



ETCAL Level 2 Diploma in Manufacturing (Knowledge and Skills)  
603/5151/2  
Assessment

# Assessment Guide

## Assessment Principles

### Introduction

ETA qualifications are developed in conjunction with the industries and employers they service. They are designed to add value and deliver multidimensional outputs that provide impact for both learners and employers.

It is therefore important that the assessment requirements of ETA qualifications are robust whilst not containing unnecessary and over-burdensome challenges that detract from the intended outcomes and impact.

### Principles

There are four key principles to underpin assessment delivery:

1. Assessment should contribute to developing a learners' knowledge and/or skills and provide relevant and current development as the related industry requires.
2. Systems for capturing evidence of competence should be integrated and efficient. Assessment practices for both competence-based and knowledge-based aspects of qualifications should, where possible, be integrated with industry-driven standards and requirements.
3. Assessment methods must be appropriate for the level and nature of the qualification units to be assessed. Methods of assessing achievement against learning outcomes and assessment principles must be accommodating and flexible, whilst remaining appropriate for both the level being assessed and industry expectations of learners at that level.
4. Evidence of knowledge and understanding must be recorded and be clearly attributable to the learner. This can be delivered using task-based activity with questions and answer sessions, supported by assessor observation.

The choice and application of assessment methods must be consistent with these principles and will generally include:

- Direct Observation
- Written evidence (portfolio/workbook)
- Centre set assignment
- Centre set coursework
- Oral examination
- Professional/open discussion

## Delivery Team Requirements

### ***Tutors / Assessors***

- Tutors / Assessors should have a detailed knowledge of, and be competent in, the occupational requirements of the units
- Tutors / Assessors should hold or be working towards the related professional qualifications for delivery and assessment as required
- This competence will have been acquired either in direct employment in the occupational role to which the unit relates, or in employment as a manager, supervisor or in-house trainer of employees carrying out the role
- It is unlikely that occupational competence will have been achieved in less than twelve months of employment, but individuals with less experience could be considered as assessors if sufficiently occupationally competent

### ***Internal Quality Assurers (IQAs)***

- IQAs must have a thorough understanding of the structure, content and occupational requirements of the units that they are internally quality assuring. This understanding will have been acquired while either working directly within or delivering within the relevant occupational area in either an operational or a support function
- The level of understanding must be sufficient to allow the IQA to judge whether the assessor has fully assessed learners against all the principles within the unit
- It is unlikely that a person could have gained this level of understanding in less than twelve months of being employed, but individuals with less experience could be considered as IQAs if they have the required level of experience, knowledge and understanding

### ***Technical / Expert Witness***

Expert witnesses can be drawn from a wide range of people who can observe, 'measure and examine performance against the industry and qualification principles. These can include line managers and experienced individuals within a related sector-based organisation. The Technical Expert Witnesses should have proven practical experience and knowledge relating to the content of the principles being assessed.

It is unlikely that someone could become an expert in their entire job role in less than twelve months of being employed in their industry. They could, however, very quickly become an expert in the content of a single unit if this was the focus of their job role. The assessor should make a judgement as to the level of expertise held by a potential Technical Expert Witness and, where necessary, this should be confirmed with the awarding organisation.

### **Assessment Materials**

ETC Awards Ltd. (ETA) Assessment Materials are protected by copyright and are supplied only to Approved Centres for use solely for the purpose of the assessment of ETA learners.

### ***Instructions for Conducting Assessment***

the Approved Centre must either:

- Secure approval of in-house assessment material by ETA's External Quality Assurance team prior to use
- Use ETA Assessment Materials
- We recognise that reasonable adjustments may be considered at the time of assessment, please refer to the ETA Reasonable adjustments and considerations policy

All approved centres must then handle and store securely all Assessment Materials in accordance with the following:

- Assessment Material must be accessible to learners only during their programme
- The Approved Centre must not make public in any format the contents of any materials either in part or in full.
- Materials must be securely handled and under no circumstances shared with third party organisations or individuals
- The Approved Centre must seek permission from ETA through the External Quality Assurance team if they want to convert Material for alternative storage, retrieval and delivery in electronic formats.

## Qualification aim

This qualification is designed to support the Lean Manufacturing Operative Apprenticeship Standard, however, is also available for individuals who are not following an apprenticeship. It provides a structured individualised route with knowledge and skills for those who wish to achieve a qualification in preparation for lean manufacturing.

## Qualification introduction

This level 2 Diploma will equip learners with the knowledge and understanding to underpin a range of roles within the manufacturing sector. These routes have been developed by employers, industry specialists and providers to ensure that it meets the evolving requirements of industry.

## Assessment

In order to achieve this qualification a learner must complete all 5 mandatory units and a further 5 optional units selected from the optional groups and in accordance with the achievement definition. The assessment criteria determine the standard required to achieve each unit and allow for a variety of assessment methods to be used as appropriate to the environment the qualification is delivered in. There is no examined assessment element in this qualification.

## Progression

On completion of this qualification learners will be prepared to progress to level 3 qualifications in a range of occupations within the sector, this could include but not limited to apprenticeships.

## Achievement

Learners must achieve a minimum of 37 credits, by completing the 5 mandatory units, a minimum of 2 units from Group A, with a minimum of one unit from Group B and a minimum of 2 units from Group C.



Level 2 Unit – Health & Safety in a Manufacturing Environment

## Unit aim

This unit introduces learners to identifying and understanding the health and safety regulatory and legal requirements, along with the contribution they can make towards a positive, safe working environment. It encourages learners to investigate and develop the responsibility and capability to work safety and effectively in the manufacturing environment.

## Unit introduction

Health and safety is a fundamental component within any manufacturing organisation. Developing a proactive approach to working safely is encouraged by understanding risk, legislation and the responsibilities of individuals. Understanding fire, accident and emergency procedures in manufacturing organisations which may include potential hazards and risks from materials and substances.

## Assessment

To achieve this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit, through a variety of assessment methods appropriate to the delivery environment.



<b>Unit Reference Number</b>		K/617/8241
<b>Qualification Framework</b>		RQF
<b>Title</b>		Health & Safety in a Manufacturing Environment
<b>Unit Level</b>		Level 2
<b>Guided Learning Hours</b>		30 GLH
<b>Total Qualification Time</b>		40 TQT
<b>Unit Credit Value</b>		4 Credits
<b>Unit Grading Structure</b>		Pass / Fail

<b>Learning Outcome</b>		<b>Assessment Criteria - The learner can</b>	<b>Criteria expansion</b>	
1	Know the responsibilities required to meet health and safety legislation and regulations	1.1	Describe the legislation that covers health and safety in the workplace	HASAWA, PPE at work act, Manual Handling Regulations and other regulations applicable to individuals own manufacturing environments
		1.2	Explain the duties and responsibilities of all under health and safety legislation	Employer, employee responsibilities
		1.3	Outline appropriate sources of information in relation to health and safety issues and underpinning guidance	Internal, external sources
		1.4	Describe a range warning signs, symbols and labels that may be used in the manufacturing environment	This must include both signs and their locations
		1.5	Explain why Personal Protective Equipment (PPE) might be used in the manufacturing environment	

		1.6	Outline the different types of PPE generally in use in a manufacturing environment	This must include at least five items of PPE
2	Know the organisational fire, accident and emergency procedures	2.1	Detail the location of organisational first aid facilities and identify the qualified personnel	
		2.2	Outline the process that must be undertaken in the event of injury to personnel	
		2.3	Outline the process that must be undertaken to evacuate the premises in the event of a fire	
		2.4	Describe the process that must be followed in the event of dangerous occurrences or hazardous malfunctions of equipment	
		2.5	List what needs to be present for a fire to exist	
		2.6	Describe the different types of fire extinguishers, when and how they should be used and where they are located	This must include colour, class and use
3	Know the hazards and risks in the workplace and how they are identified	3.1	Describe hazards and risks that are commonly associated with a manufacturing environment, consider; work area, equipment/tooling, materials/ substances	This should include at least 2 examples for each area
		3.2	Outline what actions should be taken to reduce risks	
4	Be able to follow safe working practices and procedures	4.1	Outline the recognised methods of manual lifting and carrying including lifting alone and with the assistance of others or with mechanical assistance	

		4.2	Describe the process for maintaining a tidy workplace	
		4.3	Explain environmental compliance relating to manufacturing operations	
		4.4	Explain the importance of job instructions/standard operating procedures/specifications in the manufacturing environment	
		4.5	Explain reporting lines if there is a problem you cannot deal with or is beyond your responsibility	



Level 2 Unit – Communication and Working Effectively in  
a Manufacturing Environment

## Unit aim

This unit will enable learners to develop an understanding of the process and application of communication and working effectively in a lean manufacturing environment.

## Unit introduction

Good communication, planning and preparation are important to all manufacturing organisations. This includes communicating technical information commonly used in the sector using both verbal and non verbal communication methods. Using the correct technical terminology during each stage of the manufacturing process and the related continuous improvement activities.

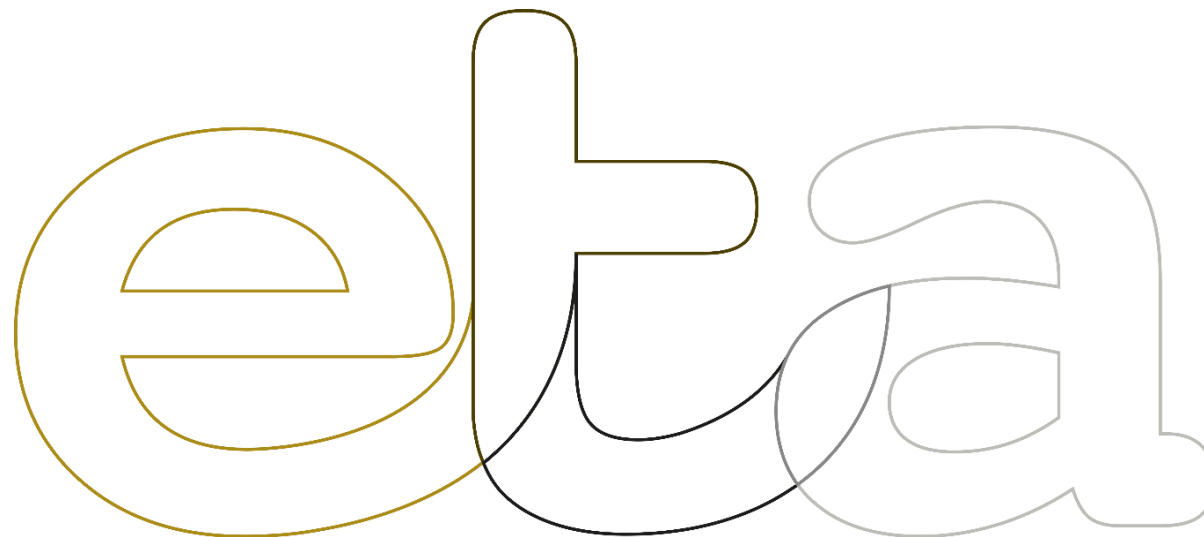
## Assessment

To achieve this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit through a variety of assessment methods appropriate to the delivery environment.

<b>Unit Reference Number</b>		T/617/8243
<b>Qualification Framework</b>		RQF
<b>Title</b>		Communicating and Working Effectively in a Manufacturing Environment
<b>Unit Level</b>		Level 2
<b>Guided Learning Hours</b>		20 GLH
<b>Total Qualification Time</b>		30 TQT
<b>Unit Credit Value</b>		3 Credits
<b>Unit Grading Structure Pass</b>		Pass / Fail

	<b>Learning Outcome</b>		<b>Assessment Criteria - The learner can</b>	<b>Criteria expansion</b>
1	Understand how to communicate effectively within a manufacturing environment	1.1	List different types and styles of communication that may be used in a manufacturing environment	
		1.2	Explain what should to be considered when selecting communication methods with others	
		1.3	Explain why communicating is important in a manufacturing environment	
2	Know the types of technical information found in the manufacturing workplace	2.1	State what types of technical information might be found in the manufacturing workplace	This should include drawing and documents
		2.2	Explain why it is essential that correct terminology on technical information is used in the manufacturing workplace	
3	Understand how planning and preparation support an effective workplace	3.1	Describe how you should plan for working activities and list the stages to be taken	

		3.2	Explain how you should prepare for working activities and include the methods applied	
		3.3	Detail the process used to identify and resolve problems in a manufacturing environment	This should include the Plan, Do, Check, Act (PDCA) cycle
4	Understand the importance of effective workplace organisation	4.1	Describe how workplace organisation is commonly deployed in a manufacturing environment	
		4.2	Describe how effective housekeeping is deployed in a manufacturing environment	
		4.3	State the benefits of maintaining a safe manufacturing working environment	
5	Understand why performance reviews are important	5.1	Explain what should be contained within a performance review	
		5.2	Explain why performance reviews are important	
		5.3	Describe the different types of feedback and how they might be used in performance reviews	
6	Understand the importance of continuous professional development and targets	6.1	Describe the continuous professional development cycle for employees	
		6.2	Describe a range of methods how development can be delivered	This should include on and off the job opportunities
		6.3	Explain the benefits that can be delivered from positive development	



Level 2 Unit – Working Relationships including Individual Rights and Responsibilities in a Manufacturing Environment



## Unit aim

This unit aims to establish and maintain relationships with others and working as part of a team are essential in a lean Manufacturing organisation. Working safely and effectively within the relevant rules and regulations relating to your work area.

## Unit introduction

This unit introduces and guides learners to identify, evaluate and engage with colleagues and their employers. It encourages learners to make informed choices about the positive contribution they can make to the effectiveness and efficiency of a compliant lean manufacturing organisation.

## Assessment

To achieve this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit through a variety of assessment methods appropriate to the delivery environment.

<b>Unit Reference Number</b>		F/617/8245
<b>Qualification Framework</b>		RQF
<b>Title</b>		Working relationships including individual rights and responsibilities in a manufacturing environment
<b>Unit Level</b>		Level 2
<b>Guided Learning Hours</b>		30 GLH
<b>Total Qualification Time</b>		40 TQT
<b>Unit Credit Value</b>		4 Credits
<b>Unit Grading Structure Pass</b>		Pass / Fail

	<b>Learning Outcome</b>		<b>Assessment Criteria - The learner can</b>	<b>Criteria expansion</b>
1	Understand how attitudes affect behaviours	1.1	Describe positive and negative behaviour in a working environment	
		1.2	Explain the factors that can affect attitudes in a working environment	
		1.3	Describe the potential consequences of positive and negative behaviours in the workplace	
2	Know the importance of creating and maintaining good working relationships	2.1	Explain why creating and maintaining good working relationships in a Manufacturing Environment, is important	
		1.2	Outline common problems encountered in working relationships and how you might deal with them	

3	Understand the importance of effective team working	3.1	Outline why team working is important in a manufacturing environment	
		3.2	State the key aspects of a successful team	
4	Know the main statutory laws and rules that have an effect on employment	4.1	Outline what is briefly covered in relevant legislation applicable to employment	This should include but not limited to the latest versions of: Equality Act 2010, Employment rights act 1996, Working time directive, Employment relations act 2004 and other related conventions and directives.
		4.2	Describe some of the regular items you would expect to find in the staff handbook	
5	Understand how employment fits into a career structure	5.1	Describe what the career opportunities may be available in the manufacturing environment	
		5.2	Explain how career opportunities can be followed	
		5.3	Explain how career development might be supported by employers	
6	Know the role of representative bodies in the manufacturing environment	6.1	Outline any representative bodies that might be present in your workplace	
		6.2	Describe a range of activities that a relevant representative body may undertake in a manufacturing environment	State at least 3 activities



Level 2 Unit – Workplace Organisation Methods

## Unit aim

This unit aims to develop effective workplace organisation regardless of role in a lean manufacturing environment. The contribution being organised, clean and tidy makes to the efficiency of a business is contained within this unit.

## Unit introduction

This unit introduces learners to the deployment and impact of using the '5S' method of improving workplace organisation, understanding each of the five phases of this method. All employees contribute to this process and aim to improve safety, efficiency and effectiveness on a continually reviewed cycle.

## Assessment

To achieve this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit through a variety of assessment methods appropriate to the delivery environment.

<b>Unit Reference Number</b>		J/617/8246
<b>Qualification Framework</b>		RQF
<b>Title</b>		Workplace Organisation Methods
<b>Unit Level</b>		Level 2
<b>Guided Learning Hours</b>		30 GLH
<b>Total Qualification Time</b>		40 TQT
<b>Unit Credit Value</b>		4 Credits
<b>Unit Grading Structure Pass</b>		Pass / Fail

	<b>Learning Outcome</b>		<b>Assessment Criteria - The learner can</b>	<b>Criteria expansion</b>
1	Understand the importance of having an organised working environment	1.1	Outline why it is beneficial to have an organised working environment	
		1.2	State why an organised workplace in a lean business environment is important	
2	Understand the five steps of workplace organisation '5s'	2.1	Describe the overall objective of the '5s' process	
		2.2	Explain the correct order of the 5 steps	
		2.3	Explain what the 'Sort' phase typically contains and its effect	
		2.4	Explain what the 'Set' phase typically contains and its effect	
		2.5	Explain what the 'Shine' phase typically contains and its effect	
		2.6	Explain what the 'Standardise' phase typically contains and its effect	
		2.7	Explain what the 'Sustain' phase typically contains and its effect	
3	Be able to select a suitable area to carry out a workplace organisation audit	3.1	Explain how you might identify a suitable workspace to carry out an organisation activity	
		3.2	Describe the documentation required to complete the first three of the '5s' process effectively	Consider each stage and the documentation required for each

		3.2	Describe how a workplace organisation audit would be carried out	
4	Demonstrate the effective deployment of '5s' workplace organisation	4.1	Carry out the 'sort' phase on the process in a work area	
		4.2	Carry out the 'set' phase of the process in a work area	
		4.3	Carry out the 'shine' phase of the process in a work area	
		4.4	Produce documentation to support the 'standardise' phase of the process in a work area	
		4.5	Produce resources to support the 'sustain' phase of the process in a work area	



Level 2 Unit – Work Related Problem Solving Techniques



## Unit aim

This unit aims to develop the culture of continuous improvement through a focus on solving work related problems quickly and effectively.

## Unit introduction

This unit introduces learners to how problems are identified and how they must be resolved quickly and efficiently. The unit uses the A3 method of problem solving and sets out a structured framework for the application and completion of problem solving. You will gain an understanding of each stage of this process and complete an A3 in the workplace.

## Assessment

To achieve this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit through a variety of assessment methods appropriate to the delivery environment.

<b>Unit Reference Number</b>		L/617/8247
<b>Qualification Framework</b>		RQF
<b>Title</b>		Work-related problem-solving techniques
<b>Unit Level</b>		Level 2
<b>Guided Learning Hours</b>		40 GLH
<b>Total Qualification Time</b>		40 TQT
<b>Unit Credit Value</b>		4 Credits
<b>Unit Grading Structure Pass</b>		Pass / Fail

	<b>Learning Outcome</b>		<b>Assessment Criteria - The learner can</b>	<b>Criteria expansion</b>
1	Know the different types of work related problems that may occur	1.1	List the benefits of taking a structured approach to problem solving	
		1.2	State what types of work related problems might occur	
		1.3	Describe the principle of Kaizen	
		1.4	Explain why good data collection and analysis is important when identifying work related problems	
2	Explain the importance of eliminating the 7 wastes of lean manufacturing	2.1	Describe each of the 7 wastes in lean manufacturing	
		2.2	Explain how each of the 7 wastes can be quantified	
		2.3	Describe ways in which each of the 7 wastes can be minimised	
		2.4	Explain the impact of reducing the 7 wastes in a manufacturing environment	
3	Understand how to use the A3 method of problem solving	3.1	Explain the overall objective of the A3 method of problem solving	
		3.2	List the stages of A3 problem solving in the correct order	
		3.3	Explain how each of the stages of A3 is delivered	

		3.4	Describe a root cause analysis technique that is used in this process	
4	Demonstrate using the A3 method to define a problem	4.1	Identify and describe a problem in a lean environment	
		4.2	Describe how the selected problem will be measured, recorded and displayed	
		4.3	Explain how success will be measured against for the selected problem	
5	Demonstrate solving a problem using the A3 method	5.1	Identify the root cause of a problem using a suitable method	
		5.2	Identify suitable counter measures to eliminate the problem	
		5.3	Deploy and measure counter measures whilst eliminating the problem	
		5.4	Communicate the problem solving process using and A3 report	



Level 2 Unit – Preparing for Manufacturing Operations

## Unit aim

This unit aims to develop the skills and knowledge to effectively prepare for manufacturing operations using and understanding the correct documentation and process.

## Unit introduction

This unit will help learners to effectively carry out preparation for manufacturing you must be able to understand and interpret the documentation designed to ensure that you set up, work safely and effectively use tools, equipment and materials needed to complete operations.

## Assessment

To achieve this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit through a variety of assessment methods appropriate to the delivery environment.

<b>Unit Reference Number</b>		R/617/8248
<b>Qualification Framework</b>		RQF
<b>Title</b>		Preparing for manufacturing operations
<b>Unit Level</b>		Level 2
<b>Guided Learning Hours</b>		20 GLH
<b>Total Qualification Time</b>		20 TQT
<b>Unit Credit Value</b>		2 Credits
<b>Unit Grading Structure Pass</b>		Pass / Fail

	<b>Learning Outcome</b>	<b>Assessment Criteria - The learner can</b>	<b>Criteria expansion</b>
1	Know the relevant information required to prepare for manufacturing operations	1.1 Explain how you would obtain appropriate job instructions and preparation procedures for equipment	
		1.2 Outline any material preparations that may be required and how they will be carried out	
		1.3 List what preparation checks should be taken on the tools and the equipment they will use	Identify where this information is given / stored
		1.4 Explain what you should do if the work area, equipment and materials are unsuitable for any of the planned operations	
		1.5 Explain why it is important to complete the appropriate documentation accurately and state what this documentation might be	
2	Be able to prepare the work area before starting the manufacturing operations	2.1 Describe how you would use relevant information for preparing for manufacturing operations	
		2.2 Identify and follow the correct instructions and relevant preparation procedure specifications for the job	

		2.3	Undertake preparations of the work area in accordance to the procedures and specifications taking account of any specific safety requirements	
		2.4	Prepare the work area appropriately	
3	Be able to prepare the equipment/tooling for the manufacturing operations	3.1	Prepare equipment/tooling in line with procedures	
		3.2	Check that all equipment to be prepared for manufacturing operations is in a safe and usable condition	
		3.3	State what to do if any tools or equipment are unsafe or unusable	
4	Be able to prepare the materials for the manufacturing operations	4.1	Undertake preparation of material according to procedure	
		4.2	Prepare the materials for manufacturing operations	
		4.3	Ensure that appropriate materials are available and meet the specification for type, quantity and quality	
5	Be able to deal with problems while preparing for manufacturing operations	5.1	Explain how you would appropriately respond to problems that may have been identified during the preparation activity	



Level 2 Unit – Controlling Manufacturing Operations



## Unit aim

The aim of this unit is to develop the skills and knowledge required to control manufacturing operations to ensure quality and performance levels are maintained.

## Unit introduction

This unit introduces learners to the aspects of processes required when controlling manufacturing operations.

## Assessment

To achieve this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit through a variety of assessment methods appropriate to the delivery environment.

<b>Unit Reference Number</b>		Y/617/8249
<b>Qualification Framework</b>		RQF
<b>Title</b>		Controlling manufacturing operations
<b>Unit Level</b>		Level 2
<b>Guided Learning Hours</b>		20 GLH
<b>Total Qualification Time</b>		20 TQT
<b>Unit Credit Value</b>		2 Credits
<b>Unit Grading Structure Pass</b>		Pass / Fail

	<b>Learning Outcome</b>		<b>Assessment Criteria - The learner can</b>	<b>Criteria expansion</b>
1	Know the relevant information required for controlling manufacturing operations	1.1	Explain how you would access the necessary job instructions and check the equipment is operating within parameters	
		1.2	Explain the process for adjusting the equipment and quality control specifications if the equipment is operating outside of the parameters	
		1.3	State what type of production data will provide information about multiple aspects of the manufacturing operation	
		1.4	Outline what potential problems can result from poor data collection	List minimum of 3
		1.5	Identify the potential problems that can result from poor data collection	
2	Be able to control the manufacturing operations	2.1	Identify and use relevant information for controlling manufacturing operations	
		2.2	Locate and follow the correct and appropriate job instructions together with the relevant production and quality specifications	
		2.3	Collect data in relation to the manufacturing process being controlled	

		2.4	Record collected operational data in line with the production requirements	
3	Collect and record operational data in line with production requirements	3.1	From the data collected, respond to any problems identified	
		3.2	Take appropriate action to problems in the manufacturing process	
		3.3	Undertake appropriate allowable adjustments to the operating parameters to ensure production output meets the specification requirements	



Level 2 Unit – Concluding Manufacturing Operations

### Unit aim

This unit introduces and guides learners to develop an understanding and knowledge of how to conclude manufacturing operations as part of the overall manufacturing process.

### Unit introduction

This unit will help learners to develop an understanding of the processes that underpin the concluding manufacturing operations that in turn contribute to the workplace activity of manufacturing operations.

### Assessment

To achieve this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit through a variety of assessment methods appropriate to the delivery environment.

<b>Unit Reference Number</b>		L/617/8250
<b>Qualification Framework</b>		RQF
<b>Title</b>		Concluding manufacturing operations
<b>Unit Level</b>		Level 2
<b>Guided Learning Hours</b>		20 GLH
<b>Total Qualification Time</b>		20 TQT
<b>Unit Credit Value</b>		2 Credits
<b>Unit Grading Structure Pass</b>		Pass / Fail

	<b>Learning Outcome</b>		<b>Assessment Criteria - The learner can</b>	<b>Criteria expansion</b>
1	Know the relevant information required for concluding and handing over manufacturing operations	1.1	Outline how you might obtain the necessary job instructions, equipment shutdown procedures and handover procedures and indicate how you might interpret them	
		1.2	Identify the specific safety procedures that you need to take into account when stopping manufacturing operations	
		1.3	State the specific tooling or equipment closedown procedures	
		1.4	Describe what the process would be for the safe handover of the manufacturing operation	
		1.5	Outline any potential problems that might occur in the completion and handover activities. Indicate how they can they be avoided	
2	Be able to conclude and handover the manufacturing operations	2.1	Explain how you would use relevant information for concluding and handing over manufacturing operations	
		2.2	Locate and undertake correct instructions and relevant completion/shutdown procedure instruction	

		2.3	State how to complete/shutdown procedures in-line with the specified job instructions as well as safety procedures to stop operations	
		2.4	Explain how to close down equipment used in the manufacturing operation	
3	Be able to deal with problems during conclusion and handover of the manufacturing operations	3.1	Respond to any problems as appropriate during the completion/shutdown activity	
		3.2	Undertake the necessary reporting on the status of the completion/shutdown manufacturing operations	



Level 2 Unit – Transferring Materials for Manufacturing  
Operations



## Unit aim

This unit introduces and provides opportunity for learners to understand the activities and processes involved in transferring material for manufacturing operations.

## Unit introduction

This unit will help learners to develop an understanding of the process and delivery of the activity required for transferring materials for manufacturing operations as part of the overall manufacturing operations process.

## Assessment

To achieve this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit through a variety of assessment methods appropriate to the delivery environment.

<b>Unit Reference Number</b>		R/617/8251
<b>Qualification Framework</b>		RQF
<b>Title</b>		Transferring materials for manufacturing operations
<b>Unit Level</b>		Level 2
<b>Guided Learning Hours</b>		60 GLH
<b>Total Qualification Time</b>		60 TQT
<b>Unit Credit Value</b>		6 Credits
<b>Unit Grading Structure Pass</b>		Pass / Fail

	<b>Learning Outcome</b>		<b>Assessment Criteria - The learner can</b>	<b>Criteria expansion</b>
1	Know the relevant information required for transferring materials for manufacturing operations	1.1	Outline how you might obtain any necessary job instructions, including the relevant lifting and moving equipment operating procedures	
		1.2	Describe the procedures and documentation required to enable the transfer and movement of materials to take place	
		1.3	Outline the tools and equipment that would be required for material movement operations to be undertaken	Include how you would check they are safe and in a usable condition
		1.4	Describe the lifting and handling procedures	Include the load bearing capacities of any equipment being used
		1.5	Explain how potential problems can be identified and what can be done to avoid them	
2	Be able to transfer materials for manufacturing operations	2.1	Explain how to use the information required for transferring or moving materials for manufacturing operations	
		2.2	Outline how you would follow the job instructions and relevant transfer and quality specifications	

		2.3	Carry out transfer or moving of materials according to procedure specification and taking into account any specific safety requirements	
3	Be able to deal with problems while transferring materials for manufacturing operations	3.1	Take action to address problems identified prior to/during the material transfer as appropriate	
		3.2	Undertake adjustment to solve problems related to the material transfer in line with your job responsibilities	



Level 2 Unit – Receiving and Checking Materials for  
Incoming Operations

## Unit aim

This unit introduces and develops an understanding for learners to undertake the relevant processes for receiving and checking materials for incoming operations.

## Unit introduction

This unit will help learners to develop an understanding of the processes involved in undertaking receiving and checking materials for incoming operations as part of the wider manufacturing operations processes and as required by employers.

## Assessment

To achieve this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit through a variety of assessment methods appropriate to the delivery environment.

<b>Unit Reference Number</b>		Y/617/8252
<b>Qualification Framework</b>		RQF
<b>Title</b>		Receiving and checking incoming materials for manufacturing operations
<b>Unit Level</b>		Level 2
<b>Guided Learning Hours</b>		60 GLH
<b>Total Qualification Time</b>		60 TQT
<b>Unit Credit Value</b>		6 Credits
<b>Unit Grading Structure Pass</b>		Pass / Fail

	<b>Learning Outcome</b>		<b>Assessment Criteria - The learner can</b>	<b>Criteria expansion</b>
1	Know the relevant information required for receiving and checking incoming materials for manufacturing operations	1.1	Explain how you would obtain any necessary job instructions, material specifications and preparation procedures	
		1.2	Outline the procedures and documentation required to allow the receiving and checking of incoming materials	
		1.3	State specific work area preparations that may be required in readiness for receiving and checking of materials	
		1.4	Identify any additional safety requirements that may be specific to incoming materials	Such as specific PPE, area controls etc
		1.5	Outline any problems that could occur when receiving and checking incoming materials for manufacturing operations and how these can be avoided	
2	Be able to receive and check incoming materials for manufacturing operations	2.1	Describe how you would use relevant information that may be required for the purpose of receiving and checking materials for manufacturing operations	

		2.2	Explain how you would obtain and then follow the correct job instructions and relevant material specifications	
		2.3	Perform work area preparations in accordance with procedures and specifications for the receipt of incoming materials, consider any specific safety requirements	
		2.4	Prepare and maintain the work area	
		2.5	Undertake in accordance with specified operating procedures, the receipt of incoming materials, confirming the meeting of specification for the type, quality and quantity	
3	Be able to deal with problems while receiving and checking incoming materials for manufacturing operations	3.1	Address any problems that may be identified prior to and during the receipt of incoming materials as appropriate	
		3.2	Undertake adjustment to solve problems related to the receipt of incoming materials and in accordance with job responsibilities	



Level 2 Unit – Producing Products using Assembly Operations



## Unit aim

This unit introduces and guides learners to understand and be able to undertake activity connected to Producing Products using Assembly Operations. It encourages learners to understand the activity as part of the greater Manufacturing Operations process.

## Unit introduction

This unit will help learners to develop an understanding of the process and delivery of producing products using assembly operations in the work environment and will understand how this contributes to the wider workplace and overall activity.

## Assessment

To achieve this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit through a variety of assessment methods appropriate to the delivery environment.

<b>Unit Reference Number</b>		D/617/8253
<b>Qualification Framework</b>		RQF
<b>Title</b>		Producing products by using assembly operations
<b>Unit Level</b>		Level 2
<b>Guided Learning Hours</b>		60 GLH
<b>Total Qualification Time</b>		60 TQT
<b>Unit Credit Value</b>		6 Credits
<b>Unit Grading Structure Pass</b>		Pass / Fail

	<b>Learning Outcome</b>		<b>Assessment Criteria - The learner can</b>	<b>Criteria expansion</b>
1	Know the relevant information required for producing products by using assembly operations	1.1	Outline how you might obtain the appropriate job Instructions and operating procedures as well assembly specifications to be used	
		1.2	State why, at all times, it is important to follow the appropriate specified assembly sequence and procedure	
		1.3	Describe how you would check the quality of the assembly in line with the appropriate quality standards	Include what tools and/or equipment might be used
		1.4	Explain the potential problems that could occur and how they might be avoided, within assembly operations	
2	Be able to produce products by using assembly operations	2.1	State how you would use relevant information for producing products by using assembly operations	
		2.2	Access and follow appropriate job instructions including relevant assembly procedure and quality specifications	
		2.3	State the necessary checks needed to ensure the components are present, in a usable condition and free from damage	

		2.4	Undertake assembly operations in accordance with procedure specifications taking into account any specific safety requirements	
		2.5	Monitor and control the assembly operation	
3	Be able to deal with problems while producing products by using assembly operations	3.1	Address any problems that might be identified during the monitoring of the assembly operations	
		3.2	Undertake appropriate checks of the assembled product making any permitted necessary adjustment to address any production faults or problems that may have occurred during assembly operations	



Level 2 Unit – Producing Products by Processing

## Unit aim

This unit introduces learners to the concepts of producing products by processing and how they contribute to the overall manufacturing process as part of their overall understanding of the manufacturing environment and the workplace.

## Unit introduction

This unit will help learners to develop an understanding of the process and delivery of learning involved in underpinning producing products by processing within the manufacturing environment.

## Assessment

To achieve this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit through a variety of assessment methods appropriate to the delivery environment.

<b>Unit Reference Number</b>		H/617/8254
<b>Qualification Framework</b>		RQF
<b>Title</b>		Producing products by processing
<b>Unit Level</b>		Level 2
<b>Guided Learning Hours</b>		60 GLH
<b>Total Qualification Time</b>		60 TQT
<b>Unit Credit Value</b>		6 Credits
<b>Unit Grading Structure Pass</b>		Pass / Fail

	<b>Learning Outcome</b>	<b>Assessment Criteria - The learner can</b>	<b>Criteria expansion</b>
1	Know the relevant information required for producing products by processing	1.1 Outline how you would obtain the appropriate job instructions, operating procedures and processing specifications that might be used	
		1.2 State what tools and equipment might be used for the processing operations undertaken and how to carry out the safety checks including usable condition	
		1.3 Outline the specific safe working practices, processing procedures and any environmental regulations that need to be observed	
		1.4 Explain the predetermined sequence of events and why it is important to follow them in the processing operation	Include the consequences of not following them
		1.5 Identify any potential problems that could occur when producing products by processing and explain how they might be avoided	
2	Be able to produce products by processing	2.1 Select and use information for producing products by processing	
		2.2 Locate and undertake the correct job instructions using the relevant processing procedures and quality specifications	

		2.3	Undertake processing operations in accordance with procedure specifications, taking into account the specific safety requirements	
		2.4	Monitor and control the processing operation	
3	Be able to deal with problems while producing products by processing	3.1	Identify and take the appropriate action in response to any problems that have been identified during the monitoring of the processing operation	
		3.2	Undertake checks of the processed product and as appropriate make permitted adjustment to solve any production faults or problems that may have occur during processing operations	



Level 2 Unit – Finishing Operations



## Unit aim

This unit introduces learners to the policies and practices involved in finishing operations as part of the overall manufacturing operations procedures.

## Unit introduction

This unit will help learners to develop an understanding of the process and practices involved in undertaking finishing operations as part of the overall manufacturing operations and in line with the policies, procedures and practice in the manufacturing industry and workplace.

## Assessment

To achieve this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit through a variety of assessment methods appropriate to the delivery environment.

<b>Unit Reference Number</b>		K/617/8255
<b>Qualification Framework</b>		RQF
<b>Title</b>		Finishing operations
<b>Unit Level</b>		Level 2
<b>Guided Learning Hours</b>		60 GLH
<b>Total Qualification Time</b>		60 TQT
<b>Unit Credit Value</b>		6 Credits
<b>Unit Grading Structure Pass</b>		Pass / Fail

	<b>Learning Outcome</b>		<b>Assessment Criteria - The learner can</b>	<b>Criteria expansion</b>
1	Know the relevant information required for finishing operations	1.1	Describe how you would obtain the necessary job instructions, operating procedures and relevant finishing specifications that should be used	
		1.2	Explain what tools and equipment should be used for undertaking finishing operations	Include how to check they are in a safe and usable condition
		1.3	Locate the specific safe working practices and finishing procedures	Include the environmental regulations that should be observed
		1.4	State all reasons why it is important to follow specified finishing sequence procedures at all times	
		1.5	List potential faults or problems which can occur and how they might be avoided, in relation to the finishing operation	
2	Identify potential faults, problems or variations can occur in the finishing operation and how they can be avoided	2.1	Identify relevant information for finishing products	
		2.2	Identify and follow the job instructions including any relevant finishing procedure and relevant quality specifications	
		2.3	Undertake according to procedure specifications, finishing operations, take into account the relevant safety requirements	

		2.4	Monitor and control the finishing operation appropriately	
3	Be able to deal with problems while carrying out finishing operations	3.1	Undertake actions to address the problems identified as part of the monitoring of the finishing the operation	
		3.2	Carry out checks of the finished product and where appropriate make permitted adjustment to solve production faults or problems that may occur during finishing operations	



Level 2 Unit – Transferring Materials for Manufacturing Operations

## Unit aim

This unit introduces learners to the procedures and practices that underpin transferring materials for manufacturing operations as part of the overall process.

## Unit introduction

This unit will help learners to develop an understanding of the processes and policies involved in the transferring of materials as part of the overall manufacturing operations process and in-line with workplace requirements.

## Assessment

To achieve this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit through a variety of assessment methods appropriate to the delivery environment.

<b>Unit Reference Number</b>		M/617/8256
<b>Qualification Framework</b>		RQF
<b>Title</b>		Transferring Materials for Manufacturing Operations
<b>Unit Level</b>		Level 2
<b>Guided Learning Hours</b>		60 GLH
<b>Total Qualification Time</b>		60 TQT
<b>Unit Credit Value</b>		6 Credits
<b>Unit Grading Structure Pass</b>		Pass / Fail

	<b>Learning Outcome</b>		<b>Assessment Criteria - The learner can</b>	<b>Criteria expansion</b>
1	Know the relevant information required for transferring materials for manufacturing operations	1.1	Describe how you would obtain the necessary job instructions including lifting and moving equipment operating procedures	
		1.2	Outline the procedures and documentation required to allow the transfer of materials that are to take place	
		1.3	Describe the tools and equipment are used for material movement operations to be undertaken include how to check they are in a safe and usable condition	
		1.4	Locate the relevant lifting and handling procedure include load bearing capacities of the equipment in use	
		1.5	Identify any potential problems that might occur during the transferring materials for manufacturing operations and how they might be avoided	

2	Be able to transfer materials for manufacturing operations	2.1	Locate and then use the relevant information required for transferring materials for manufacturing operations	
		2.2	Locate and the appropriate job instructions and any relevant transfer and quality specifications	
		2.3	Carry out the transfer of materials in accordance with the correct procedure specifications	Include safety and using the correct equipment and techniques
3	Be able to deal with problems while transferring materials for manufacturing operations	3.1	Take appropriate action with regard to problems identified prior to/during the material transfer	
		3.2	Undertake adjustment to solve problems related to the material transfer in line with role responsibilities	



Level 2 Unit – Receiving and Checking Incoming Materials  
for Manufacturing Operations



## Unit aim

This unit introduces learners to the processes and practices required to undertake receiving and checking incoming materials in the manufacturing environment.

## Unit introduction

This unit will help learners to develop skills and understanding of the procedures and policies involved in receiving and checking goods in the manufacturing environment and how that contributes to the general procedures in the manufacturing environment and workplace.

## Assessment

To achieve this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit through a variety of assessment methods appropriate to the delivery environment.

<b>Unit Reference Number</b>		T/617/8257
<b>Qualification Framework</b>		RQF
<b>Title</b>		Receiving and Checking Incoming Materials for Manufacturing Operations
<b>Unit Level</b>		Level 2
<b>Guided Learning Hours</b>		60 GLH
<b>Total Qualification Time</b>		60 TQT
<b>Unit Credit Value</b>		6 Credits
<b>Unit Grading Structure Pass</b>		Pass / Fail

	<b>Learning Outcome</b>		<b>Assessment Criteria - The learner can</b>	<b>Criteria expansion</b>
1	Know the relevant information required for receiving and checking incoming materials for manufacturing operations	1.1	Explain how you might obtain the appropriate job instructions, material specifications and applicable preparation procedures	
		1.2	Describe what procedures and documentation might be required to allow the receiving and checking incoming materials	
		1.3	Outline specific work area preparations required in readiness for the receipt and checking of the materials	
		1.4	Identify additional safety requirements that may be specific to incoming materials	
		1.5	Describe the potential problems that might occur during the receiving and checking incoming materials for manufacturing operations, include how they might be avoided	
2	Be able to receive and check incoming for manufacturing operations	2.1	Locate and use relevant information that might be required in the receiving and checking materials for manufacturing operations	

		2.2	Locate and follow the job instructions and relevant material specifications	
		2.3	Undertake the relevant work area preparations for the receipt of the incoming materials in accordance with procedure specification	Include safety
		2.4	Prepare and maintain the work area	
		2.5	Undertake the receipt of the incoming materials in accordance with specified operating procedures, confirming the materials meet specifications for type, quality and quantity	
3	Be able to deal with problems while receiving and checking incoming materials for manufacturing operations	3.1	Take the appropriate action with regard to problems identified prior to or during the receipt of incoming materials	
		3.2	Make adjustment to solve any problems related to the receipt of incoming materials and in line with role responsibilities	



Level 2 Unit – Analysing Results of Inspection and Confirming  
the Quality of Production

## Unit aim

This unit introduces learners to the procedures and policies with regards to analysing results of inspection and confirming the quality of production in the manufacturing environment.

## Unit introduction

This unit will help learners to develop skills and understanding of the policies and procedures involved in analysing results of inspection and confirming the quality of production in the manufacturing environment as part of the general manufacturing operations procedures to underpin the manufacturing environment and workplace.

## Assessment

To achieve this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit through a variety of assessment methods appropriate to the delivery environment.

<b>Unit Reference Number</b>		A/617/8258
<b>Qualification Framework</b>		RQF
<b>Title</b>		Analysing results of inspection and confirming the quality of production
<b>Unit Level</b>		Level 2
<b>Guided Learning Hours</b>		60 GLH
<b>Total Qualification Time</b>		60 TQT
<b>Unit Credit Value</b>		6 Credits
<b>Unit Grading Structure Pass</b>		Pass / Fail

	<b>Learning Outcome</b>		<b>Assessment Criteria - The learner can</b>	<b>Criteria expansion</b>
1	Know the relevant information required for analysing the results of inspection and confirming quality of production	1.1	Describe how you might obtain the appropriate job instructions, analysis documentation and control specifications that should be used	
		1.2	Outline the correct methods of handling and storing the samples	
		1.3	Explain how to identify which samples, products and materials don't meet the quality requirements	
		1.4	State any specific safe working practices and include any environmental regulations that need to be observed	
		1.5	Identify any potential problems associated with any of the stages of the inspection and testing process, include how they might occur and also how they might be corrected	

2	Be able to analyse the results of inspection and confirm the quality of production	2.1	Locate and as appropriate and use any relevant information for analysing the results of inspection and confirming quality of production	
		2.2	Explain the data and results gained from Inspection and testing procedures	
		2.3	Describe differences between the products and materials that meet the prescribed quality requirements and those that don't	
		2.4	Undertake any appropriate action to address the results of the inspection and testing procedure	
3	Be able to deal with problems while analysing the results of inspection and confirming quality of production	3.1	Take action to address any problems that may occur while analysing the results of inspection, including confirming the quality of production	



Level 2 Unit – Carrying Out Inspection and Testing Activity



## Unit aim

This unit introduces learners to the procedures and policies required to underpin carrying out inspection and testing activities in the manufacturing environment.

## Unit introduction

This unit will help learners to develop the skills and understanding of the policies and procedures required to carry out inspection and testing activities as part of the wider procedures within manufacturing operations to underpin the manufacturing environment and the workplace.

## Assessment

To achieve this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit through a variety of assessment methods appropriate to the delivery.

<b>Unit Reference Number</b>		F/617/8259
<b>Qualification Framework</b>		RQF
<b>Title</b>		Carrying out inspection and testing activities
<b>Unit Level</b>		Level 2
<b>Guided Learning Hours</b>		60 GLH
<b>Total Qualification Time</b>		60 TQT
<b>Unit Credit Value</b>		6 Credits
<b>Unit Grading Structure Pass</b>		Pass / Fail

	<b>Learning Outcome</b>		<b>Assessment Criteria - The learner can</b>	<b>Criteria expansion</b>
1	Know the relevant information required for carrying out inspection and testing activities	1.1	Explain how you might obtain the job instructions, inspection and testing procedures, sampling equipment, and quality control specifications that should be used	
		1.2	Outline how you might carry out the sampling activities in line with the production and quality control procedures	
		1.3	Explain the importance of following at all times, the specified sampling sequence and inspection and testing procedure	
		1.4	Identify any specific safe working practices, sampling collection, testing procedures and environmental regulations that should be observed	
		1.5	Describe any potential problems that might be associated with any stages of the inspection and testing process, explain how they occur and what might be done to correct them	
2	Be able to carry out inspection and testing activities	2.1	Locate and, as appropriate, use relevant information for carrying out inspection and testing activities	
		2.2	Obtain and then follow the job instructions and any relevant inspection and testing procedure quality control specifications	

		2.3	Collect samples for inspection and testing in line with the appropriate procedures	
		2.4	Undertake the inspection and testing activities using applicable methods and equipment	
3	Be able to deal with problems while carrying out inspection and testing activities	3.1	Address the problems identified during the inspection and testing activities	



## Level 2 Unit – Recording and Reporting Inspection and Test Results

## Unit aim

This unit introduces learners to the procedures and practices required in recording and reporting inspection and test results in the manufacturing environment.

## Unit introduction

This unit will help learners to develop an understanding and the skills required to apply the policies and procedures relevant to recording and reporting inspection and test results as part of the wider manufacturing operation practices and to underpin the manufacturing environment and workplace.

## Assessment

To achieve this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit through a variety of assessment methods appropriate to the delivery environment.

<b>Unit Reference Number</b>		T/617/8260
<b>Qualification Framework</b>		RQF
<b>Title</b>		Recording and reporting inspection and test results
<b>Unit Level</b>		Level 2
<b>Guided Learning Hours</b>		60 GLH
<b>Total Qualification Time</b>		60 TQT
<b>Unit Credit Value</b>		6 Credits
<b>Unit Grading Structure Pass</b>		Pass / Fail

	<b>Learning Outcome</b>		<b>Assessment Criteria - The learner can</b>	<b>Criteria expansion</b>
1	Know the relevant information required for recording and reporting inspection and test results	1.1	State how you might obtain the necessary quality control documentation that should be used	
		1.2	Explain why completing documentation accurately is so important	
		1.3	Outline the when, the timescales and importance of completing quality control documentation	
		1.4	Describe the information needed in relation to the manufacturing method and sample type	
		1.5	Identify any potential problems associated with the completing of records and passing on reports, explain how this might be avoided and what should be done if they problems do arise	
2	Be able to record and report inspection and test results	2.1	Locate and as appropriate, follow the correct quality control documentation used to record and report inspection and test results	
		2.2	Generate reports accurately and including the required details of the inspection and test activities and results	

3	Be able to deal with problems while recording and reporting inspection and test results	2.3	Identify the correct person/location and pass on the reports and test results as necessary	
		3.1	Address any problems that may have been identified during the recording and reporting of inspection and test results	