



PIABC Level 2 Award in Timber and Panel Products and their Uses

Qualification Number: 600/5496/7

Qualification Specification

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EXECUTIVE SUMMARY

The *Award in Timber and Panel Products and their Uses* is a nationally recognised qualification which provides learners with basic knowledge of the different types of timber and timber products, how they are processed and their uses. Those achieving the qualification will be able to apply this knowledge to choosing appropriate products, advising others and suggesting correct applications for particular functions.

The qualification is intended for those already employed or newcomers to the industry and is designed to provide trade specific knowledge appropriate for the day to day activities in a timber yard, retail outlet or office. By the end of the course, the learner should be familiar with the main softwoods, hardwoods and panel products traded in the UK. He/she should understand how they are graded, priced, measured and selected for use. He/she should be familiar with the trade terms for these products and be able to explain how and why the items are used in the principal buildings components.

To achieve the qualification, learners need to successfully gain the 10 credits:-

Title		Level	Credit Value
Unit	Award in Timber and Panel Products and their Uses	2	10

Learners need to successfully pass an examination based on learning outcomes and the assessment criteria.

Programmes leading to the 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. In completing the documentation and the approval visit, centres need to demonstrate their ability to deliver high quality education leading to the qualification. The actual style of delivery is up to the centre but could include taught sessions, tutor support, distance learning, work books, mentor support or any other method that the centre considers appropriate. In choosing their delivery method 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.

There is no necessity for any formal entry requirement to this course beyond the basic literacy and numeracy expected from anyone entering the business world.

Overall, it is expected that courses leading to the qualification will take a minimum of 40 taught or guided learning hours. Learners will also be expected to carry out additional reading and other work to complete each unit and prepare for assessment, up to a total learning time of approximately 100 hours.

Success in this qualification prepares learners to advise others on the choice and application of different types of timber and timber products. It also enables them to progress to higher level qualifications, for example the *PIABC Level 3 Certificate in Wood Technology and Application*.

AIM

This national qualification is knowledge based and aims to provide work-based learners with a basic knowledge of the different types of timber and timber products, how they are processed and their uses. Those achieving the qualification will be able to apply this knowledge to choosing appropriate products, advising others and suggesting correct applications for particular functions.

The *Award in Timber and Panel Products and their Uses* is intended as a short course either for those wishing to pursue a career in the timber or related industries, or for those who are already in the industry and who wish to extend their knowledge and expertise. The qualification can also provide a very useful complementary qualification for apprenticeship programmes, a unit in a broader competence based qualification or the preparation to progress to higher levels of study.

The qualification is designed to provide trade specific knowledge appropriate for the day to day activities in a timber or builder's merchant's yard or office or in retail DIY. By the end of the course, the learner should be familiar with the main softwoods, hardwoods and panel products traded in the UK. He/she should understand how they are graded, priced, measured and selected for use. He/she should be familiar with the trade terms for these products and be able to explain how and why the items are used in the principal buildings components. At the same time there is the need to work in a safe manner and observe all relevant health, safety and environmental rules and regulations as specified by the organisation.

OUTCOMES

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

1. Enhance the knowledge and job satisfaction of *learners* and provide them with a means of progression to higher level qualifications, as well as job movement throughout the timber sector and other related areas of the timber industry.
2. Provide *employers* with an open and transparent basis for judging the suitability of learners for employment and promotion.

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

TARGET GROUP

This level 2 qualification is appropriate for those wanting to enhance their employment and progression opportunities in the timber and related industries.

There are four broad target groups:

1. People recently employed in the industry who want to gain a sound foundation to the material that is central to the sector, to enable them to operate more effectively.
2. People who have been in the industry for some time who want to extend their knowledge and gain a recognised qualification.
3. Those pursuing a competence based qualification that requires underpinning knowledge.
4. Finally, the qualification will appeal to people who are not currently employed in the industry, but who wish to gain a basic qualification as a step towards getting a job and progressing in the sector.

Due to the diverse nature of the timber and related industries, it is difficult to define the target groups in terms of precise job functions. Typically, learners are likely to be working as operatives or sales personnel in any of the following disciplines:

Job role	Type of company
Sales personnel (office based and on the road); yard/warehouse personnel;	Timber products importer and merchant
Counter sale staff, sales floor operatives	Builders merchant, DIY retail business
Sales personnel; yard operatives	Sawmill

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 these qualifications. As a guide those with the following are likely to indicate the potential to succeed: Level 1 qualifications, a minimum of 5 GCSEs at Grade D-G (or equivalent), or experience that indicates ability to succeed. 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 industry to a position where they can assume some level of responsibility or gain further qualifications for example, an apprenticeship or PIABC Level 3 Certificate in Wood Technology and Application.

QUALIFICATION STRUCTURE

This is a single unit qualification so all parts are mandatory. To achieve the qualification, learners need to successfully gain the 10 credits:-

Title		Level	Tutor contact	Self study and exam	Total qualification time	Credit Value
Unit	Award in Timber and Panel Products and their Uses	2	28	72	100	10

QUALIFICATION LEVEL

The *Award in Timber and Panel Products and their Uses* is a Level 2 qualification.

Learners require the skills, knowledge and understanding to show competence in applying technical and commercial principles to a range of tasks.

Learners may have direct responsibility for others, or may have responsibilities within a team.

This qualification requires the learner to understand the materials, and how these combine in practical operations so that they may better assist the customer in selecting an appropriate product for end use. It will prepare the learner to operate as a competent team member and will greatly assist them in their career development.

The examination for this qualification is based on the learning outcomes and assessment criteria set in a way that demonstrates the features above.

When work for this qualification is assessed, it is important to realise that evidence will be sought which demonstrates these features.

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: Level descriptors for positioning units in the Qualifications and Credit Framework tests and trials. Version 2: 2006. QCA.

PROGRAMME ORGANISATION

This is a single unit qualification and it is anticipated that the qualification will require 100 learning hours for satisfactory completion. These will be made up of taught hours (40 suggested), the use of workbooks, practical investigations etc along with 60 hours of workplace learning.

The organisation of the award 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.

In relevant circumstances, centres are recommended to provide information and guidance to their learners on the availability and type of employment the programme may lead to and on the progression routes available for further education and training in wood technology.

GUIDANCE ON LEARNING AND TEACHING STRATEGY, METHODS AND ASSESSMENT

Timber technology is a practical subject, based on theoretical principles. As far as possible, it is important that the course is taught by relating the underlying theory to practical examples and applications. Two factors which will help in this regard are:

1. The use of staff with direct experience in the timber and related industries. This must, of course, be balanced against a sound understanding of the theoretical principles, as anecdotal experience alone is unlikely to meet the requirements of the course.
2. Practical and commercial examples that underpin a more theoretical understanding should be used to show the link between theory and practice. DVD illustrations of processes could also be used as part of the teaching regime. A further and invaluable source of information is the Internet and there are many web sites which demonstrate important aspects of timber processing and use. Learners should be encouraged to research this material.
3. Practical experience of workplace operations handling timber.

Those learners employed in the timber and related industries, will come to the course with varying levels of existing knowledge and/or practical experience of some parts of the syllabus. This should be utilised in preparing for the examination. The sharing of knowledge which has the potential to lead to a high level of understanding should be encouraged.

The relation of theory and practice is a theme that will 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 practical dimension to their 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. The addition of diagrams and photographs may enhance learning.

The following is an indication of the content to be covered for each learning outcome:-

Learning Outcome 1: Understand the characteristics and nature of wood

Advantages of using wood; Features of hardwoods and softwoods; Recognition of the common hardwoods and softwoods; Naming timber; Temperate and tropical hardwoods; Definition of a knot, how it is formed and the implications of using timber containing knots; Live knots and dead knots and their implications with respect to timber quality; Meaning of durability and how this influences end use and service life; Methods of timber preservation and modification to improve durability; Shrinkage and movement.

Learning Outcome 2: Understand the factors affecting the marketing and utilisation of timber.

What determines the size of timber; Dimensions and units used for measurement; Quality, features, defects, moisture content and finish and how these influence potential end use and market price; Learners should be able to carry out a wide range of calculations that relate to the sale of timber; Why timber is graded; Types of grading i.e. appearance and strength; Details of hardwood and softwood grades and grading; European grades; American and Canadian grades; How and where these grades are used. Chain of custody and other forms of certification.

Learning Outcome 3: Understand the processes that improve the properties of wood.

Methods for drying timber and for keeping it dry; Moisture content measurement and the relevance of this to end use of timber; Timber treatment and preservation; Tar oils, water borne treatment, organic solvents and emulsions and how and when these are used; Wood modification and wood property changes.

Learning Outcome 4: Understand the types of wood-based panel products.

Panel products; All aspects of the production and use of plywood including grades and different types; All aspects of the production and use of particleboard; All aspects of the production and use of fibreboards; All aspects of the production and use of oriented strand boards; Adhesives used for producing the above panels and the reasons for their use; Grading systems; Handling and storage.

Learning Outcome 5: Understand the functions and applications of solid timber and wood-based panels in buildings and related uses.

How, when and why carcassing is used; Sizes and dimensions of carcassing timber, when it is used and the functions; Load bearing timbers and where they are used; Ways to carry out visual strength grading; Types of grading; Types of measurements available; Limitations of machine grading; Strength classes and symbols; Use of these; Joinery products; Joinery timbers; Stairs; Floors; Cladding; Components; Windows; Doors; Mouldings and how these are drawn.

Learning Outcome 6; Understand the importance of care, storage and handling of wood products.

This learning outcome is covered throughout all the sections and achievement of this demonstrates the learner's ability to apply their knowledge.

QUALIFICATION DESCRIPTION

The qualification follows the PIABC (based on QCF) principles for designing units and qualifications and contains the features listed as follows;

- Unit reference number, title, guided learning hours, grading structure and assessment guidance.
- 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.
- To successfully complete, learners must meet all the learning outcomes and gained an overall pass mark of 50%.

TIMBER AND PANEL PRODUCTS AND THEIR USES

PIABC Unit No: PI003
Unit No: D/503/9858
Unit Level: 2

Guided Learning Hours: 40
Unit Credits: 10
Grading Structure: Pass, Merit and Distinction

Overview

The qualification is designed to provide trade specific knowledge appropriate for example to the day to day activities of a timber merchant, DIY retailer, saw mill operator or timber sector office worker. By the end of the course, the learner should be familiar with the main softwoods, hardwoods and panel products traded in the UK. He/she should understand how they are graded, priced, measured and selected for use. He/she should be familiar with the trade terms for these products and be able to explain how and why the items are used in the principal buildings components.

Learning Outcomes and Assessment Criteria

Learning Outcome – The learner will:

1. Understand the characteristics and nature of wood

2. Understand the factors affecting the marketing and utilisation of timber

3. Understand the processes that improve the properties of wood

Assessment Criterion - The learner can:

1.1 Describe the difference between softwoods and hardwoods

1.2 List the major commercial species and their countries of origin for softwoods and hardwoods

1.3 Explain how a knot is formed

1.4 Illustrate the difference between a live knot and a dead knot

1.5 Explain what is meant by natural durability in timber

2.1 List the main trade sizes for sawn square-edged timber

2.2 Explain the factors that influence the pricing of timber

2.3 Calculate prices for timber purchases and sales

2.4 Summarise the differences between the principal systems for grading sawn timber

2.5 Describe the end use applications for strength graded timber and appearance graded timber

3.1 Explain the reasons for drying timber

3.2 State the recommended moisture content for end uses of timber

3.3 List the methods used to improve the durability of timber

3.4 Describe one type of timber preservation

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| 4. Understand the types of wood-based panel products | 4.1 Describe the manufacturing processes and construction of the main types of wood-based panels |
| | 4.2 Explain the categories of adhesive used |
| | 4.3 Explain how the grading systems for wood-based panels relate to their properties and application |
| 5. Understand the functions and applications of solid timber and wood-based panels in buildings and related uses | 5.1 Explain the differences between carcassing and joinery timber |
| | 5.2 Name the main load bearing timbers and their functions in a domestic dwelling |
| | 5.3 List and describe strength reducing characteristics in timber |
| | 5.4 Describe visual strength grading |
| | 5.5 Describe the principals involved in machine strength grading |
| | 5.6 Recognise the key differences between a strength grade and a strength class |
| | 5.7 Describe a manufactured joinery product used in a domestic dwelling |
| | 5.8 Draw and name typical profiles for moulded joinery |
| 6. Understand the importance of care, storage and handling of wood products | 6.1 Explain the reasons why it is important to ensure that wood products are handled and stored correctly |

ASSESSMENT

The unit Award in Timber and Panel Products and their Uses is assessed by a one and half hour written examination covering all six learning outcomes. The examination will consist of short answer questions and longer style questions, which may require illustrations with diagrams.

To be successful in the examination, students must ensure that they pass all the learning outcomes and gained an overall pass mark of 50%.

If a student is unsuccessful in an examination (i.e. fails one or more learning outcome and/or achieves less than 50% overall), then the student can re-sit a different examination paper at the next examination series.

QUALIFICATION CERTIFICATION

PIABC Level 2 Award in Timber and Panel Products and their Uses

The full qualification is available at *Pass, Merit or Distinction* to learners who successfully complete the unit.

When all marks are aggregated, the following percentages will determine the overall qualification grade:

- Pass 50 - 59
- Merit 60 - 69
- Distinction 70+

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.

SUGGESTED SOURCE MATERIAL

A comprehensive list of source materials and references that may be used to support learning for qualification is available from the PIABC web site (www.piabc.org.uk).