PIABC LEVEL 5 CERTIFICATE IN SUSTAINABLE FOOD PACKAGING

Qualification Number: 610/0032/7

Qualification Specification

Updated: 19 July 2023

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PURPOSE

The PIABC Level 5 Certificate in Sustainable Food Packaging is appropriate for those wanting to enhance their understanding of packaging and sustainable packaging choices in the food & drink, packaging, and related industries.

Candidates will be provided with an opportunity to understand the functions of packaging, the packaging process, including packaging design, materials, and production methods, and will learn how to approach packaging change to more sustainable options, where available. It will prepare the candidate to understand best practice and to appreciate alternative or new or novel solutions, and apply them where possible, and to identify critical factors associated with the technology and packaging change.

We are in a time, where all packaging choices and substrates are being challenged or considered for their sustainable credentials. To make good sustainable packaging choices it is crucial that people understand the performance and functions of their current packaging, from which they can then consider possible alternatives. The array of new materials/substrates is ever growing and the complexity of making the right choice is getting more difficult. This qualification is appropriate for those wanting to enhance their understanding of sustainable packaging in the food & drink, packaging, and related industries. This qualification is designed to engender those relevant skills and educate candidates to understand the functions of packaging and good sustainable packaging choices while also aiding their career development and expertise.

The assessment strategy aims to embed the learning outcomes in a tangible way that allows the participant to complete activities that are relevant to thinking critically about their relevant sectors and applying the knowledge gained. The research project allows the participant to directly apply their learning to their own companies sustainable packaging challenges where possible, or some such similar research. This serves to allow the participants to optimise their learning, by applying it in a real-world context, as well as embedding the learning in their organisation.

On successful completion of this qualification, candidates will be able to demonstrate that they can:

- Recognise the role of packaging in the world today
- Describe the functions of packaging and the packaging development process
- Demonstrate a knowledge of sustainable packaging goals, choices, impacts, etc.
- Critique the options and suitability of packaging substrates for their supply chain
- Discuss the existing/new legislation in sustainable packaging

GENERAL OUTCOMES

The general objectives of the PIABC Level 5 Certificate in Sustainable Food Packaging are to:

1. Provide those employed, or who wish to be employed in the packaging and related industries with the skills, knowledge and understanding to underpin and enhance job experience.
2. Provide candidates with a portable qualification to enable job movement throughout the industry.
3. Provide employers throughout the packaging and related industries with a firm basis for judging suitability of candidates.
4. Raise the status of those employed in the packaging and related industries.

TARGET GROUP

This Level 5 qualification is appropriate for those wanting to enhance their employment and progression opportunities in the packaging and related industries.

There are thus two broad target groups:

1. People currently employed in the Food & Drink or Packaging Manufacturing, Conversion, Packer/Filler or FMCG Retail Industries who want to broaden their knowledge and understanding and take on greater levels of responsibility. Due to the diverse nature of the

packaging and related industries, it is difficult to define this target group in terms of precise job functions.

2. People who are not currently employed in the packaging industry, which may be following courses in associate subject areas such as packaging design, food science/technology, and materials science/engineering, will find that this programme broadens the scope of their studies.

ENTRY REQUIREMENTS

As a guide for entry onto programmes, candidates will normally be expected to have a minimum attainment of:

- 1 GCE A level and 5 GCSEs at grade A – C, including one science subject, plus the key skills of numeracy, communication, and information technology.
- PIABC Level 3 Certificate in Packaging.
- Have at least three (3) years appropriate work experience.
- Be working in the Food & Drink or Packaging Manufacturing, Conversion, Packer/Filler or FMCG Retail Industries.
- Ideally have experience specifying, designing, developing, or buying packaging.

Candidates who are not currently employed in the industry, but who are working in associate industries, such as food science/technology, materials science/engineering and logistics will also be considered.

Non-native speakers of English must provide evidence of competence in the English language, such as an IELTS 6.0 score (see PIABC's *English Language Requirements Policy*).

STAFFING

It is expected that staff involved with the delivery of the course will be appropriately qualified and/or experienced in packaging as an industry specialist. The PIABC approval process requires prospective centres to provide details of the staff involved in delivery and assessment including their qualifications and relevant training/employment experience, plus staff development arrangements. Whilst these details are passed on to the external moderator appointed by the PIABC, it is the Centre's responsibility to ensure lecturers and tutors qualifications are both bona fide and appropriate to the level of the qualification.

QUALITY ASSURANCE

PIABC requires that each centre has a quality assurance and enhancement procedure in respect of the programme, and a means of monitoring its implementation.

There should be a team that is responsible for preparing an annual self-assessment of the programme and for monitoring the improvement measures resulting from this.

This self-assessment process should use evidence from different sources including:

- Candidate self-evaluation
- The views of external individuals and organisations, for example those companies sending candidates
- Staff working on the qualification

In addition, it is also expected that there will be an internal moderation procedure to ensure standardisation of unit delivery. This will include the following elements:

- Classroom observation
- Peer review of award materials
- Moderation of any internally assessed elements

There should be a named and appropriately qualified individual (Centre Co-ordinator) who has the necessary authority, with whom the PIABC can liaise directly on all matters of management, administration, and quality assurance.

EXTERNAL MODERATION

PIABC will appoint external centre monitors undertake external quality assurance exercises with centres to ensure the maintenance of standards of quality. The role of the centre monitor includes:

- Liaison between the centre and PIABC to ensure standardisation in terms of the quality of award delivery
- Providing advice and support for the Centre in understanding and implementing the requirements of the units and the PIABC

Centre monitors will carry out at least one external quality assurance exercise per year and will formally report on the outcome of this exercise to the Centre and PIABC. All items contained in the report will be discussed with the Centre, and any actions that the Centre needs to take will be agreed at that stage.

An External Quality Assurance (EQA) a desktop activity monitoring exercise is required for centres that have registered candidates. The scope and frequency of these monitoring activities will be in part determined by the centre assessment standard strategy for this qualification. PIABC's monitoring strategy will ensure that all centre marked assessments remain fit for purpose and that criteria against which candidates' performance is differentiated are being accurately and consistently applied for this qualification regardless on assessor, candidate, or centre.

The focus of EQA for this qualification is the detailed examination of candidate evidence including samples of completed multiple choice tests, research project and recorded presentation. The sample selection will be decided by PIABC. During this exercise, the EQA will be able to agree to certification claims and sign off documentation relating to certification claims.

This EQA is conducted remotely as PIABC does not want to add additional financial burden to its centres which can be caused by EQA physical monitoring visits.

PROGRAMME ORGANISATION

It is anticipated that the PIABC Level 5 Certificate in Sustainable Food Packaging will require a total qualification time of 150 hours including a minimum of 40 guided learning hours. This includes assessment, self-study, and taught hours for satisfactory completion.

The organisation of the PIABC Level 5 Certificate in Sustainable Food Packaging is at the discretion of the Centre and will consider the aims, aspirations, and experience of the candidates. Centres are encouraged to choose the most suitable curriculum model for their candidates.

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

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

GUIDANCE ON LEARNING AND TEACHING STRATEGY

This Sustainable Food Packaging programme has been designed to ensure that that the learning and assessment strategy will be practical in nature wherever possible.

Lecturers should utilise this, through group work and other structured interactive activities, thus encouraging the sharing of knowledge which has the potential to lead to a high level of understanding.

The first two units are assessed by multiple-choice examinations. The third unit will be ideally based on the candidate's real world own company packaging challenge, or other relevant similar or simulated topic.

In-class discussion, case studies and applied critiques will be a major feature of the learning strategy for this programme, along with a multiple-choice style exams and research project and 'Dragons' Den' type project presentation.

More details are in the unit content for each unit.

QUALIFICATION LEVEL

The PIABC Level 5 Certificate in Sustainable Food Packaging is a Level 5 qualification.

Level 5 Descriptor

Knowledge descriptor (the holder…)

- Has practical, theoretical, or technological knowledge and understanding of a subject or field of work to find ways forward in broadly defined, complex contexts.
- Can analyse, interpret, and evaluate relevant information, concepts, and ideas. Is aware of the nature and scope of the area of study or work.
- Understands different perspectives, approaches or schools of thought and the reasoning behind them.

Skills descriptor (the holder can…)

- Determine, adapt, and use appropriate methods, cognitive and practical skills to address broadly defined, complex problems.
- Use relevant research or development to inform actions.
- Evaluate actions, methods, and results

Source: Qualification and Component Levels Requirements and Guidance for All awarding Organisations and All Qualifications. 2015. Ofqual.

QUALIFICATION STRUCTURE

In designing the qualification, the unit design of an informative title, a level, a credit value, learning outcomes and indicative content has been used. The assessment process is based on those learning outcomes. The learning and teaching strategy must be designed so that candidates have the opportunity to meet the learning outcomes in an effective manner by demonstrating that they can achieve the assessment criteria.

The PIABC Level 5 Certificate in Sustainable Food Packaging has three mandatory units:

PIABC Unit Ref.	Ofqual Unit Ref.	Unit Title	Level	GLH*	TQT**	Credit
MANDATORY UNITS (15 Credits Required)						
SFP1	L/650/0128	Fundamentals of packaging, substrates, and manufacturing conversion processes	5	21	50	5
SFP2	M/650/0129	The benefits, issues, and requirements for good sustainable packaging choices	5	14	40	4
SFP3	Y/650/0130	Sustainable packaging research project	5	5	60	6
Qualification Level			5			
Total Guided Learning Hours (GLH*)				40		
Total Qualification Time (TQT**)					150	
Total Credit						15

GLH* = Guided Learning Hours, which is the average hours a learner may require guidance and support from teaching, learning and assessment professional to achieve the qualification (e.g. direct tutor contact).

TQT** = This is an indication of the minimum length of time it would take the average learner to complete their qualification.

UNIT CONTENT

FUNDAMENTALS OF PACKAGING, SUBSTRATES, AND MANUFACTURING CONVERSION PROCESSES

PIABC Unit No: SFP1
Unit No: L/650/0128
Unit Level: 5
Guided Learning Hours: 21
Unit Credits: 5
Grading Structure: Pass, Merit and Distinction

Overview
To provide students with a greater understanding of the fundamentals of packaging, properties, functions, substrates, and manufacturing conversion processes.

To introduce students to packaging as a subject by examining the functions of packaging within its broad social, economic, environmental. and marketing context and meeting its specific functional and aesthetic requirements. To provide students with an understanding of the importance of product properties at different stages of its life cycle.

To successful complete this unit, the candidates will meet the following learning outcomes:

- Assess the functions of packaging.
- Critically evaluate the properties of substrates/material and their applications.
- Describe the conversion processes of raw materials into packaging materials and packaging components.
- Evaluate proposed packaging substrate/style alternatives to their existing packaging
- Assess the ecological impact of certain choices of bio-materials
- Understand recycling – chemical and mechanical

Indicative Content

- The definition of packaging
- Packaging functions
- Containing, protecting, preserving, convenience, selling etc.
- Food preservation; the extension of product shelf life, barrier properties etc.
- The packaging supply chain, including the global supply chain
- Causes and effects of product damage in the supply chain
- Shock, cushioning, vibration, compression, compression strength
- Main packaging substrates and conversion processes.
- Paperboard packaging, cartons, corrugated, labels etc.
- Rigid plastics, flexible film laminates, MAP, etc.
- Glass, aluminium, etc.

The content should be delivered through lectures, video, and interactive exercises. The lectures, discussions, examples, and case studies should be used to stimulate and guide discussion. Candidates should be encouraged to pay close attention to their packaging formats and industry issues relevant to them and the programme, and to reflect on the best practices - as identified during the module - for real world application.

Unit Assessment

This unit is assessed by candidates completing a centre devised and managed multi-choice test that addresses all the learning outcomes. The question bank should contain at least 100 questions. The question bank will be monitored and evaluated to ensure a consistent standard is maintained.

The tests will be internally assessed and internally quality assured by the centre.

Centre multi-choice tests and their management will be externally quality assured by PIABC. For each cohort a sample selection will be external quality assured by PIABC. The sample selection

will be determined by PIABC in line with its centre assessment standard strategy and external quality assurance sampling policy. This will be undertaken before qualification certification. PIABC's centre assessment standard strategy will ensure that all centre devised and marked assessments remain fit for purpose and that criteria against which candidates' performance is differentiated are being accurately and consistently applied for this qualification.

This is a graded unit with pass, merit and distinction being available:

- Pass (50-59%)
- Merit (60-69%)
- Distinction (70%+)

The grading structure for the unit is not subject to change.

THE BENEFITS, ISSUES, AND REQUIREMENTS FOR GOOD SUSTAINABLE PACKAGING CHOICES

PIABC Unit No: SFP2	Guided Learning Hours: 14
Unit No: M/650/0129	Unit Credits: 4
Unit Level: 5	Grading Structure: Pass, Merit and Distinction

Overview

To provide candidates with a greater understanding of the benefits, issues, and requirements for good sustainable packaging choices. To understand the choices and application of various substrates and solutions and to discuss the existing and new legislation and various methodology and systems available.

To introduce candidates to sustainability as a wide-ranging subject and lifestyle approach. To encourage and explain the importance of making good sustainable packaging choices - while not threatening pack performance or increasing food waste – and have an awareness of the impacts of their packaging choices. Provide candidates with an understanding of the specification and New Product Development (NPD) process and the importance of packaging testing and properties at different stages of its life cycle or how packaging can be removed, reduced, reused, renewed, refilled, recycled, recover, remanufacture.

To successful complete this unit, the candidates will meet the following learning outcomes:

- Demonstrate informed decision making
- Summarise the new product packaging development process and stages.
- Evaluate Packaging Choices
- Summarise the principals of CE (or similar principle appliable to centre location)
- Understand the legislative impact on existing and potential new packaging substrate choices coming down stream

Indicative Content

- Packaging Testing
- Packaging Specifications
- Sustainable Packaging Principals
- Environmental Aspects of Packaging
- New Product Development (NPD) process, importance of testing and trials.
- Packaging Design and Circularity
- Sustainable packaging choices and choosing fit-for-purpose
- Format options
- Introduction to Carbon Footprint, Life Cycle Analysis, and systems
- Existing and new Legislation under consultation

The content should be delivered through lectures, video, and interactive exercises. The lectures, breakout rooms, discussions, examples, and case studies should be used to stimulate and guide discussion. Candidates should be encouraged to study other new or alternative packaging substrate and pay close attention to current packaging format performance criteria. As this is an area in flux, candidates during the programme should be aware of new developments and industry news relevant to packaging formats and the programme. This will be useful for candidate’s general course engagement and for the project development to help apply the examples to real world experiences and application.

Unit Assessment

This unit is assessed by candidates completing a centre devised and managed multi-choice test that addresses all the learning outcomes. The question bank should contain at least 100 questions. The question bank will be monitored and evaluated to ensure a consistent standard is maintained.

The tests will be internally assessed and internally quality assured by the centre.

Centre multi-choice tests and their management will be externally quality assured by PIABC. For each cohort a sample selection will be external quality assured by PIABC. The sample selection will be determined by PIABC in line with its centre assessment standard strategy and external quality assurance sampling policy. This will be undertaken before qualification certification. PIABC's centre assessment standard strategy will ensure that all centre devised and marked assessments remain fit for purpose and that criteria against which candidates' performance is differentiated are being accurately and consistently applied for this qualification.

This is a graded unit with pass, merit and distinction being available:

- Pass (50-59%)
- Merit (60-69%)
- Distinction (70%+)

The grading structure for the unit is not subject to change.

SUSTAINABLE PACKAGING RESEARCH PROJECT

PIABC Unit No: SFP3	Guided Learning Hours: 5
Unit No: Y/650/0130	Unit Credits: 6
Unit Level: 5	Grading Structure: Pass, Merit and Distinction

Overview

This unit is designed to develop a candidate's general ability to undertake independent research, including problem definition, data collection, analysis and reporting of findings.

To enable a candidate to:

- understand the factors which affect the choice or development and principals of sustainable packaging and the possible impact on performance, shelf life or functionality of packed products and the need to recognise and address this with concern for the environmental impact and future legal requirements.

- apply what they know and have learned about packaging to a research project. This involves highlighting the issues, choices, specifications, impacts, carrying out research and tests on alternatives (or justifying the current packs) and reporting on their findings. It is intended that this research is as practical as possible and will be carried out, if possible, on the candidate's own workplace packaging scenarios.

To successful complete this unit, the candidates will meet the following learning outcomes:

- Understand the research process
- Demonstrate a strong understanding of packaging processes and techniques
- Analyse and apply relevant theory / knowledge to a workplace packaging project
- Evaluate the factors that can affect and impact packaging in the environment
- Formulate a convincing case for packaging change or status quo

The research project consists of an analysis of, and solution to, a practical problem or situation in an area of sustainable packaging technology from an actual business situation. Although the project is essentially practical in orientation, the candidate would be expected to demonstrate knowledge of the conceptual framework of the problem, in a variety of ways such as the approach to the analysis of the problem and the nature of the solutions brought forward.

The candidate should develop their own research proposal based on their work situation and submit this to their Centre tutor for approval. The proposal should be reviewed by the Centre tutor and agreed with the candidate. Once a proposal has been approved, then the Centre tutor should act as project supervisor and be available to give feedback to the candidates throughout the project.

The project should be submitted by the candidate prior to their presentation. The project presentation should take the form of a Dragons' Den approach, where the candidate will try to convince the Dragons of the benefits of changing a particular packaging format (or not) and justifying the argument/decision by various performance, shelf-life, environmental and financial criteria. The presentation should be visual and technically accurate, bringing learnings from the course and further research, to justify the argument.

Unit Assessment

This unit is assessed by candidates completing a 2,500 worded research project and presentation.

All projects and presentations will be internally assessed and internally quality assured by the centre.

A sample selection of the projects and presentations will be externally quality assured by PIABC. PIABC requests that all candidate presentations be recorded for this purpose. For each cohort a sample selection will be external quality assured by PIABC. The sample selection will be determined by PIABC in line with its centre assessment standard strategy and external quality assurance sampling policy. This will be undertaken before qualification certification. PIABC's centre assessment standard strategy will ensure that all centre devised and marked assessments remain fit for purpose and that criteria against which candidates' performance is differentiated are being accurately and consistently applied for this qualification.

The project will be marked as follows:

- Research Proposal - 10%
- Research Project - 65%
- Presentation "Dragons' Den" style - 25%

Centres are required to have a grading criteria in place for this unit to ensure the standardisation of marking.

This is a graded unit with pass, merit and distinction being available:

- Pass (50-59%)
- Merit (60-69%)
- Distinction (70%+)

The grading structure for the unit is not subject to change.

QUALIFICATION CERTIFICATION

The qualification is available at *Pass, Merit* or *Distinction* to candidates who successfully complete the three mandatory units.

The final qualification grade is worked out as follows:

- For all units achieved at a **Pass** level, 5 points are awarded towards the final grade.
- For all units achieved at the **Merit** level, 10 points are awarded towards the final grade.
- For all units achieved at the **Distinction** level, 15 points are awarded towards the final grade.

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

- Pass (15 – 24 points)
- Merit (25 – 39 points)
- Distinction (40+ points)

The overall grading structure for the qualification is not subject to change.

REGULATORY INFORMATION

Subject/sector area:	4.2 Manufacturing Technologies
Qualification operational start date:	05 October 2021
Qualification review date:	01 January 2024
Applicable age ranges (years):	19+

FURTHER INFORMATION

Please contact PIABC Limited directly at:
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