoppers for the surface  
1.6 Ensure surfaces are clean and free of dust, damage and debris  
1.7 Ensure that filled surfaces are made level with the surrounding areas  
1.8 Ensure areas of raised grain are sanded down.  
1.9 Mask surfaces which are not to be stained to avoid damage from splashes and runs  
1.10 Confirm workpiece meets specifications before passing on to the next stage in the finishing process  
1.11 Complete preparations in the required time

2.1 Explain terms used in technical specifications for furniture production  
2.2 Classify checks required for workpieces which are being prepared for finishing  
2.3 Describe faults that can occur and how to recognise them  
2.4 Explain faults that can be dealt with as part of the production process  
2.5 Describe types of faults where the workpiece requires further examination and treatment  
2.6 Explain the types and purpose of fillers and stoppers  
2.7 Explain how to recognise different grades of abrasives and what they are used for.

3.1 Check specified materials are available and in date  
3.2 Select materials which match the specification  
3.3 Ensure extraction facilities are operating effectively  
3.4 Report problems with extraction facilities  
3.5 Mix materials to the specified consistency and colour requirements  
3.6 Use the correct comparison standards to confirm that the colour and shading of prepared materials is acceptable  
3.7 Complete the process within the required time

4. Know how to prepare furniture coating materials
- 4.1 Explain the meaning of terms used in technical specifications for furniture coating materials
  - 4.2 Describe different types of coating materials
  - 4.3 Explain the purposes of coating materials
  - 4.4 Explain the consequences of using unsuitable materials or those out of specification
  - 4.5 Describe the implications of incorrect mixing and stirring of materials
  - 4.6 Explain why it is important to use the correct standards when checking for colour and shade
  - 4.7 Explain the importance of labelling unused materials clearly and accurately
  - 4.8 Describe the storage requirements for different types of materials
  - 4.9 Explain the implications of incorrect storage of materials
  - 4.10 Describe expected work rates to be met

#### Range

##### Tools and equipment

Tools and equipment include rags, filler knives and hand-held spray guns, sanding equipment and abrasives. Control of machine operations is dealt with in another unit

##### Work specification

The set of instructions which describe the work to be carried out, including details of the types, application area and characteristics (colour, viscosity, formulation) of the coatings to be applied, the number of coats to be applied and the drying requirements (natural or forced). The specification will also detail the time within which the process must be completed and the personal protective equipment which should be worn. Specifications may be oral or written and may involve the use of diagrams and colour cards

##### Workpiece

The item of furniture to be coated as part of the finishing process. This may be a component, sub-assembly or assembly used in furniture production. The workpiece to be treated may be made of natural timber (solid or veneered) or of wood composite

##### Faults

The kinds of faults which could occur would include uneven applications, poor wetting, blotching, marking of the surface, drips, runs, streaks, mismatched shading or poor surface finish. The person carrying out this role is responsible for identifying and dealing with faults which can be treated without disruption to the production process. Problems which cannot be resolved in that way would be reported using the correct workplace procedures

##### Coating materials

Stains, sealers, basecoats, lacquers and thinners applied as coatings as part of the finishing process in furniture production. They can be based on oil, water or mixed solvents.

## J/600/8128 Apply finishing processes to production furniture

<b>Level</b>	2
<b>GLH</b>	70
<b>Credit value:</b>	16

### **Learning outcomes**

*The learner will:*

1. Be able to apply stains, seals and finishes

2. Know how to apply stains, seals and finishes

3. Be able to check finish against work specification and complete documentation

4. Know how to check finish against work specification and complete documentation

### **Assessment criteria**

*The learner can:*

1.1. Ensure extraction facilities are operating effectively before working with materials  
1.2. Apply coating evenly and to the required finish  
1.3. Use tools and equipment safely and effectively  
1.4. Deal with faults and minor surface defects  
1.5. Report faults or defects which prevent the workpiece being finished within the production process  
1.6. Allow specified drying times between coats  
1.7. Ensure that surfaces are clean and free of excess materials and surface irregularities denibbing between coats

2.1 Define terms used in technical specifications for furniture coating materials  
2.2 Describe the different types of coating materials  
2.3 Compare the purposes of types of coating materials  
2.4 State the drying times of different materials  
2.5 Explain when and why natural and forced drying methods are used  
2.6 Describe the lacquer curing process  
2.7 State why it is important to use the correct standards when checking for colour and shade  
2.8 Outline faults and minor surface defects in the application of coatings  
2.9 Give steps that can be taken to deal with faults and minor surface defects  
2.10 Give the importance of correct labelling of unused materials

3.1 Complete finish according to work specification  
3.2 Check that the specified colour, shade and finish matches the work specification  
3.3 Deal with problems, reporting those that cannot be solved  
3.4 Ensure that unused materials are accurately labelled and return them to the designated storage areas  
3.5 Transfer finished workpiece to the designated storage location  
3.6 Complete the process within the required time  
3.7 Complete production records accurately and clearly

4.1 Describe terms used in technical specifications for furniture coating materials  
4.2 Explain the importance of checking workpiece is finished

- according to the specification
- 4.3 Describe how to deal with problems, and reporting procedures for difficult problems
- 4.4 Describe information on production records

## Coating / materials

Stains, sealers, basecoats, lacquers and thinners applied as coatings as part of the finishing process in furniture production. They can be based on oil, water or mixed solvents.

## Tools and equipment

Coatings may be applied using rags and hand-held spray guns. Control of machine operations is dealt with in another unit.

## Faults

The kinds of faults which could occur would include uneven applications, poor wetting, blotching, marking of the surface, drip, runs, streaks, mismatched shading or poor surface finish. The person carrying out this role is responsible for identifying and dealing with faults which can be treated without disruption to the production process. Problems which cannot be resolved in that way would be reported using the correct workplace procedures

## Surface defects

Surface defects can occur during the finishing process. They may take the form of nibs, holes, scratches, chips, dents, cracks, blisters and blemishes. If minor, they can be overcome using sanding equipment and abrasives. If major they require the workpiece to be removed and reported

## Workpiece

The item of furniture to be coated as part of the finishing process. This may be a component, sub-assembly or assembly used in furniture production. The workpiece to be treated may be made of natural timber (solid or veneered) or of wood composite.

## Work specification

The set of instructions which describe the work to be carried out, including details of the types, application area and characteristics (colour, viscosity, formulation) of the coatings to be applied, the number of coats to be applied and the drying requirements (natural or forced). The specification will also detail the time within which the process must be completed and the personal protective equipment which should be worn. Specifications may be oral or written and may involve the use of diagrams and colour cards

## Production records

These may be written or electronic. Typically they will involve the individual in completing a simple form, much of which may be of a tick-box format, requiring only a limited amount of free text to be entered

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## J/600/8131 Produce workshop equipment

**Level:** 2  
**GLH** 25  
**Credit value:** 7

### Learning outcomes

*The learner will:*

1. Be able to produce specifications for workshop tools and devices
  
  
  
  
  
  
  
  
  
  
2. Understand how to produce specifications for workshop tools and devices

### Assessment criteria

*The learner can:*

- 1.1. Ensure details on the requirements to be specified are clear
- 1.2. Clarify and confirm any requirements which are unusual, unclear and difficult to meet
- 1.3. Determine what the specification will need to include
- 1.4. Produce a clear specification, making correct use of technical terms and units of measurement and scale
- 1.5. Include full and accurate details on:
  - what is to be made
  - the materials and tools to be used
  - the surface finish to be achieved
  - the techniques to be used
  - the dimensions and tolerance levels to be achieved in the finished item
  - safety requirements to be met
- 1.6. Complete the specification in the required time
- 1.7. Provide the specification in the format requested
  
  
  
  
  
  
  
  
  
  
- 2.1. Describe different sorts of workshop tools and devices used in making wooden furniture by hand
- 2.2. what sorts of materials, tools and techniques are used for making different workshop tools and devices and why
- 2.3. Explain technical terms used to describe workshop tools and devices
- 2.4. Explain units of measurement used to specify length, width, thickness and performance accuracy
- 2.5. Describe tolerance levels to which units of measurement should be specified
- 2.6. Describe conventions used in the preparation of cutting lists and technical drawings
- 2.7. Describe the work implications of the Health and Safety at Work Act (HASAWA), Control of Substances Hazardous to Health (COSHH) regulations
- 2.8. Explain where to find organisation risk assessment details and control strategies

3. Be able to produce workshop tools and devices

- 3.1. Organise the required materials and tools
- 3.2. Maintain a tidy work area and work effectively
- 3.3. Check the specification and that everything required to achieve it is available
- 3.4. Follow the specification correctly and completely and accurately measure and mark out the material
- 3.5. Follow specified techniques correctly
- 3.6. Ensure that excess glue, debris and foreign objects are cleaned
- 3.7. Check that the required tolerances, surface finish and performance accuracy are achieved
- 3.8. Follow safe working practices when handling tools and materials
- 3.9. Seek advice on how to deal with any problems that arise in meeting the specification
- 3.10. Return all tools and unused materials to the correct storage locations after use
- 3.11. Complete the work within the required time

4. Know how to produce workshop tools and devices

- 4.1. Describe types of workshop tools and devices used in making wooden furniture by hand
- 4.2. Identify the materials, tools and techniques used for making different workshop tools and devices and why
- 4.3. Explain technical terms used to describe workshop tools and devices
- 4.4. Explain units of measurement used to specify length, width, thickness and performance accuracy
- 4.5. Describe tolerance levels associated with units of measurement
- 4.6. Identify the face side of material
- 4.7. Describe why correct and accurate surface preparation is important
- 4.8. Explain growth characteristics of different hard and soft woods
- 4.9. Describe the implications that growth characteristics of wood have on how to work with them
- 4.10. Describe the work implications of the Health and Safety at Work Act (HASAWA), Control of Substances Hazardous to Health (COSHH) regulations
- 4.11. Explain where to find organisation risk assessment details and control strategies
- 4.12. Describe how to test tools and devices for dimensional accuracy and performance accuracy
- 4.13. Explain the importance of returning tools and materials to storage
- 4.14. Describe timescales to achieve different sorts of specifications

## Range

### Specifications

Specifications are details as to the length, width, thickness, angle and surface finish requirements to be worked to in producing different workshop tools and devices used in making hand crafted furniture.

They also refer to the performance accuracy which they must be produced to achieve. These would typically be within +/- 0.5 mm tolerances.

### Materials

The materials used in constructing workshop tools and devices include hardwoods, softwoods, wood composites (typically plywood, chipboard or MDF) and adhesives.

### Surface finish

Smooth, planed and sanded surface finishes will be needed, depending on the workshop tool or device being specified and produced

### Techniques

Sawing, planing, drilling, chiselling and routing

### Format

Usually specifications will be written or drawn and the competence involved in producing specifications requires the ability to describe technical details in text form and to prepare technical drawings. While the production of workshop tools and devices will usually be from a written or drawn specification, the competent person should also be able to work from specifications given orally.

### Tools and equipment

The chisels, planes, cramps, saws, drills, drill bits, squares, mallets, scrapers, honing stones, knives and measuring devices used in the making of hand-crafted furniture. Also includes powered tools such as sanders, routers, drills, power saws and planers. Workshop tools and devices include jigs, patterns and templates.

## R/600/8133 Apply stains, sealers and primers

<b>Level:</b>	2
<b>GLH</b>	41
<b>Credit value:</b>	11

### Learning outcomes

*The learner will:*

1. Be able to apply stains by hand

2. Be able to apply sealers and primers by hand

3. Understand how to apply stains, sealers and primers by hand

### Assessment criteria

*The learner can:*

1.1 Organise materials, tools and equipment  
1.2 Maintain tidy work area and work effectively  
1.3 Ensure required work specification is available  
1.4 Bleach Mask off areas which are not to be stained  
1.5 without damage to workpiece  
1.6 Select stains which match the colour specification and are appropriate for the surface to be treated  
1.7 Ensure sufficient supplies of the stain to complete the treatment before starting  
1.8 Ensure that the working environment is suitable for the stains being used  
1.9 Apply the stain to the finish and depth of colour required  
1.10 Use effective techniques and appropriate tools for the kind of stain and type of surface  
1.11 Allow specified drying times between multiple coats  
1.12 Deal promptly and safely with spillages, splashes and other problems  
1.13 Deal effectively with surface changes  
1.14 Complete the process within the working time of the material

2.1 Organise the materials, tools and equipment  
2.2 Maintain tidy work area and work effectively  
2.3 Ensure required work specification is available  
2.4 Ensure suitability of the working environment for the sealers and primers being used  
2.5 Apply the coat evenly and to the required finish  
2.6 Use effective techniques and appropriate tools for the kind of sealer, primer and type of surface  
2.7 Deal promptly with faults and minor surface defects which occur  
2.8 Deal promptly and safely with spillages and splashes  
2.9 Allow specified drying times between multiple coats  
2.10 Ensure that surfaces are clean and free of excess materials and surface irregularities between multiple coats  
2.11 Complete the process within the working time of the treatment material

3.1 Explain terms used in technical specifications for staining, sealing and priming furniture  
3.2 Describe the different types of stains, sealers and primers, what each is for and when it is used  
3.3 Explain the implications of using stains, sealers and primers that are inappropriate for the surface to be treated

## D/600/8278 Assess and repair items of furniture

Level	2
GLH	59
Credit value:	15
<b>Learning outcomes</b>	<b>Assessment criteria</b>
<i>The learner will:</i>	<i>The learner can:</i>
1. Be able to assess an item of furniture for repair	1.1. Obtain the specification for the work and identify the components that need repair 1.2. Classify client requirements for carrying out the work 1.3. Handle and examine the item without causing further damage or degradation 1.4. Identify vulnerabilities in the item of furniture and report these to the relevant person 1.5. Use valid and reliable sources of information and expert advice to identify and obtain the required materials 1.6. Identify and obtain the required tools and equipment to carry out the repair
2. Know how to assess an item of furniture for repair	2.1 Describe the factors to be considered when assessing an item for furniture repair 2.2 Identify the construction methods and materials used in items of furniture from different historical periods and countries of origin 2.3 List the steps to take to avoid causing damage and degradation to an item of furniture 2.4 Explain how to assess how vulnerable the item is to continuing degradation 2.5 Explain why it is important to identify the causes of damage and degradation when considering repair requirements 2.6 Explain how to identify the signs of common forms of deterioration in items of furniture 2.7 State why it is important to keep a record of your assessment 2.8 Explain the importance of determining customer needs and providing clear information to them 2.9 Explain the source of suitable materials and equipment for conducting repairs
3. Be able to repair disassembled components	3.1 Apply any necessary preservation treatments to the original frame 3.2 Cut and shape components according to the work specification 3.3 Position appropriate components to provide the structure and shape specified 3.4 Fix appropriate components and materials securely using the correct fixings for the type of component 3.5 Demonstrate and confirm that the quality is as specified 3.6 Deal promptly with any problems that occur, and report those that you cannot solve to the appropriate person 3.7 Follow safe working procedures at all times 3.8 Keep the work area tidy and protect the item from damage

while it is being worked on  
3.9 Complete the process within a required time

#### 4. Know how to repair removed components

- 4.1 Explain the handling characteristics and functions of the different types of components
- 4.2 Explain terms used in technical specifications
- 4.3 Describe how to measure, cut and fix components to give the specified structure and shape
- 4.4 State when to use different methods to secure components
- 4.5 Describe problems that can occur and how to deal with them to meet the specification
- 4.6 State who to report difficult problems to
- 4.7 Explain the functions of the different types of tools and equipment used
- 4.8 Explain how to handle sharp and powered tools safely in ways that protect self and others from risk
- 4.9 Describe the work implications of the Health and Safety at Work Act (HASAWA), Control of Substances Hazardous to Health (COSHH) regulations and the Environmental Protection Act. (EPA)
- 4.10 Explain where to find organisation risk assessment details and control strategies
- 4.11 Describe the health and safety issues that can arise if a work area is disorganised and untidy
- 4.12 Explain how to dispose of waste in accordance with current legislation

#### Range:

##### Tools and equipment

The tools and equipment used for stripping down an item of furniture including a variety of hand tools. Hammers, staplers and staple removers, knives, shears and scalpels, stretching devices. Stripping methods would include either hand methods – solvents/scrap or dipping methods – hot/cold, depending on the item to be stripped.

This also includes preservation and frame treatments e.g. for infestation.

##### Item of furniture

Any item of furniture, whether modern or traditional, which needs to be stripped down in order for repairs to be made to structural aspects and materials

##### Work specification

The set of instructions which describe the work to be carried out, including details of the area of the item to be repaired down, if not the whole item, and any special handling and/or storage instructions specified by the client ordering the work to be done, or the organisation

##### Component

Components include solid, structural components (e.g. a door frame, part of the carcass of a chair) and upholstery components (e.g. fillings, top cover). Components may be fragile in that they can be easily damaged (e.g. certain cloths, antique items) and may need special protective measures to be taken.

More robust components may still need careful handling, but do not require any special treatment.

##### Problems

In relation to preparatory work, these will be to do with non-functional or missing tools or equipment and/or missing, mismatched, damaged or unsuitable materials and components. The person carrying out this role Page | 29

is responsible for rejecting, replacing or rectifying these sorts of problems, reporting them when they cannot be dealt with quickly, safely and readily.

## F/600/8242 Develop customer relationships

<b>Level:</b>	2
<b>GLH</b>	43
<b>Credit value:</b>	10

### Learning outcomes

*The learner will:*

1. Be able to build customer confidence in the level of service provided

2. Be able to meet the ongoing needs and expectations of your customers

3. Be able to develop the relationship between your customers and your organisation

4. Know how to develop customer relationships

### Assessment criteria

*The learner can:*

1.1. Deal with customers promptly  
1.2. Communicate with customers in order to provide confidence and reassurance in the organisation  
1.3. Follow organisational procedures to manage the time taken to deal with customers  
1.4. Reassure customers of the commitments made by the organisation

2.1. Operate within the limits of own authority to meet both customers' and organisation's needs  
2.2. Recognise possible conflict between the needs of customers and the organisation  
2.3. Minimise the conflict between customers' needs and the products or services offered by the organisation  
2.4. Work effectively with others to resolve difficulties in meeting the needs of the customers and the organisation

3.1. Provide additional information on the organisations products or services in response to customers questions and comments  
3.2. Discuss customers expectations with regard to the products or services provided by yourself or the organisation  
3.3. Advise others of customer feedback  
3.4. Identify new ways of supporting customers based on their feedback

4.1. Explain customers' rights and how they limit what you are able to do for your customer  
4.2. Describe the specific aspects of:  
• health and safety  
• data protection  
• equal opportunities  
• disability discrimination  
• legislation and regulations that affect the way the products or services you deal with can be delivered to your customers  
4.3. State industry, organisational and professional codes of practice and ethical standards that affect the way products or services can be delivered to customers  
4.4. State contractual agreements that customers have with your organisation  
4.5. Describe organisational products or services relevant to your customer service role  
4.6. Outline organisational guidelines that limit what you can do

within your job

4.7. Identify the limits of own authority and when you need to seek agreement or permission from others

4.8. State organisational targets relevant to job role

4.9. Explain job role in meeting targets and the implications for the organisation if they are not met

4.10. Describe how to communicate in a clear, polite, confident way

4.11. Explain why clear communication is important

4.12. Describe how your behaviour will affect that of your customer

4.13. Explain how to behave assertively and professionally in times of conflict

4.14. Describe how to diffuse potentially stressful situations

4.15. State the limitations of what you are able to offer your customer

4.16. Identify how customers' needs and expectations may change as they deal with the organisation

4.17. Outline the organisational implications when meeting customers' needs

4.18. State who will need to be negotiated with to find a solution

Range:

Procedures

Organisational specifications of how to carry out work activities in a manner that will ensure the required outcomes if the procedure is followed accurately.

Customer

The person(s), organisation(s), or department(s) either inside or outside your organisation who you are providing goods and services for.

Customer needs

Customer needs include:

- stated products or services
- unstated products or services

Organisational needs

This unit is suitable for any aspect of work within the furniture, furnishings and interiors industry. Needs/objectives are typically described in terms of the following considerations:

- quantity
- quality
- cost
- time
- safety, health and environment

Authority

The responsibility that is given to an individual and/or organisation to enable them to perform a task efficiently and effectively.

Feedback

Information that is relevant to the product and/or service that is gained from the customer

## K/600/8249 Finish furniture by hand held spray gun

<b>Level:</b>	2
<b>GLH</b>	24
<b>Credit value:</b>	10

### Learning outcomes

*The learner will:*

1. Be able to prepare work-pieces for finishing

2. Know how to prepare work-pieces for finishing

3. Be able to apply finishes by spraying

### Assessment criteria

*The learner can:*

1.1 Organise the materials, tools and equipment to work effectively  
1.2 Maintain a tidy work area  
1.3 Ensure work specification and the requirements to achieve it are available  
1.4 Check the workpiece and identify any faults  
1.5 Apply remedial treatment to faults  
1.6 Select materials/fillers for the type of surface  
1.7 Ensure that surfaces are clean and free of dust and debris  
1.8 Ensure that adhesives left on surfaces are removed  
1.9 Ensure that filled surfaces are level with the surrounding areas  
1.10 Ensure areas of raised grain are re-textured to blend with the surrounds when the finish is applied  
1.11 Handle and store the workpiece in ways which protect it from damage

2.1. Explain terms used in technical specifications  
2.2. Describe checks to be carried out on workpieces which are being prepared for finishing  
2.3. Describe faults that can occur and how to recognise them  
2.4. Explain how to deal with faults  
2.5. Explain the different preparations for the following surfaces;  
• solid wood  
• veneered, including traditional finishes  
2.6. Explain tools and equipment required to remedy faults  
2.7. Describe the types and purpose of fillers and stoppers  
2.8. Explain how to recognise different grades of abrasives  
2.9. Explain the purposes of different grades of abrasives  
2.10. Identify where workpieces should be stored  
2.11. Explain how to protect workpieces during handling and storage

3.1 Ensure that ventilation levels are safe before working with solvent based materials  
3.2 Mask off surfaces that are not to be sprayed  
3.3 Ensure surfaces are clean and ready to receive the material  
3.4 Select a nozzle suited to the material and finish  
3.5 Ensure the spray gun is free from contamination before charging it with the required materials  
3.6 Apply the spray from a suitable distance from the workpiece  
3.7 Adjust the spraying technique as necessary to achieve the required finish

- |  |   |
|--|---|
|  | <p>3.8 Apply the finish uniformly to the required build and depth of colour</p> <p>3.9 Deal promptly with faults which occur during the spraying process</p> <p>3.10 Allow specified drying times between multiple coats</p> <p>3.11 Ensure that surfaces are clean and free of excess materials and surface irregularities</p> <p>3.12 Ensure that unused materials are accurately labelled and returned to the designated storage areas</p> <p>3.13 Transfer the finished workpiece to the designated storage location</p> <p>3.14 Complete the process within the required time</p> <p>3.15 Complete production records accurately and clearly</p>   |
| 4. Understand how to apply finishes by spraying            | <p>4.1 Explain terms used in technical specifications for materials</p> <p>4.2 Describe the different types of materials used, their uses and when they are used</p> <p>4.3 Describe the drying times of different materials</p> <p>4.4 Explain why it is important to adhere to drying times before applying additional coats</p> <p>4.5 Explain how and why variations in spraying techniques influence the results</p> <p>4.6 Describe faults that can occur in the application of coatings</p> <p>4.7 Explain how to deal with faults in the application of coatings</p> <p>4.8 Explain what information is recorded on production records</p> <p>4.9 Describe why it is important that production records are up to date and accurate</p> <p>4.10 Explain the work rates that you are expected to meet</p> |
| 5. Be able to follow safe working procedures               | <p>5.1 Follow safe working procedures when:</p> <ul style="list-style-type: none"> <li>• lifting and moving heavy items</li> <li>• handling cleaning agents and abrasives</li> <li>• handling materials</li> <li>• using powered equipment</li> </ul> <p>5.2 Deal promptly and safely with spillages and splashes</p> <p>5.3 Dispose of wastes safely using designated procedures and disposal areas</p>  |
| 6. Know the Health and Safety legislation in the workplace | <p>6.1 Describe the work implications of the Health and Safety at Work Act (HASAWA) and Control of Substances Hazardous to Health (COSHH) regulations and the Environment Protection Act. 3</p> <p>6.2 Explain where to find organisation risk assessment details and control strategies</p> <p>6.3 State personal protective equipment that should be worn when handling coating materials</p> <p>6.4 Explain why it is important to deal promptly, safely and correctly with splashes and spillages</p> <p>6.5 Explain the importance of disposing of waste materials, including rags safely</p> <p>6.6 Explain how to dispose of waste in accordance with current legislation</p>  |

## Range

### Problems and faults

Problems and faults may occur with any aspect of the materials, tools, equipment, components, services, appliances or the location.

Solving them may require direct action by the individual carrying out the work, reference to an authority within the organisation and/or action by the customer, or some combination of all three

### Surface

Surfaces may be solid wood, veneered or flat panels and curved work

### Workpiece

The item to be treated as part of the finishing process may be a component, sub-assembly or assembly. The work-piece to be treated may be veneered, made of solid wood or of wood composite.

### Work specification

The set of instructions which describe the work to be carried out, including details of the preparations to be carried out and the type of grain filler and materials to be used. The specification will also detail the time within which the process must be completed and the personal protective equipment which should be worn. Specifications may be oral or written and may involve the use of diagrams and colour cards

### Materials

Primers, fillers, sealers, basecoats, lacquers, thinners they can be based on oil, water or mixed solvents. There may also be need for the use of stains, de-greasing agents, abrasive papers, and cleaning solvents.

### Application Faults

Types of defects that could occur during application of fillers would include over-thinned fillers, incorrectly mixed fillers and non-removal of excess filler.

Types of faults that could occur during spraying could include blooming, blotching, runs streaks, orange peel and fish eye. The person carrying out this role is responsible for identifying and dealing with faults which can be treated readily. If minor, they can be overcome using sanding equipment and abrasives. If major they may require the work-piece to be removed and reported using the correct workplace procedures

### Finish

This unit covers finishes which may be full gloss, mat satin, smooth, open grained and full-grained. Also may including traditional finishes where the 'patina' needs to be used.

### Tools and equipment

Tools and equipment include sanding blocks, scrapers, cleaning rags, abrasive papers, abrasive pads, steel wool, tak rags, masking tape, craft knives, filler knives, filters and hand-held spray guns.

### Personal Protective Equipment

This covers eye protection, gloves, overalls and respiratory equipment as well as barrier, cleansing and after-care creams.

## K/600/8252 Strip down and store items of furniture

<b>Level:</b>	2
<b>GLH</b>	18
<b>Credit value:</b>	11

### Learning outcomes

*The learner will:*

1. Be able to follow specifications to strip an item of furniture

2. Know how to follow specifications to strip an item of furniture

3. Be able to store removed components for re-use

4. Know how to store removed components for re-use

5. Understand Health and Safety and organisational risk control strategies

### Assessment criteria

*The learner can:*

1.1 Check work specification is clear and complete before beginning  
1.2 Select and prepare tools and equipment  
1.3 Work in a logical and safe sequence  
1.4 Avoid damage to the item of furniture  
1.5 Use suitable personal protective equipment for the materials and finishes  
1.6 Report problems that cannot be solved to a senior person  
1.7 Dispose of waste safely

2.1 Explain the meaning of terms used in specifications for stripping down furniture  
2.2 Explain when and why furniture items would be stripped down in part or completely before further work  
2.3 Identify tools and equipment and their purpose  
2.4 Outline problems that can be solved and when to seek assistance

3.1 Handle components carefully to avoid damage  
3.2 Protect components from damage and soiling during storage  
3.3 Store components in conditions and the required state for re-use  
3.4 Store components securely  
3.5 Keep accurate records of removed components in order to reunite them with the item of furniture

4.1 Describe handling characteristics of different components  
4.2 Explain how to avoid damaging components  
4.3 Describe the type of protection used for different sorts of components  
4.4 Explain the optimum conditions for different sorts of component  
4.5 Describe the type of information to record  
4.6 Explain the importance of recording information

5.1 Describe the commercial and safety implications of not following a logical sequence to complete work  
5.2 Outline occasions when it is necessary to use personal protective equipment  
5.3 Describe the importance of using personal protective equipment  
5.4 Explain where and how to dispose of waste  
5.5 Describe the work implications of the Health and Safety at Work Act (HASAWA) and Control of Substances Hazardous to Health (COSHH)

## 5.6 Explain where to find organisation risk assessment details and control strategies

### Range

#### Personal Protective Equipment

The personal protective equipment (PPE) provided by the employer for use in carrying out various activities for which a risk assessment has identified that PPE is needed. These include items of clothing that protect the wearer's eyes, lungs, skin, and clothing. They would be particularly necessary when dealing with older furniture which is made of materials which have deteriorated and/or finishes which might be toxic

#### Tools and equipment

The tools and equipment used for stripping down an item of furniture including a variety of hand tools. Stripping methods would include either hand methods-solvents/scrap or dipping methods-hot/cold, depending on the item to be stripped

#### Work specification

The set of instructions which describe the work to be carried out, including details of the area of the item to be stripped down, if not the whole item, and any special handling and/or storage instructions specified by the client ordering the work to be done, or the organisation.

#### Component

Components include solid, structural components (e.g. a door frame, part of the carcass of a chair) and upholstery components (e.g. fillings, top cover). Components may be fragile in that they can be easily damaged (e.g. certain cloths, antique items) and may need special protective measures to be taken.

More robust components may still need careful handling, but do not require any special treatment

#### Item of furniture

Any item of furniture, whether modern or traditional, which needs to be stripped down in order for repairs to be made to structural aspects and/or to upholstery

## D/600/8247 Interpret and use supporting technical information

**Level:** 2  
**GLH** 31  
**Credit value:** 7

### **Learning outcomes**

*The learner will:*

1. Be able to identify supporting technical information

2. Know how to identify supporting technical information

3. Be able to interpret supporting technical information to create job specific products

### **Assessment criteria**

*The learner can:*

1.1 Ensure there is a clear understanding of the instruction or specification  
1.2 Gather relevant information sources to produce job specific data and product  
1.3 Select tools, materials and equipment  
1.4 Extract supporting technical information from drawings and other information sources  
1.5 Obtain additional information where there are gaps and deficiencies  
1.6 Make decisions within the scope of own responsibilities  
1.7 Seek clarification and help in determining the information required  
1.8 Follow safe working procedures

2.1 Explain terms used in the instructions and specification  
2.2 Explain the different types of organisational information and supporting technical information  
2.3 State how information sources interrelate i.e. orthographic and isometric drawings  
2.4 Describe the meaning of symbols and abbreviations used in information sources  
2.5 Identify scales used in drawings: i.e. 1:1, ½ full size, 1:20  
2.6 Assess that information sources are relevant and up to date  
2.7 Explain how to extract information from information sources  
2.8 Describe the organisations' document control systems  
2.9 Describe where to find organisational and technical sources of information  
2.10 Identify how to access organisational and technical sources of information i.e. logging out registers, confidentiality  
2.11 Explain how to identify tools, materials and equipment required  
2.12 Explain how to identify relevant people to provide support with information sources

3.1 Prepare tools, materials and equipment to produce job-specific data or product  
3.2 Apply extracted source information to produce job-specific data or product  
3.3 Provide sufficient information to wholly complete the job-specific data or product  
3.4 Produce complete, accurate and legible information  
3.5 Check that data is transferred accurately  
3.6 Report deviations from progress that are outside own control

and responsibility

3.7 Seek clarification and help in applying the information to the new data or products

3.8 Record and communicate information clearly

4. Understand how to interpret supporting technical information to create job specific products

4.1. Explain the care, sharpening and maintenance procedures of marking tools materials and equipment

4.2. Explain typical sources of error in the transference of data such as:

- transposition of characters/numbers
- mirror image
- left/ right hands
- colour matching
- units of measurement
- accumulative error

4.3. Describe the advantages of using free hand sketches

4.4. Explain how to detail and annotate sketches

4.5. Describe the advantages of producing full size templates, setting out rods

4.6. Describe the advantages of referring to formal drawings and other source documents

4.7. Compare the systems of metric and imperial units of measurement

4.8. Explain the importance of making copies of sketches, lists, schedules

4.9. Describe the work implications of the Health and Safety at Work Act (HASAWA) and Control of Substances Hazardous to Health (COSHH) regulations

4.10. Explain where to find organisation risk assessment details and control strategies

Range

Tools, materials, equipment

Drawing, setting out and marking of paper, wood, fabric and other materials used in the production of furniture and furnishings. Appropriate pencils, chalk, setting out equipment.

Additional information

Data sheets, schedules, manufacturers' instructions

Gaps and deficiencies

Missing data such as dimension, colour, type of material, quantity, quality. Discrepancies such as clearances, colour match, tolerances cutting tool speeds.

Information sources

- drawings: orthographic, isometric, assembly; symbols, abbreviations
- reference numbers: dates, revision numbers, scales, etc
- schedules: numeric, graphical
- maintenance: records
- technical manuals
- reference tables and charts
- existing work: models, examples

Job specific data/ product

This refers to the end product for this unit. This will involve using general source information to produce your own job-specific data and/or product. The outcome may be an addition, adaptation or revision of any of the above information sources, but is likely to be a separate product such as a sketch, cutting list, setting out rod or pattern which may be used to contribute towards the production of another product such as a dimensional control aid

Instruction or specification

The set of instructions which describe the work to be done.

## F/600/8256 Create decorative effects on hand-crafted furniture

**Level:** 2  
**GLH** 39  
**Credit value:** 6

### **Learning outcomes**

*The learner will:*

1. Be able to prepare surfaces and decorative materials

2. Know how to prepare surfaces and decorative materials

3. Be able to create decorative effects on furniture

### **Assessment criteria**

*The learner can:*

1.1 Organise materials, tools and equipment in order to work effectively  
1.2 Maintain a tidy work area  
1.3 Ensure work specification and the requirements to achieve it are available  
1.4 Ensure that surfaces are clean and free of surface faults  
1.5 Select materials which are suitable for the decorative effect and finish  
1.6 Match materials against the colour specification  
1.7 Ensure there is sufficient material to complete the work  
1.8 Mix and thin materials to the required handling consistency and quality for the finish to be produced

2.1 Explain terms used in technical specifications for decorative effects and finishes  
2.2 Describe different materials used  
2.3 Explain the purpose of each material and when it is used  
2.4 Describe the implications of using materials that are not suitable for the finish to be produced  
2.5 Explain the importance of accuracy when checking against a colour specification  
2.6 Explain when and why it may be necessary to mix and thin materials to achieve a suitable consistency and colour for the finish to be produced

3.1 Organise the materials, tools and equipment you will need so that you can work effectively and keep your work area tidy  
3.2 Use an effective technique for the kind of decorative effect and finish required  
3.3 Follow an effective sequence for effects and finishes which require multiple treatments  
3.4 Use tools and equipment efficiently, effectively and safely  
3.5 Deal promptly and effectively with application faults which occur  
3.6 Deal promptly and safely with spillages and splashes  
3.7 Allow specified drying times between multiple coats  
3.8 Make sure that surfaces are clean and free of excess materials and surface irregularities between multiple applications of materials  
3.9 Check and confirm that the results meet the specification before passing the work on as finished  
3.10 Complete the process within the working time of the decorative material

4. Understand how to create decorative effects on furniture	<ul style="list-style-type: none"> <li>4.1 Explain terms used in technical specifications for decorative effects and finishes</li> <li>4.2 Describe different materials and their uses</li> <li>4.3 Define the drying and working times of different materials</li> <li>4.4 Explain the techniques used for different decorative effects and finishes</li> <li>4.5 Describe the purpose of the different tools and equipment</li> <li>4.6 Identify application faults that can arise</li> <li>4.7 Describe what causes application faults and how to deal with them</li> <li>4.8 Explain the importance of labelling unused materials clearly and accurately</li> <li>4.9 State what the storage requirements are for different types of material</li> <li>4.10 Describe the implications of not storing materials correctly</li> </ul>
5. Be able to follow workplace health and safety procedures	<ul style="list-style-type: none"> <li>5.1 Follow COSHH procedures at all times</li> <li>5.2 Wear appropriate personal protective equipment for the materials being handled</li> <li>5.3 Deal promptly and safely with spillages and splashes</li> <li>5.4 Make sure that unused materials are accurately labelled and return them to the designated storage areas</li> <li>5.5 Dispose of wastes safely using designated procedures and disposal areas</li> </ul>
6. Understand workplace health and safety procedures	<ul style="list-style-type: none"> <li>6.1 Describe the work implications of the Health and Safety at Work Act (HASAWA), Control of Substances Hazardous to Health (COSHH) regulations and the Environmental Protection Act</li> <li>6.2 Explain where to find organisation risk assessment details and control strategies</li> <li>6.3 Describe the personal protective equipment that should be worn when handling decorative materials</li> <li>6.4 State the importance of personal protective equipment</li> <li>6.5 Explain the importance of dealing promptly, safely and correctly with splashes and spillages</li> <li>6.6 Describe where and how to dispose of wastes</li> <li>6.7 Explain why it is important to dispose of wastes safely</li> </ul>

Range:

#### Decorative material(s)

This unit covers the paints, stipples, glazes, varnishes and pigments used in creating a range of decorative effects on hand-crafted furniture. They may be based on oil, water or spirit as the solvent. Masking materials are tapes and liquids

#### Tools and equipment

Decorative effects are applied by hand, involving the use of cloths, brushes, rags, pads, sponges, sacking and tak rags for the removal of dust. The unit also covers the skills needed to use hand sanding equipment, steel wool, an iron, abrasive sheets, scrapers and sanding blocks to achieve particular surface finishes

### Surface

Surfaces may be solid wood, veneered, particle board, flat panels, curves and turns. The surfaces may be part of a component, sub-assembly or assembly used in hand-crafted furniture

### Work Specification

The set of instructions which describe the type of decorative effects to be achieved. Specifications may be oral or written and may involve the use of diagrams and colour cards

### Surface faults

The sorts of surface faults that might adversely affect the finish needed would include holes, scratches, chips, dents, cracks, blisters and blemishes.

### Personal protective equipment

This covers eye protection, gloves, overalls and respiratory equipment as well as barrier, cleansing and after-care creams.

## M/600/8253 Finish hand-crafted furniture

<b>Level:</b>	2
<b>GLH</b>	31
<b>Credit value:</b>	9

### Learning outcomes

*The learner will:*

1. Be able to prepare oils, polishes, varnishes, waxes and lacquers for use

2. Understand how to prepare oils, polishes, varnishes, waxes and lacquers for use

3. Be able to apply oils, polishes, varnishes, waxes and lacquers

### Assessment criteria

*The learner can:*

1.1 Organise the materials, tools and equipment to work effectively  
1.2 Maintain a tidy work area  
1.3 Ensure that required work specification and everything required to complete it is available  
1.4 Ensure the work environment is clean and free from debris and dust  
1.5 Mix the finish to the required volume, colour, consistency and viscosity  
1.6 Work in ways that prevent contamination of the finish  
1.7 Ensure that the finish is adequately filtered  
1.8 Use the appropriate standards to confirm that the correct colour and shade of finish is produced  
1.9 Store and maintain the finish in a suitable condition for use  
1.10 Carry out the appropriate tests to confirm the working characteristics and results produced by the finish meet the specification

2.1 Explain terms used in technical and manufacturers' specifications and data sheets on finishes for hand-crafted furniture  
2.2 Describe checks carried out on work-pieces which are being prepared for finishing  
2.3 Explain problems that can occur in preparing finishes of different sorts  
2.4 Describe how to recognise and deal with problems  
2.5 Describe the shelf-life of different finishes  
2.6 Explain how to handle different finishes to produce the required specification  
2.7 Describe the importance of turning finishes regularly

3.1. Ensure that the surfaces are free of dust and grease ready to accept the finish  
3.2. Apply the finish so that an even coverage is achieved  
3.3. Use an effective technique for the finish  
3.4. Allow sufficient drying times between multiple coats  
3.5. Clear surfaces of excess finishing material at each stage of the process  
3.6. De-nib, remove blemishes and flat back finish between successive coats  
3.7. Handle and protect the item of furniture from damage during finishing  
3.8. Deal promptly and effectively with application faults  
3.9. Complete each coat within the working time of the material

4. Understand how to apply oils, polishes, varnishes, waxes and lacquers

- 4.1. Explain terms used in technical specifications for finishing hand-crafted furniture
- 4.2. Describe the different types of abrasive materials used on finishes
- 4.3. Describe the different types of finish used
- 4.4. Explain what each finish is used for and when it is used
- 4.5. Describe the drying and working times of different finishes
- 4.6. Explain the effects of moisture content on the finish
- 4.7. Describe the implications of poor technique
- 4.8. Explain application faults that can arise and how to resolve them

5. Be able to follow workplace health and safety procedures

- 5.1. Follow Control of Substances Hazardous to Health (COSHH) procedures
- 5.2. Wear the appropriate personal protective equipment for the materials
- 5.3. Ensure that unused materials and finishes are accurately labelled
- 5.4. Return unused materials and finishes to the designated storage areas
- 5.5. Dispose of wastes safely using designated procedures and disposal areas
- 5.6. Deal promptly and safely with spillages and splashes

6. Understand workplace health and safety procedures

- 6.1 Describe the work implications of the Health and Safety at Work Act (HASAWA) and Control of Substances Hazardous to Health (COSHH) regulations and the Environmental Protection Act 3
- 6.2 Explain where to find organisation risk assessment details and control strategies
- 6.3 Explain where and how finishes should be stored and the implications of not doing so
- 6.4 Explain why it is important to label unused materials correctly
- 6.5 what personal protective equipment should be worn when handling stains
- 6.6 Describe the reason for wearing personal protective equipment when handling stains
- 6.7 Explain the reasons why the working environment needs to be at suitable;
  - Levels of humidity
  - Temperature
  - Lighting
  - Dust free
  - Adequately ventilated
- 6.8 State the importance of dealing promptly, safely and correctly with splashes and spillages
- 6.9 State the importance of labelling unused materials clearly and accurately
- 6.10 Explain the storage requirements for different types of finish and the implications of not storing them correctly

## Range

### Finish

This unit covers finishes used in hand-crafted furniture, including traditional polishes, varnishes, oils, waxes, clear and pigmented lacquers

### Work specification

The set of instructions which describe the work to be carried out, including details of the finishes to be used, the number of coats of finish to be applied and the desired sheen to be achieved. The specification will also detail the time within which the process must be completed and the personal protective equipment which should be worn. Specifications may be oral or written and may involve the use of diagrams and colour cards

### Tools and equipment

Finishing involves the use of abrasives, brushes, rubbers, abrasive pads, wire wools, cloths and tak rags.

### Techniques

Finishes are applied using brushing, rubbering, stiffing, dulling out, burnishing and were applicable hand spraying

### Materials

In addition to the finishes, thinning and cleaning solvents, there may be a need to use burnishing creams, bleaches and de-greasing agents

## Y/600/8134 Prepare hand-crafted furniture for finishing

**Level:** 2  
**GLH** 14  
**Credit value:** 7

### **Learning outcomes**

*The learner will:*

1. Be able to prepare hand-crafted work-pieces for finishing

2. Know how to prepare hand-crafted work-pieces for finishing

### **Assessment criteria**

*The learner can:*

1.1 Organise the tools and equipment  
1.2 Maintain a tidy work area and work effectively  
1.3 Ensure availability of work specification and everything required to achieve it  
1.4 Check the work-piece and accurately identify any faults that are present  
1.5 Apply appropriate remedial treatment to faults  
1.6 Sharpen and set hand tools to achieve required finish  
1.7 Inspect hand tools and electric hand tools taking action if a fault is identified  
1.8 Inspect abrasive machinery taking action if a fault is identified  
1.9 Follow Health and Safety procedures when using electric tools, equipment and machinery to achieve required finish (in the white)  
1.10 Follow Health & Safety procedures when using hand tools and equipment to achieve required finish (in the white)  
1.11 Ensure that adhesives left on surfaces are completely removed  
1.12 Ensure that surfaces are clean and free of dust and debris  
1.13 Ensure that surfaces are ready to receive the specified finish  
1.14 Follow safe working procedures when;  
• lifting and moving heavy items  
• using materials, tools equipment and machinery  
1.15 Handle and store the workpiece to protect it from damage

2.1 Explain terms used in technical specifications for hand-crafted furniture  
2.2 Describe checks to be made on work-pieces  
2.3 Explain faults that can occur and how to recognise them  
2.4 Describe remedial action to take to deal with different types of faults  
2.5 Describe the tools and equipment required to rectify faults  
2.6 Explain how to sharpen and set hand tools  
2.7 Describe types and purpose of fillers and stoppers  
2.8 Explain different grades of abrasives and their uses  
2.9 Explain safe handling of hand and powered tools to protect self and others from risk  
2.10 Identify the types of equipment and machinery faults that can occur  
2.11 Describe how to deal with equipment and machinery faults  
2.12 Describe the work implications of the Health and Safety at Work Act (HASAWA) and Control of Substances Hazardous to Health (COSHH) regulations  
2.13 Explain where to find organisation risk assessment details and control strategies  
2.14 Explain where work-pieces should be stored  
2.15 Explain how to protect work-pieces during handling and storage

## 2.16 Identify how to dispose of waste in accordance with current legislation

### Range

Tools equipment and machinery

Preparing for Finishing involves sanding, cleaning and scraping, making use of hand sanding blocks, planes, scrapers, tack rags, cleaning rags, different grades of abrasive papers (this should include Aluminium oxide, Silicon Carbide, and Scotch bright pads). It may also include the use of palm, random orbital, disc, bobbin and hand held belt sanders, wide belt and narrow belt sanding machines.

### Work specification

The set of instructions which describe the work to be carried out, including details of the preparations to be carried. The specification will also detail the time within which the process must be completed and the personal protective equipment which should be worn.

Specifications may be oral or written and may involve the use of diagrams and colour cards

### Surface

Surfaces may be solid wood, veneered or flat panels.

### Workpiece

The item of furniture to be treated as part of the finishing process. This may be a component, sub-assembly or assembly used in hand-crafted furniture. The work-piece to be treated may be veneered, made of solid wood or of wood composite.

### Faults

The kinds of faults which could occur to work-pieces prior to treating would include machining marks, holes, bruising, splits, scratches, dents and the presence of adhesives.

Types of faults that could occur during application of fillers would include over-thinned grain-fillers, incorrectly mixed grain-fillers and non-removal of excess grain-filler.

The person carrying out this role is responsible for identifying and dealing with faults which can be treated readily if responded to promptly. Problems which cannot be resolved in that way would be reported using the correct workplace procedures.

### Finish

This unit covers finishes which may be rough-out, cross-sanding, smooth, open grained and full-grained.

## ASSESSMENT

Assessment principles should follow recognised good practice. The qualification is made up of units from different standard setting bodies and their Assessment Strategies should be used.

All learning outcomes and assessment criteria should be met.

Simulation is not permitted.

The overall achievement threshold for the individual units is not subject to change.

## QUALIFICATION CERTIFICATION

All learning outcomes and assessment criteria are to be achieved. Whilst there is no grading to this qualification (pass, credit, etc.), the training delivery and feedback should promote the notion of continued improvement and craftsmanship.

The overall achievement threshold for the qualification is not subject to change.

## GLOSSARY

Term	Definition
Learning Outcome	This describes what a learner needs to know, understand or do as a result of the process of learning.
Assessment Criteria	These are the requirements learners are expected to meet to demonstrate that a learning outcome has been achieved.
Centre	The organisation that is approved by PIABC for the purposes of preparing learners for assessment.

## FURTHER INFORMATION

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