

Pearson Edexcel Level 1 NVQ Diploma in Performing Manufacturing Operations Specification

Competence-based qualification

For first registration November 2010

Issue 2

Edexcel, BTEC and LCCI qualifications

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This specification is Issue 2. Key changes are listed in the summary table on the next page. We will inform centres of any changes to this issue. The latest issue can be found on the Pearson website: qualifications.pearson.com

This qualification was previously known as:

Edexcel Level 1 NVQ Diploma in Performing Manufacturing Operations (QCF)

The QN remains the same.

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Summary of Pearson Edexcel Level 1 NVQ Diploma in Performing Manufacturing Operations specification Issue 2 changes

Summary of changes made between previous issue and this current issue	Page number
All references to QCF have been removed throughout the specification	
Definition of TQT added	Page 1
Definition of sizes of qualifications aligned to TQT	Page 2
TQT value added	Page 7
Guided learning definition updated	Page 13
QCF references removed from unit titles and unit levels in all units	Pages 17-109

Earlier issue(s) show(s) previous changes.

If you need further information on these changes or what they mean, contact us via our website at: qualifications.pearson.com/en/support/contact-us.html.

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Introducing Pearson Edexcel NVQ qualifications

What are NVQ qualifications?

National Vocational Qualifications (NVQs) are work-based qualifications that give learners the opportunity to develop and demonstrate their competence in the area of work or job role to which the qualification relates.

NVQs are based on the National Occupational Standards (NOS) for the appropriate sector. NOS define what employees, or potential employees, must be able to do and know, and how well they should undertake work tasks and work roles. At Level 2 and above, these qualifications are recognised as the competence component of Apprenticeship Frameworks. Qualifications at Level 1 can be used in Traineeships, which are stepping-stones to Apprenticeship qualifications. NVQs qualifications can also be delivered as stand-alone for those who wish to take a work-based qualification.

NVQs qualifications are outcomes-based with no fixed learning programme – allowing flexible delivery that meets the individual learner’s needs. They are suitable for those in employment or those who are studying at college and have a part-time job or access to a substantial work placement so that they are able to demonstrate the competencies that are required for work.

Most learners will work towards their qualification in the workplace or in settings that replicate the working environment as specified in the assessment requirements/strategy for the sector. Colleges, training centres and/or employers can offer these qualifications provided they have access to appropriate physical and human resources.

Sizes of NVQ/Competence-based qualifications

For all regulated qualifications, Pearson specify a total number of hours that it is estimated learners will require to complete and show achievement for the qualification – this is the Total Qualification Time (TQT). The TQT value indicates the size of a qualification.

Within the TQT, Pearson identifies the number of Guided Learning Hours (GLH) that we estimate a centre delivering the qualification might provide. Guided learning means activities, such as lessons, tutorials, online instruction, supervised study and giving feedback on performance, that directly involve tutors and assessors in teaching, supervising and invigilating learners. Guided learning includes the time required for learners to complete external assessment under examination or supervised conditions.

In addition to guided learning, other required learning directed by tutors or assessors will include private study, preparation for assessment and undertaking assessment when not under supervision, such as preparatory reading, revision and independent research.

As well as TQT and GLH, qualifications can also have a credit value – equal to one tenth of TQT, rounded to the nearest whole number. TQT and credit values are assigned after consultation with users of the qualifications.

NVQ/Competence-based qualifications are available in the following sizes:

- Award – a qualification with a TQT value of 120 or less (equivalent to a range of 1–12 credits)
- Certificate – a qualification with a TQT value in the range of 121–369 (equivalent to a range of 13–36 credits)
- Diploma – a qualification with a TQT value of 370 or more (equivalent to 37 credits and above).

Qualification title covered by this specification

This specification gives you the information you need to offer the Pearson Edexcel Level 1 NVQ Diploma in Performing Manufacturing Operations:

Qualification title	Qualification Number (QN)	Accreditation start date
Pearson Edexcel Level 1 NVQ Diploma in Performing Manufacturing Operations	501/1693/9	01/11/2010

Qualifications eligible and funded for post-16-year-olds can be found on the funding Hub. The Skills Funding Agency also publishes a funding catalogue that lists the qualifications available for 19+ funding.

You should use the Qualification Number (QN), when you wish to seek public funding for your learners. Each unit within a qualification will also have a unique reference number, which is listed in this specification.

The qualification title and unit reference numbers will appear on the learners' final certification document. Learners need to be made aware of this when they are recruited by the centre and registered with Pearson.

Key features of the Pearson Edexcel Level 1 NVQ Diploma in Performing Manufacturing Operations

This qualification:

- is nationally recognised
- is based on the Semta National Occupational Standards (NOS). The NOS, Assessment strategy and qualification structure are owned by Semta.

What is the purpose of this qualification?

This qualification is appropriate for employees in the engineering sector working across a broad range of areas. It is designed to assess occupational competence in the workplace where learners are required to demonstrate skills and knowledge to a level required in the engineering industry.

Who is this qualification for?

This qualification is for all learners aged 16 and above who are capable of reaching the required standards.

Pearson's policy is that the qualification should:

- be free from any barriers that restrict access and progression
- ensure equality of opportunity for all wishing to access the qualification.

What are the benefits of this qualification to the learner and employer?

This qualification allows learners to demonstrate competence against National Occupational Standards which are based on the needs of the engineering industry as defined by Semta, the Sector Skills Council. As such it contributes to the development of skilled labour in the sector.

What are the potential job roles for those working towards this qualification?

- Engineering operative.

What progression opportunities are available to learners who achieve this qualification?

This qualification allows learners to demonstrate competence in performing manufacturing operations at a level required by the engineering industry. Learners can progress across the level and size of the engineering competence and knowledge qualifications and into other occupational areas such as team leading and management.

What is the qualification structure for the Pearson Edexcel Level 1 NVQ Diploma in Performing Manufacturing Operations?

Individual units can be found in the *Units* section. The level and credit value are given on the first page of each unit.

The Total Qualification Time (TQT) for this qualification is 370.

The Guided Learning Hours (GLH) for this qualification are 183.

To achieve the Pearson Edexcel Level 1 NVQ Diploma in Performing Manufacturing Operations learners must complete all the units in Group A and a minimum of three units from Groups B1* and B2 for a minimum total of 37 credits.

*A minimum of two units must be taken from Group B1.

A – Mandatory units

Learners must complete all the units in Group A.

A/601/5013 - Complying with statutory regulations and organisational safety requirements

F/602/2240 - Developing and maintaining working relationships

B1 – Optional units

Learners must complete a minimum of two units in Group B1.

Candidates may NOT choose both unit A/602/2110 and unit F/602/2111 from this option set.

K/602/2104 - Moving materials within manufacturing operations

M/602/2105 - Getting ready for manufacturing operations

A/602/2110 - Completing manufacturing operations

Barred unit: F/602/2111 - Handing over manufacturing operations

F/602/2111 - Handing over manufacturing operations

Barred unit: A/602/2110 - Completing manufacturing operations

R/602/2114 - Receiving incoming materials

B2 – Optional units

Y/602/2115 - Carrying out shaping operations

D/602/2116 - Carrying out product assembly operations

K/602/2118 - Carrying out joining operations

M/602/2122 - Carrying out processing operations

A/602/2124 - Carrying out forming operations

L/602/2127 - Carrying out finishing operations

L/602/2130 - Carrying out moulding operations

D/602/2133 - Carrying out packaging operations

H/602/2134 - Servicing the line

How is the qualification graded and assessed?

The overall grade for the qualification is a 'pass'. The learner must achieve all the required units within the specified qualification structure.

To pass a unit the learner must:

- achieve **all** the specified learning outcomes
- satisfy **all** the assessment criteria by providing sufficient and valid evidence for each criterion
- show that the evidence is their own.

The qualification is designed to be assessed:

- in the workplace or
- in conditions resembling the workplace, as specified in the Assessment strategy for the sector, or
- as part of a training programme.

Assessment strategy

The Assessment strategy for this qualification has been included in *Annexe D*. It has been developed by Semta in partnership with employers, training providers, awarding organisations and the regulatory authorities. The Assessment strategy includes details on:

- criteria for defining realistic working environments
- roles and occupational competence of assessors, expert witnesses, internal verifiers and standards verifiers
- quality control of assessment
- evidence requirements.

Evidence of competence may come from:

- **current practice** where evidence is generated from a current job role
- a **programme of development** where evidence comes from assessment opportunities built into a learning/training programme whether at or away from the workplace
- the **Recognition of Prior Learning (RPL)** where a learner can demonstrate that they can meet the assessment criteria within a unit through knowledge, understanding or skills they already possess without undertaking a course of learning. They must submit sufficient, reliable and valid evidence for internal and standards verification purposes. RPL is acceptable for accrediting a unit, several units or a whole qualification
- a **combination** of these.

It is important that the evidence is:

Valid	relevant to the standards for which competence is claimed
Authentic	produced by the learner
Current	sufficiently recent to create confidence that the same skill, understanding or knowledge persist at the time of the claim
Reliable	indicates that the learner can consistently perform at this level
Sufficient	fully meets the requirements of the standards.

Types of evidence

To successfully achieve a unit the learner must gather evidence which shows that they have met the required standard in the assessment criteria. Evidence can take a variety of different forms including the following examples:

- direct observation of the learner's performance by their assessor
- outcomes from oral or written questioning
- products of the learner's work
- personal statements and/or reflective accounts
- outcomes from simulation, where permitted by the Assessment strategy
- professional discussion
- assignment, project/case studies
- authentic statements/witness testimony
- expert witness testimony
- reflective accounts
- evidence of Recognition of Prior Learning.

Learners can use one piece of evidence to prove their knowledge, skills and understanding across different assessment criteria and/or across different units. It is, therefore, not necessary for learners to have each assessment criterion assessed separately. Learners should be encouraged to reference the assessment criteria to which the evidence relates.

Evidence must be made available to the assessor, internal verifier and Pearson standards verifier. A range of recording documents is available on the Pearson website qualifications.pearson.com. Alternatively, centres may develop their own.

Additional requirements

The Joint Awarding Body and the SSC Working Practices Group have identified additional requirements that are needed to assess and quality assure qualifications placed on the that use NVQ within their title. These requirements are shown in *Annexe C: Additional Requirements for Qualifications that use the title NVQ*.

Centre recognition and approval

Centre recognition

Centres that have not previously offered Pearson qualifications need to apply for and be granted centre recognition as part of the process for approval to offer individual qualifications. New centres must complete both a centre recognition approval application and a qualification approval application.

Existing centres will be given 'automatic approval' for a new qualification if they are already approved for a qualification that is being replaced by the new qualification and the conditions for automatic approval are met. Centres already holding Pearson approval are able to gain qualification approval for a different level or different sector via Edexcel online.

Approvals agreement

All centres are required to enter into an approvals agreement which is a formal commitment by the head or principal of a centre to meet all the requirements of the specification and any linked codes or regulations. Edexcel will act to protect the integrity of the awarding of qualifications, if centres do not comply with the agreement. This could result in the suspension of certification or withdrawal of approval.

Quality assurance

Detailed information on Pearson's quality assurance processes is given in *Annexe A*.

What resources are required?

Each qualification is designed to support learners working in the Engineering sector. Physical resources need to support the delivery of the qualification and the assessment of the learning outcomes and must be of industry standard. Centres must meet any specific resource requirements outlined in *Annexe D: Assessment strategy*. Staff assessing the learner must meet the requirements within the overarching Assessment strategy for the sector.

Unit format

Each unit in this specification contains the following sections.

Unit title:					This is the formal title of the unit that will appear on the learners certificate
Unit reference number:					This is the unit owner's reference number for the specified unit.
Level:					All units and qualifications have a level assigned to them. The level assigned is informed by the level descriptors by Ofqual, the qualifications regulator.
Credit value:					All units have a credit value. The minimum credit value is one, and credits can only be awarded in whole numbers. Learners will be awarded credits when they achieve the unit.
Guided learning hours:					Guided Learning Hours (GLH) is the number of hours that a centre delivering the qualification needs to provide. Guided learning means activities that directly or immediately involve tutors and assessors in teaching, supervising, and invigilating learners, for example lectures, tutorials, online instruction and supervised study.
Unit summary:					This provides a summary of the purpose of the unit.
Assessment requirements/evidence requirements:					The assessment/evidence requirements are determined by the SSC. Learners must provide evidence for each of the requirements stated in this section.
Assessment methodology:					This provides a summary of the assessment methodology to be used for the unit.
Learning outcomes:	Assessment criteria:	Evidence type:	Portfolio reference:	Date:	
			The learner should use this box to indicate where the evidence can be obtained eg portfolio page number.	The learner should give the date when the evidence has been provided.	
Learning outcomes state exactly what a learner should know, understand or be able to do as a result of completing a unit.		The assessment criteria of a unit specify the standard a learner is expected to meet to demonstrate that a learning outcome, or a set of learning outcomes, has been achieved.		Learners must reference the type of evidence they have and where it is available for quality assurance purposes. The learner can enter the relevant key and a reference. Alternatively, the learner and/or centre can devise their own referencing system.	

Units

Unit 1: Complying with statutory regulations and organisational safety requirements

Unit reference number: A/601/5013

Level: 2

Credit value: 5

Guided learning hours: 35

Unit summary

This unit covers the skills and knowledge needed to prove the competences required to deal with statutory regulations and organisational safety requirements. It does not deal with specific safety regulations or detailed requirements, it does, however, cover the more general health and safety requirements that apply to working in an industrial environment.

The learner will be expected to comply with all relevant regulations that apply to their area of work, as well as their general responsibilities as defined in the Health and Safety at Work Act. The learner will need to be able to identify the relevant qualified first-aiders and know the location of the first-aid facilities. The learner will have a knowledge and understanding of the procedures to be adopted in the case of accidents involving injury and in situations where there are dangerous occurrences or hazardous malfunctions of equipment, processes or machinery. The learner will also need to be fully conversant with their organisation's procedures for fire alerts and the evacuation of premises.

The learner will also be required to identify the hazards and risks that are associated with their job. Typically, these will focus on their working environment, the tools and equipment that they use, the materials and substances that they use, any working practices that do not follow laid-down procedures, and manual lifting and carrying techniques.

Assessment requirements/evidence requirements

This unit must be assessed in a work environment and must be assessed in accordance with the 'Semta Assessment strategy'. Detailed information is given in Annexe D.

Assessment methodology

Learners can enter the types of evidence they are presenting for assessment and the submission date against each assessment criterion. Alternatively, centre documentation should be used to record this information.

Learning outcomes and assessment criteria

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
<p>1 Comply with statutory regulations and organisational safety requirements</p>	<p>1.1 comply with their duties and obligations as defined in the Health and Safety at Work Act</p> <p>1.2 demonstrate their understanding of their duties and obligations to health and safety by:</p> <ul style="list-style-type: none"> - applying in principle their duties and responsibilities as an individual under the Health and Safety at Work Act - identifying, within their organisation, appropriate sources of information and guidance on health and safety issues, such as: <ul style="list-style-type: none"> - eye protection and personal protective equipment (PPE) - COSHH regulations - risk assessments - identifying the warning signs and labels of the main groups of hazardous or dangerous substances - complying with the appropriate statutory regulations at all times <p>1.3 present themselves in the workplace suitably prepared for the activities to be undertaken</p> <p>1.4 follow organisational accident and emergency procedures</p>			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
	<p>1.5 comply with emergency requirements, to include:</p> <ul style="list-style-type: none"> - identifying the appropriate qualified first-aiders and the location of first-aid facilities - identifying the procedures to be followed in the event of injury to themselves or others - following organisational procedures in the event of fire and the evacuation of premises - identifying the procedures to be followed in the event of dangerous occurrences or hazardous malfunctions of equipment <p>1.6 recognise and control hazards in the workplace</p> <p>1.7 identify the hazards and risks that are associated with the following:</p> <ul style="list-style-type: none"> - their working environment - the equipment that they use - materials and substances (where appropriate) that they use - working practices that do not follow laid-down procedures <p>1.8 use correct manual lifting and carrying techniques</p> <p>1.9 demonstrate one of the following methods of manual lifting and carrying:</p> <ul style="list-style-type: none"> - lifting alone - with assistance of others - with mechanical assistance 			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
	1.10 apply safe working practices and procedures to include: <ul style="list-style-type: none"> - maintaining a tidy workplace, with exits and gangways free from obstruction - using equipment safely and only for the purpose intended - observing organisational safety rules, signs and hazard warnings - taking measures to protect others from any harm resulting from the work that they are carrying out 			
2 Know how to comply with statutory regulations and organisational safety requirements	2.1 describe the roles and responsibilities of themselves and others under the Health and Safety at Work Act, and other current legislation (such as The Management of Health and Safety at Work Regulations, Workplace Health and Safety and Welfare Regulations, Personal Protective Equipment at Work Regulations, Manual Handling Operations Regulations, Provision and Use of Work Equipment Regulations, Display Screen at Work Regulations, Reporting of Injuries, Diseases and Dangerous Occurrences Regulations) 2.2 describe the specific regulations and safe working practices and procedures that apply to their work activities			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
	<p>2.3 describe the warning signs for the seven main groups of hazardous substances defined by Classification, Packaging and Labelling of Dangerous Substances Regulations</p> <p>2.4 explain how to locate relevant health and safety information for their tasks, and the sources of expert assistance when help is needed</p> <p>2.5 explain what constitutes a hazard in the workplace (such as moving parts of machinery, electricity, slippery and uneven surfaces, poorly placed equipment, dust and fumes, handling and transporting, contaminants and irritants, material ejection, fire, working at height, environment, pressure/stored energy systems, volatile, flammable or toxic materials, unshielded processes, working in confined spaces)</p> <p>2.6 describe their responsibilities for identifying and dealing with hazards and reducing risks in the workplace</p> <p>2.7 describe the risks associated with their working environment (such as the tools, materials and equipment that they use, spillages of oil, chemicals and other substances, not reporting accidental breakages of tools or equipment and not following laid-down working practices and procedures)</p>			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
	<p>2.8 describe the processes and procedures that are used to identify and rate the level of risk (such as safety inspections, the use of hazard checklists, carrying out risk assessments, COSHH assessments)</p> <p>2.9 describe the first-aid facilities that exist within their work area and within the organisation in general; the procedures to be followed in the case of accidents involving injury</p> <p>2.10 explain what constitute dangerous occurrences and hazardous malfunctions, and why these must be reported even if no one is injured</p> <p>2.11 describe the procedures for sounding the emergency alarms, evacuation procedures and escape routes to be used, and the need to report their presence at the appropriate assembly point</p> <p>2.12 describe the organisational policy with regard to firefighting procedures; the common causes of fire and what they can do to help prevent them</p> <p>2.13 describe the protective clothing and equipment that is available for their areas of activity</p> <p>2.14 explain how to safely lift and carry loads, and the manual and mechanical aids available</p> <p>2.15 explain how to prepare and maintain safe working areas; the standards and procedures to ensure good housekeeping</p>			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
	2.16 describe the importance of safe storage of tools, equipment, materials and products 2.17 describe the extent of their own authority, and to whom they should report in the event of problems that they cannot resolve			

Learner name: _____

Date: _____

Learner signature: _____

Date: _____

Assessor signature: _____

Date: _____

Internal verifier signature: _____

Date: _____

(if sampled)

Learning outcomes and assessment criteria

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
1a Develop and maintain working relationships	1.1 Present themselves in the workplace on time and in a way that does not cause concern to others 1.2 Develop and maintain working relationships with two of the following: <ul style="list-style-type: none"> - immediate supervision/line management - colleagues in same work group - colleagues in other work groups - those for whom you have responsibility - personnel in other departments - external contacts 1.3 Ask for information, advice and/or help politely, without causing disruption to their own or other's work 1.4 Offer help and information to others promptly and willingly 1.5 Deal with disagreements and problems in working relationships in ways which minimise offence and maintain mutual respect			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
1b Develop and maintain working relationships (Continued)	1.6 Discuss problems which may affect working relationships with the appropriate person to include one of the following: <ul style="list-style-type: none"> - work colleagues - supervisor/immediate line manager - team leader - personnel or welfare officer 1.7 Make sure that any actions that they take are within the limits of their own responsibility and authority 1.8 Refer requests for information and/or assistance that are outside their authority/responsibility to the appropriate person 1.9 Communicate in a manner which promotes understanding, goodwill and trust 1.10 Maintain effective communication using one of the following methods: <ul style="list-style-type: none"> - in writing - electronically - orally 			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
2a Know how to develop and maintain working relationships	2.1 Describe the relevant statutory regulations that can affect working relationships (eg, Disability, Equal Opportunities, Discrimination, Harassment) 2.2 Explain why it is important to present themselves in the workplace on time and ready for work 2.3 Describe the methods in their organisation that can be used to gain information, advice and help 2.4 Describe the methods that can be used to establish and maintain good working relationships 2.5 Describe the things that might affect good working relationships 2.6 Describe the methods of handling and resolving difficulties in working relationships 2.7 Explain why it is important to resolve difficulties or misunderstandings quickly and not let them develop into more serious problems 2.8 Explain how to identify and use different methods and styles of communication			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
2b Know how to develop and maintain working relationships (Continued)	2.9 Explain why it is important to avoid disruption in the workplace, and describe methods of avoiding it 2.10 Explain why it is important to request help from others in a polite and timely manner and to offer assistance to others when help is needed 2.11 Explain why it is important to show respect for the views, rights and property of others 2.12 Describe whom to refer to with requests that are not within the limits of their responsibility 2.13 Describe whom to refer to if they have problems with working relationships that they cannot resolve 2.14 Describe their responsibilities with regard to the reporting lines and procedures in their working area 2.15 Describe the responsibilities of the people identified in knowledge statements 12 and 13 above			

Learner name: _____

Date: _____

Learner signature: _____

Date: _____

Assessor signature: _____

Date: _____

Internal verifier signature: _____

Date: _____

(if sampled)

Unit 3: Moving materials within manufacturing operations

Unit reference number: K/602/2104

Level: 1

Credit value: 11

Guided learning hours: 39

Unit summary

This unit covers the skills and knowledge needed to prove the competences required to move and transport materials, which could be expected to include raw materials, components or finished products, to their correct location within a manufacturing operations environment. This will include the use of manual lifting and handling techniques and the use of mechanical equipment such as sack barrows and hand-operated mechanical or hydraulic lifting and moving equipment.

Assessment requirements/evidence requirements

This unit must be assessed in a work environment and must be assessed in accordance with the 'Semta Assessment Strategy'. Detailed information is given in Annexe D.

Unit specific additional assessment requirements:

Learning outcomes where assessor observation and/or examination of naturally occurring workplace products is mandatory: 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 1.8, 1.9, 1.10, 1.12. 1.1 should be observed and recorded over a period of time.

Learning outcomes where the use of simulation within a realistic working environment is acceptable, if the learning outcome cannot be covered by workplace evidence through the learner's job role: 1.11, 1.13.

Assessment methodology

Learners can enter the types of evidence they are presenting for assessment and the submission date against each assessment criterion. Alternatively, centre documentation should be used to record this information.

Learning outcomes and assessment criteria

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
1a Move materials within manufacturing operations	1.1 Work safely at all times, complying with health and safety, environmental and other relevant regulations and guidelines 1.2 Follow the relevant lifting and moving procedures and safety requirements, to include all of the following: <ul style="list-style-type: none"> - health and safety regulations - safe working practices - job instructions - lifting and moving equipment operating instructions - company standards and procedures 1.3 Choose the right equipment and techniques to move the materials 1.4 Move materials using one or more of the following types of equipment: <ul style="list-style-type: none"> - hand-operated - power operated 1.5 Check that the materials to be moved are in a suitable condition			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
1b Move materials within manufacturing operations (continued)	1.6 Carry out all of the following checks when moving materials: <ul style="list-style-type: none"> - the materials are as specified on the documentation - the materials are stacked safely - the load is secure - there are no restrictions or obstacles preventing movement of the materials 1.7 Move the materials to their correct location in accordance with instructions 1.8 Move materials, to include one of the following: <ul style="list-style-type: none"> - production materials - consumable materials - finished products or components - waste or scrap 1.9 Carry out lifting and carrying techniques, to include two of the following: <ul style="list-style-type: none"> - lifting alone - lifting with assistance from others - lifting with mechanical assistance 1.10 Carry out safe and correct manual lifting techniques, to include two of the following <ul style="list-style-type: none"> - lifting from ground level - lifting from an angle - lifting from waist high - lifting from below ground level - lifting from overhead 			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
	<p>1.11 Report problems to the appropriate person, to include one of the following:</p> <ul style="list-style-type: none"> - supervisor - team leader - quality control <p>1.12 Return any equipment they have used to its correct location on completion of the activities and leave it in a safe and reusable condition</p> <p>1.13 Complete documentation when necessary</p>			
<p>2a Know how to move materials within manufacturing operations</p>	<p>2.1 Describe the relevant health and safety requirements of the work area in which they are carrying out the material moving operations</p> <p>2.2 Describe the specific safe working practices, lifting and moving procedures and regulations that must be observed</p> <p>2.3 Describe the hazards associated with carrying out the material moving operations</p> <p>2.4 Explain what personal protective equipment must be used during the material movement activities and where can it be obtained</p> <p>2.5 Explain how to make sure that they have the necessary job instructions, lifting and moving equipment operating procedures</p> <p>2.6 Describe what tools and equipment are used for the material movement operations undertaken and how to check that they are in a safe and usable condition</p>			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
	2.7 Explain how to apply manual lifting techniques when lifting alone and with the assistance of others 2.8 Describe the specific moving operations being performed			
2b Know how to move materials within manufacturing operations (Continued)	2.9 Explain why it is important to move the materials to their correct location 2.10 Describe the problems that may occur in the moving of materials 2.11 Explain how to identify problems and to whom to report those problems 2.12 Explain why is it important to return the equipment to its correct location on completion of the activities, store it correctly, and leave it in a safe and reusable condition 2.13 Describe the documentation that may have to be completed 2.14 Describe their responsibilities with regard to the reporting lines and procedures in their working area 2.15 Describe the appropriate people and their responsibilities within the learner's working area			

Learner name: _____

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Learner signature: _____

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Assessor signature: _____

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Internal verifier signature: _____

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(if sampled)

Unit 4: Getting ready for manufacturing operations

Unit reference number:	M/602/2105
Level:	1
Credit value:	8
Guided learning hours:	32

Unit summary

This unit covers the skills and knowledge needed to prove the competences required to get ready for the manufacturing operations. This will involve preparing for the manufacturing operations according to defined company procedures, while taking account of all health and safety requirements. The learner will be expected to prepare their work area in readiness for the manufacturing operations and this will include ensuring correct layout of tools and materials, maintaining accessibility for receipt and removal of materials and ensuring that the area is free from obstructions or potential hazards. The learner will need to check that all tools and equipment are in a safe condition and are operating correctly, and enough materials are available for the operation. Any incorrect documentation, equipment tools and/or materials should be promptly reported to the appropriate person.

Assessment requirements/evidence requirements

This unit must be assessed in a work environment and must be assessed in accordance with the 'Semta Assessment Strategy'. Detailed information is given in Annexe D.

Unit specific additional assessment requirements:

Learning outcomes where assessor observation and/or examination of naturally occurring workplace products is mandatory: 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 1.8, 1.10, 1.11. 1.1 and 1.10 should be observed and recorded over a period of time.

Learning outcomes where the use of simulation within a realistic working environment is acceptable, if the learning outcome cannot be covered by workplace evidence through the learner's job role: 1.9.

Assessment methodology

Learners can enter the types of evidence they are presenting for assessment and the submission date against each assessment criterion. Alternatively, centre documentation should be used to record this information.

Learning outcomes and assessment criteria

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
1a Get ready for manufacturing operations	1.1 Work safely at all times, complying with health and safety, environmental and other relevant regulations and guidelines 1.2 Ensure that they have the correct job instructions and any relevant preparation procedure specifications, and that they understand them 1.3 Follow relevant preparation procedures and safety requirements, to include all of the following: <ul style="list-style-type: none"> - health and safety regulations - safe working practices - company procedures - job instructions 1.4 Carry out work area preparations according to procedure specification 1.5 Prepare and maintain the work area, to include all of the following: <ul style="list-style-type: none"> - accessibility for receipt and removal of materials - freedom from obstructions and hazards - equipment and material correctly in place 1.6 Check that equipment is in a safe and usable condition			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
1b Get ready for manufacturing operations (Continued)	<p>1.7 Check equipment for manufacturing operations, to include one of the following:</p> <ul style="list-style-type: none"> • machinery • process plant • tools (hand-held and portable) • material handling arrangements • equipment specific to the operation <p>1.8 Make materials available for manufacturing operations, to include one of the following:</p> <ul style="list-style-type: none"> • production materials • consumable materials <p>1.9 Report problems to the appropriate person, to include one of the following:</p> <ul style="list-style-type: none"> • supervisor • team leader • quality control <p>1.10 Maintain a safe and organised work area at all times</p> <p>1.11 Confirm that preparations are correct and complete</p>			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
2a Know how to get ready for manufacturing operations	2.1 Describe the relevant health and safety requirements of the work area in which they are carrying out the preparation activities 2.2 Describe the specific safe working practices to be observed while carrying out the preparations 2.3 Describe the hazards associated with carrying out the preparation activities and how can they be minimised 2.4 Describe the personal protective equipment to be used during the preparation activities and where can it be obtained 2.5 Explain how to obtain the necessary job instructions and tool and equipment preparation procedures 2.6 Explain how the work area must be laid out 2.7 Describe the material preparations that may be required			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
2b Know how to get ready for manufacturing operations (Continued)	2.8 Describe the preparation checks to be made on the tools and/or equipment that they will use 2.9 Explain how to identify problems with the preparations, and to whom to report them 2.10 Explain why it is important to report problems immediately 2.11 Describe the arrangements for the receiving and removal of materials and products 2.12 Describe their responsibilities with regard to the reporting lines and procedures in their working area 2.13 Describe the appropriate people and their responsibilities within the learner's working area			

Learner name: _____

Date: _____

Learner signature: _____

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Assessor signature: _____

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Date: _____

(if sampled)

Learning outcomes and assessment criteria

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
1a Complete manufacturing operations	1.1 Work safely at all times, complying with health and safety, environmental and other relevant regulations and guidelines 1.2 Ensure that they have the correct job instructions and any relevant completion/shutdown procedure instructions 1.3 Follow relevant shutdown procedures and safety requirements, to include all of the following: <ul style="list-style-type: none"> • health and safety regulations • safe working practices • company procedures • job instructions • equipment shutdown instructions 1.4 Stop the operations in accordance with job instructions and specified completion/shutdown procedures 1.5 Make sure that any related equipment is shut down to a safe condition in accordance with specified completion/shutdown procedures 1.6 Ensure that equipment is clean for further use			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
1b Complete manufacturing operations (Continued)	<p>1.7 Deal appropriately with materials at completion of the manufacturing operations, to include the following:</p> <ul style="list-style-type: none"> - finished products/components - and one other type of material from the following: - production materials - surplus consumable materials - waste or scrap materials <p>1.8 Remove materials in a correct and safe manner</p> <p>1.9 Report any problems with the completion activities to the appropriate person, to include one of the following:</p> <ul style="list-style-type: none"> - supervisor - team leader - quality control <p>1.10 Maintain a safe and organised work area at all times</p> <p>1.11 Close down equipment used in the manufacturing operations, to include one of the following:</p> <ul style="list-style-type: none"> - machinery - process plant - tools (hand-held and portable) - material handling arrangements - equipment specific to the operation 			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
	1.12 Confirm that completion/shutdown of manufacturing operations is correct and complete			
2a Know how to complete manufacturing operations	2.1 Describe the relevant health and safety requirements of the work area in which they are carrying out the activities 2.2 Describe the specific safe working practices to be observed while carrying out the closing down activities 2.3 Describe the hazards associated with carrying out the closing down activities 2.4 Describe the personal protective equipment to be used during the closing down and cleaning activities and where can it be obtained 2.5 Explain how to obtain the necessary job instructions and equipment shutdown procedures 2.6 Explain when in the manufacturing operation it is safe to shut down the equipment 2.7 Explain how to shut down the equipment safely			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
2b Know how to complete manufacturing operations (Continued)	2.8 Describe the completion checks to be made 2.9 Describe the procedures for cleaning the equipment and removing materials 2.10 Explain how to identify problems during the completion activities, and to whom to report them 2.11 Explain why it is important to report problems immediately 2.12 Describe their responsibilities with regard to the reporting lines and procedures in their working area 2.13 Describe the appropriate people and their responsibilities within the learner's working area			

Learner name: _____

Date: _____

Learner signature: _____

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Assessor signature: _____

Date: _____

Internal verifier signature: _____

Date: _____

(if sampled)

Learning outcomes and assessment criteria

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
1a Hand over manufacturing operations	1.1 Work safely at all times, complying with health and safety, environmental and other relevant regulations and guidelines 1.2 Ensure that they have the correct job instructions and any relevant handover instructions 1.3 Follow relevant handover procedures and safety requirements, to include all of the following: <ul style="list-style-type: none"> - health and safety and environmental regulations - safe working practices - company procedures - job instructions - equipment handover instructions 1.4 Carry out pre-handover checks, and prepare the manufacturing operation for handover 1.5 Maintain the work area in readiness for handover of the manufacturing operations, to include all of the following: <ul style="list-style-type: none"> - cleanliness of equipment and tooling - accessibility for receipt and removal of materials - freedom from obstructions and hazards - equipment and material correctly in place 1.6 Make sure that they take account of any specific safety requirements involved in the handover			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
1b Hand over manufacturing operations (Continued)	1.7 Carry out the handover operation 1.8 Prepare and hand over equipment used in the manufacturing operations, to include one of the following: - machinery - process plant - tools (hand-held and portable) - material handling arrangements - equipment specific to the operation 1.9 Confirm the handover as correct and complete 1.10 Report any problems with the handover activities to the appropriate person, to include one of the following: - supervisor - team leader - quality control 1.11 Complete any documentation accurately			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
2a Know how to hand over manufacturing operations	2.1 Describe the relevant health and safety requirements of the work area in which they are carrying out the handover activities 2.2 Describe the specific safe working practices to be observed while carrying out the handover activities 2.3 Describe the hazards associated with carrying out the handover activities 2.4 Describe the personal protective equipment to be used during the preparation activities for handover and where can it be obtained 2.5 Describe the actions to be taken in case of emergencies when handing over machines or fully automated manufacturing processes/operations 2.6 Explain how to obtain the necessary job instructions and handover procedures 2.7 Describe when in the manufacturing operation it is safe to carry out the handover procedure 2.8 Describe what handover checks must be made			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
2b Know how to hand over manufacturing operations (Continued)	2.9 Describe the required layout of the work area 2.10 Describe the procedures for cleaning the equipment, and for storing and removing materials and waste 2.11 Explain how to carry out the handover operation safely and correctly 2.12 Explain how to identify problems with the handover operation, and to whom to report them 2.13 Explain why it is important to report problems quickly 2.14 Describe the documentation that may have to be completed on handover 2.15 Describe their responsibilities with regard to the reporting lines and procedures in their working area 2.16 Describe the other appropriate people and their responsibilities within the learner's working area			

Learner name: _____

Date: _____

Learner signature: _____

Date: _____

Assessor signature: _____

Date: _____

Internal verifier signature: _____

Date: _____

(if sampled)

Unit 7: Receiving incoming materials

Unit reference number: R/602/2114

Level: 1

Credit value: 8

Guided learning hours: 32

Unit summary

This unit covers the skills and knowledge needed to prove the competences required to receive incoming materials into the workplace. This involves preparing for and receiving the materials according to defined company procedures, and taking account of all health and safety requirements. The learner will be expected to prepare their work area in readiness for the receipt of the materials, and this will include ensuring accessibility for receipt and removal of the materials and ensuring that the area is free from obstructions or potential hazards. The learner will need to check that the materials conform to the relevant specification/s, and that sufficient materials are available for the manufacturing operations being performed. Any incorrect documentation or materials should be promptly reported to the appropriate person.

Assessment requirements/evidence requirements

This unit must be assessed in a work environment and must be assessed in accordance with the 'Semta Assessment Strategy'. Detailed information is given in Annexe D.

Unit specific additional assessment requirements:

Learning outcomes where assessor observation and/or examination of naturally occurring workplace products is mandatory: 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 1.8, 1.9, 1.11, 1.12. 1.1 and 1.11 should be observed and recorded over a period of time.

Learning outcomes where the use of simulation within a realistic working environment is acceptable, if the learning outcome cannot be covered by workplace evidence through the learner's job role: 1.10.

Assessment methodology

Learners can enter the types of evidence they are presenting for assessment and the submission date against each assessment criterion. Alternatively, centre documentation should be used to record this information.

Learning outcomes and assessment criteria

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
1a Receive incoming materials	<p>1.1 Work safely at all times, complying with health and safety, environmental and other relevant regulations and guidelines</p> <p>1.2 Ensure that they have the correct job instructions and any relevant material specifications</p> <p>1.3 Follow relevant procedures and safety requirements for the receipt of the materials, to include all of the following:</p> <ul style="list-style-type: none"> - health and safety and environmental regulations - safe working practices - company procedures - job instructions <p>1.4 Carry out work area preparations for the receipt of the incoming materials, according to specified procedures</p> <p>1.5 Prepare and maintain the work area, to include all of the following:</p> <ul style="list-style-type: none"> - accessibility for receipt and removal of materials - freedom from obstructions and hazards - correct material layout <p>1.6 Make sure that they take account of any additional safety requirements specific to incoming materials</p>			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
1b Receive incoming materials (Continued)	1.7 Carry out receipt of the incoming materials, according to specified operating procedures 1.8 Receive materials for manufacturing operations, to include one of the following: - production materials - consumable materials 1.9 Confirm that the materials meet the specification for type, quantity and quality 1.10 Report problems to the appropriate person, to include one of the following: - supervisor - team leader - quality control 1.11 Maintain a safe and organised work area at all times 1.12 Confirm that materials are correct and complete			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
2a Know how to receive incoming materials	2.1 Describe the relevant health and safety requirements of the work area in which they are carrying out the receipt of the materials 2.2 Describe the specific safe working practices to be observed while carrying out the receipt of materials 2.3 Describe the hazards associated with carrying out the receipt of the materials 2.4 Describe the personal protective equipment to be used and where can it be obtained 2.5 Explain how to obtain the necessary job instructions, material specifications and preparation procedures 2.6 Explain how the work area should be laid out in readiness for the receipt of the materials			
2b Know how to receive incoming materials (Continued)	2.7 Describe the arrangements for receiving the materials 2.8 Describe the checks needed to make sure that materials meet the required specification 2.9 Describe the problems that can occur, how to identify them and to whom to report them 2.10 Describe their responsibilities with regard to the reporting lines and procedures in their working area 2.11 Describe the appropriate people and their responsibilities within the learner's working area			

Learner name: _____

Date: _____

Learner signature: _____

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Assessor signature: _____

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Internal verifier signature: _____

Date: _____

(if sampled)

Unit 8: Carrying out shaping operations

Unit reference number: Y/602/2115

Level: 1

Credit value: 16

Guided learning hours: 49

Unit summary

This unit covers the skills and knowledge needed to prove the competences required to produce shaped products by material removal to modify the shape of a component, or generate a component from stock material. This will involve carrying out the shaping operation according to defined operating procedures. The learner will be expected to monitor the shaping operation, ensuring that the completed components are to the required specification. Meeting production targets will be an important issue and the learner's production records must show consistent and satisfactory performance.

Assessment requirements/evidence requirements

This unit must be assessed in a work environment and must be assessed in accordance with the 'Semta Assessment Strategy'. Detailed information is given in Annexe D.

Unit specific additional assessment requirements:

Learning outcomes where assessor observation and/or examination of naturally occurring workplace products is mandatory: 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 1.8, 1.10, 1.11. 1.1 should be observed and recorded over a period of time.

Learning outcomes where the use of simulation within a realistic working environment is acceptable, if the learning outcome cannot be covered by workplace evidence through the learner's job role: 1.9, 1.12.

Assessment methodology

Learners can enter the types of evidence they are presenting for assessment and the submission date against each assessment criterion. Alternatively, centre documentation should be used to record this information.

Learning outcomes and assessment criteria

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
1a Carry out shaping operations	<p>1.1 Work safely at all times, complying with health and safety, environmental and other relevant regulations and guidelines</p> <p>1.2 Ensure that they have the correct job instructions and any relevant shaping procedure and quality specifications</p> <p>1.3 Follow the relevant shaping procedures and safety requirements, to include all of the following:</p> <ul style="list-style-type: none"> - health and safety regulations - safe working practices - job instructions - shaping equipment/tool operating instructions - company standards and procedures <p>1.4 Use the correct shaping tools, equipment, materials and work-holding methods for the shaping operations being performed</p> <p>1.5 Carry out the shaping operation according to instructions and safe operating procedures</p> <p>1.6 Carry out shaping operations using one of the following methods:</p> <ul style="list-style-type: none"> - hand shaping operations - manually operated machine shaping - fully automated machine shaping - combined shaping operations 			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
1b Carry out shaping operations (Continued)	<p>1.7 Monitor the shaping operation and identify any problems that occur</p> <p>1.8 Carry out checks of the shaped products, to include the following:</p> <ul style="list-style-type: none"> - completeness of shaping operations and one other check from the following: <ul style="list-style-type: none"> - dimensional accuracy of components - quality of finish - freedom from damage or false tool cuts <p>1.9 Report problems to the appropriate person, to include one of the following:</p> <ul style="list-style-type: none"> - supervisor - team leader - quality control <p>1.10 Produce shaped products which comply with the shaping specification and quality requirements</p> <p>1.11 Work to achieve production targets for both of the following:</p> <ul style="list-style-type: none"> - output - quality <p>1.12 Deal appropriately with finished components and complete any necessary documentation accurately</p>			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
2a Know how to carry out shaping operations	2.1 Describe the relevant health and safety requirements of the work area in which they are carrying out the shaping operations 2.2 Describe the specific safe working practices, shaping procedures and environmental regulations that must be observed 2.3 Describe the hazards associated with carrying out the shaping operations and how can they be minimised 2.4 Describe the actions to be taken in case of emergencies 2.5 Describe the personal protective equipment to be used during the shaping activities and where can it be obtained 2.6 Explain how to make sure that they have the necessary job instructions, operating procedures and shaping specifications 2.7 Describe the tools and equipment used for the shaping operations undertaken, and how to check that they are in a safe and usable condition 2.8 Explain how to hold the materials securely without causing damage or distortion			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
2b Know how to carry out shaping operations (Continued)	2.9 Explain how to operate and control the shaping equipment to achieve the required specification 2.10 Describe the specific shaping operations to be performed 2.11 Explain why it is important to follow the specified shaping sequence and procedure at all times 2.12 Describe the problems that can occur in the shaping operation, how to identify them and to whom to report them 2.13 Explain why it is important to report problems immediately 2.14 Explain how to check the quality of the shaped components against the required quality standards 2.15 Describe the documentation that may have to be completed 2.16 Describe their responsibilities with regard to the reporting lines and procedures in their working area 2.17 Describe the appropriate people and their responsibilities within the learner's working area			

Learner name: _____

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Unit 9: Carrying out product assembly operations

Unit reference number: D/602/2116

Level: 1

Credit value: 16

Guided learning hours: 49

Unit summary

This unit covers the skills and knowledge needed to prove the competences required to carry out product assembly operations that bring together a number of components in a logical sequence to construct an assembly or sub-assembly. This will involve carrying out the assembly operation according to defined operating procedures. The learner will be expected to monitor the assembly operation, ensuring that the completed assemblies are to the required specification. Meeting production targets will be an important issue and the learner's production records must show consistent and satisfactory performance.

Assessment requirements/evidence requirements

This unit must be assessed in a work environment and must be assessed in accordance with the 'Semta Assessment Strategy'. Detailed information is given in Annexe D.

Unit specific additional assessment requirements:

Learning outcomes where assessor observation and/or examination of naturally occurring workplace products is mandatory: 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 1.8, 1.9, 1.11, 1.12. 1.1 and 1.2 should be observed and recorded over a period of time.

Learning outcomes where the use of simulation within a realistic working environment is acceptable, if the learning outcome cannot be covered by workplace evidence through the learner's job role: 1.10, 1.13.

Assessment methodology

Learners can enter the types of evidence they are presenting for assessment and the submission date against each assessment criterion. Alternatively, centre documentation should be used to record this information.

Learning outcomes and assessment criteria

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
1a Carry out product assembly operations	1.1 Work safely at all times, complying with health and safety, environmental and other relevant regulations and guidelines 1.2 Follow the relevant assembly procedures and safety requirements, according to all of the following: <ul style="list-style-type: none"> - health and safety regulations - safe working practices - assembly instructions - assembly equipment/tool operating instructions - company standards and procedures 1.3 Ensure that they have the correct job instructions and any relevant assembly procedure and quality specifications 1.4 Check that they have all the necessary components, and position and align the components correctly 1.5 Secure the components in position, using the specified fastening device/method 1.6 Carry out assembly operations, using one of the following methods: <ul style="list-style-type: none"> - hand assembly operations - machine assembly operations - fully automated assembly operations - combined assembly operations 			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
	1.7 Use appropriate tools and equipment during the assembly operations			
1b Carry out product assembly operations (Continued)	1.8 Monitor the assembly operation and identify any problems that occur 1.9 Carry out checks of the assembly, to include the following: <ul style="list-style-type: none"> - completeness of the assembly and one other check from the following: <ul style="list-style-type: none"> - positional accuracy of components - correct orientation of components - component alignment - component security - freedom from damage or foreign objects 1.10 Report problems to the appropriate person, to include one of the following: <ul style="list-style-type: none"> - supervisor - team leader - quality control 1.11 Produce assembled product/s which comply with the specification and quality requirements 1.12 Work to achieve production targets for both of the following: <ul style="list-style-type: none"> - output - quality 1.13 Deal appropriately with finished assemblies and complete any necessary documentation			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
2a Know how to carry out product assembly operations	2.1 Describe the relevant health and safety requirements of the work area in which they are carrying out the assembly operations 2.2 Describe the specific safe working practices, assembly procedures and environmental regulations that must be observed 2.3 Describe the hazards associated with carrying out the assembly operations 2.4 Describe the actions to be taken in case of emergencies 2.5 Describe the personal protective equipment to be used during the assembly activities and where can it be obtained 2.6 Explain how to make sure that they have the necessary job instructions, operating procedures and assembly specifications 2.7 Describe the tools and equipment used for the assembly operation and how to check that they are in a safe and usable condition 2.8 Describe the specific assembly operations to be performed			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
2b Know how to carry out product assembly operations (Continued)	2.9 Explain why it is important to follow the specified assembly sequence and procedure at all times 2.10 Describe the methods used to align and position the components prior to fixing them into position 2.11 Describe the methods used to fix the components securely in position 2.12 Describe the problems that can occur in the assembly operation, how to identify them and to whom to report them 2.13 Explain why it is important to report problems quickly 2.14 Explain how to check the quality of the assembled component/product against the required quality standards 2.15 Describe the documentation that may have to be completed 2.16 Describe their responsibilities with regard to the reporting lines and procedures in their working area 2.17 Describe the appropriate people and their responsibilities within the learner's working area			

Learner name: _____

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Learner signature: _____

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(if sampled)

Unit 10: Carrying out joining operations

Unit reference number: K/602/2118

Level: 1

Credit value: 15

Guided learning hours: 49

Unit summary

This unit covers the skills and knowledge needed to prove the competences required to carry out joining operations by bringing together two or more materials which leads to a permanent physical change in the properties of the materials. This may be by the use of one of the following 'joining' mediums', such as soldering, bonding, gluing, welding or brazing.

Assessment requirements/evidence requirements

This unit must be assessed in a work environment and must be assessed in accordance with the 'Semta Assessment Strategy'. Detailed information is given in Annexe D.

Unit specific additional assessment requirements:

Learning outcomes where assessor observation and/or examination of naturally occurring workplace products is mandatory: 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 1.9, 1.10, 1.11. 1.1 should be observed and recorded over a period of time.

Learning outcomes where the use of simulation within a realistic working environment is acceptable, if the learning outcome cannot be covered by workplace evidence through the learner's job role: 1.8, 1.12.

Assessment methodology

Learners can enter the types of evidence they are presenting for assessment and the submission date against each assessment criterion. Alternatively, centre documentation should be used to record this information.

Learning outcomes and assessment criteria

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
1a Carry out joining operations	<p>1.1 Work safely at all times, complying with health and safety, environmental and other relevant regulations and guidelines</p> <p>1.2 Ensure that they have the correct job instructions and any relevant joining procedure and quality specifications</p> <p>1.3 Follow the relevant joining procedures and safety requirements, to include all of the following:</p> <ul style="list-style-type: none"> - health and safety regulations - safe working practices - job instructions - joining equipment/tool operating instructions - company standards and procedures <p>1.4 Use the appropriate tools and techniques to correctly position and align the components to be joined</p> <p>1.5 Carry out the joining operations according to instructions and safe operating procedures</p> <p>1.6 Carry out joining operations, using one of the following methods:</p> <ul style="list-style-type: none"> - hand joining operations - manually operated machine joining operations - fully automated machine joining operations - combined joining operations 			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
1b Carry out joining operations (Continued)	1.7 Monitor the joining operation and identify any problems that occur 1.8 Report variations and/or problems to the appropriate person, to include one of the following: - supervisor - team leader - quality control 1.9 Produce joined products which comply with the specification and quality requirements 1.10 Carry out checks of the joined products, to include the following: - completeness of joining operations and one other check from the following: - positional accuracy of components - security of joint - joint quality and appearance - freedom from excessive joining medium 1.11 Work to achieve production targets for both of the following: - output - quality 1.12 Deal appropriately with finished products and complete any necessary documentation accurately			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
2a Know how to carry out joining operations	2.1 Describe the relevant health and safety requirements of the work area in which they are carrying out the joining operations 2.2 Describe the specific safe working practices, joining procedures and environmental regulations that must be observed 2.3 Describe the hazards associated with carrying out the joining operations 2.4 Describe the actions to be taken in case of emergencies 2.5 Describe the personal protective equipment to be used during the joining activities and where can it be obtained 2.6 Explain how to make sure that they have the necessary job instructions, joining procedures and quality specifications 2.7 Describe the specific joining operations to be performed 2.8 Describe the tools and equipment used for the joining operations being carried out, and how to check that they are in a safe and usable condition			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
2b Know how to carry out joining operations (Continued)	2.9 Explain how to correctly position and align the components to be joined 2.10 Explain how to carry out the joining process to achieve the required specification 2.11 Explain why it is important to follow the specified joining sequence and procedure at all times 2.12 Describe the problems that can occur with the joining operation, how to identify them and to whom to report them 2.13 Explain why it is important to report problems immediately 2.14 Explain how to monitor and check the quality of the joined products against the quality standards required 2.15 Describe the documentation that may need to be completed 2.16 Describe their responsibilities with regard to the reporting lines and procedures in their working area 2.17 Describe the appropriate people and their responsibilities within the learner's working area			

Learner name: _____

Date: _____

Learner signature: _____

Date: _____

Assessor signature: _____

Date: _____

Internal verifier signature: _____
(if sampled)

Date: _____

Unit 11: Carrying out processing operations

Unit reference number:	M/602/2122
Level:	1
Credit value:	15
Guided learning hours:	49

Unit summary

This unit covers the skills and knowledge needed to prove the competences required to carry out processing operations on materials or products which involve using a pre-defined sequence of events that either furthers the process and/or changes the physical appearance or properties of the material or product. Examples of this could be heat treatment, photo process operations, distillation, mixing of materials, etc.

Assessment requirements/evidence requirements

This unit must be assessed in a work environment and must be assessed in accordance with the 'Semta Assessment Strategy'. Detailed information is given in Annexe D.

Unit specific additional assessment requirements:

Learning outcomes where assessor observation and/or examination of naturally occurring workplace products is mandatory: 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 1.8, 1.10, 1.11. 1.1 and 1.4 should be observed and recorded over a period of time.

Learning outcomes where the use of simulation within a realistic working environment is acceptable, if the learning outcome cannot be covered by workplace evidence through the learner's job role: 1.9, 1.12.

Assessment methodology

Learners can enter the types of evidence they are presenting for assessment and the submission date against each assessment criterion. Alternatively, centre documentation should be used to record this information.

Learning outcomes and assessment criteria

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
1a Carry out processing operations	1.1 Work safely at all times, complying with health and safety, environmental and other relevant regulations and guidelines 1.2 Make sure that they have the correct job instructions and any relevant processing procedure and quality specifications 1.3 Follow the relevant processing procedures and safety requirements, to include all of the following: <ul style="list-style-type: none"> - health and safety regulations - safe working practices - job instructions - processing equipment/tool operating instructions - company standards and procedures 1.4 Follow the pre-defined sequence of operations at all times 1.5 Carry out the processing operation according to instructions and safe operating procedures 1.6 Carry out processing operations, using one of the following methods: <ul style="list-style-type: none"> - hand-operated processing operations - manually controlled machine processing operations - fully automated processing operations - combined processing operations 			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
1b Carry out processing operations (Continued)	<p>1.7 Monitor the processing operation and identify any problems that occur</p> <p>1.8 Carry out checks of the processed products, to include the following:</p> <ul style="list-style-type: none"> - completeness of processing operations and one other check from the following: <ul style="list-style-type: none"> - appearance of finished product (such as colour, mix, - consistency) - taking samples for analysis - freedom from contamination - correct quantity - correct volume <p>1.9 Report any problems to the appropriate person, to include one of the following:</p> <ul style="list-style-type: none"> - supervisor - team leader - quality control <p>1.10 Produce processed products which comply with the process specification and quality requirements</p> <p>1.11 Work to achieve production targets for both of the following:</p> <ul style="list-style-type: none"> - output - quality <p>1.12 Deal appropriately with finished products and complete any necessary documentation</p>			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
2a Know how to carry out processing operations	2.1 Describe the relevant health and safety requirements of the work area in which they are carrying out the processing operations 2.2 Describe the specific safe working practices, processing procedures and environmental regulations that must be observed 2.3 Describe the hazards associated with carrying out the processing operations 2.4 Describe the actions to be taken in case of emergencies 2.5 Describe the personal protective equipment to be used during the processing activities and where can it be obtained 2.6 Explain how to make sure that they have the necessary job instructions, equipment operating procedures and processing specifications that are used 2.7 Describe the tools and equipment used for the processing operations undertaken and how to check that they are in a safe and usable condition 2.8 Describe the specific processing operations to be performed			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
2b Know how to carry out processing operations (Continued)	2.9 Explain why they must follow the pre-determined sequence of operations at all times 2.10 Describe the consequences of not following the correct sequence of operations 2.11 Explain how to operate the processing equipment to achieve the required specification 2.12 Describe the problems that can occur in the processing operation, how to identify them and to whom to report them 2.13 Explain why it is important to report problems immediately 2.14 Explain how to check the quality of the processing operations against the required quality standards 2.15 Describe the documentation that may have to be completed 2.16 Describe their responsibilities with regard to the reporting lines and procedures in their working area 2.17 Describe the appropriate people and their responsibilities within the learner's working area			

Learner name: _____

Date: _____

Learner signature: _____

Date: _____

Assessor signature: _____

Date: _____

Internal verifier signature: _____

Date: _____

(if sampled)

Unit 12: Carrying out forming operations

Unit reference number: A/602/2124

Level: 1

Credit value: 16

Guided learning hours: 49

Unit summary

This unit covers the skills and knowledge needed to prove the competences required to carry out forming operations by applying physical pressure to change the shape of the material or component. This could be by pressing, bending, vacuum forming, stretching, extrusion, shrinking, etc. This will involve carrying out the forming operation according to defined operating procedures. The learner will be expected to monitor the forming operation, ensuring that the formed components are to the required specification. Meeting production targets will be an important issue and the learner's production records must show consistent and satisfactory performance.

Assessment requirements/evidence requirements

This unit must be assessed in a work environment and must be assessed in accordance with the 'Semta Assessment Strategy'. Detailed information is given in Annexe D.

Unit specific additional assessment requirements:

Learning outcomes where assessor observation and/or examination of naturally occurring workplace products is mandatory: 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 1.8, 1.10, 1.11. 1.1 should be observed and recorded over a period of time.

Learning outcomes where the use of simulation within a realistic working environment is acceptable, if the learning outcome cannot be covered by workplace evidence through the learner's job role: 1.9, 1.12.

Assessment methodology

Learners can enter the types of evidence they are presenting for assessment and the submission date against each assessment criterion. Alternatively, centre documentation should be used to record this information.

Learning outcomes and assessment criteria

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
1a Carry out forming operations	<p>1.1 Work safely at all times, complying with health and safety, environmental and other relevant regulations and guidelines</p> <p>1.2 Ensure that they have the correct job instructions and any relevant forming procedure and quality specifications</p> <p>1.3 Follow the relevant forming procedures and safety requirements, to include all of the following:</p> <ul style="list-style-type: none"> - health and safety regulations - safe working practices - job instructions - forming equipment/tool operating instructions - company standards and procedures <p>1.4 Use the correct forming tools and equipment for the operations being carried out</p> <p>1.5 Carry out the forming operations according to instructions and safe operating procedures</p> <p>1.6 Carry out forming operations, using one of the following methods:</p> <ul style="list-style-type: none"> - hand forming operations - manually operated machine forming operations - fully automated machine forming operations - combined forming operations 			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
1b Carry out forming operations (Continued)	1.7 Monitor the forming operation and identify any problems that occur 1.8 Carry out checks of the formed products, to include the following: - completeness of forming operations and one other check from the following: - shape/profile of the formed components - surface quality and appearance - freedom from deformity or ripples - freedom from damage or tool marks 1.9 Report problems to the appropriate person, to include one of the following: - supervisor - team leader - quality control 1.10 Produce formed products which comply with the specification and quality requirements 1.11 Work to achieve production targets for both of the following: - output - quality 1.12 Deal appropriately with finished products and complete any necessary documentation			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
2a Know how to carry out forming operations	2.1 Describe the relevant health and safety requirements of the work area in which they are carrying out the forming operations 2.2 Describe the specific safe working practices, forming procedures and environmental regulations that must be observed 2.3 Describe the hazards associated with carrying out the forming operations 2.4 Describe the actions to be taken in case of emergencies 2.5 Describe the personal protective equipment to be used during the forming activities and where can it be obtained 2.6 Explain how to make sure that they have the necessary job instructions, forming procedures and quality specifications 2.7 Describe the specific forming operations to be performed 2.8 Describe the tools and equipment used for the forming operations being carried out and how to check that they are in a safe and usable condition			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
2b Know how to carry out forming operations (Continued)	2.9 Explain how to hold and secure the materials or components during the forming operation 2.10 Explain how to carry out the forming process to achieve the required specification 2.11 Explain why it is important to follow the specified forming sequence and procedure at all times 2.12 Describe the problems that can occur with the forming operation, how to identify them and to whom to report them 2.13 Explain why it is important to report problems immediately 2.14 Explain how to check the quality of the formed item against the quality standards required 2.15 Describe the documentation that may have to be completed 2.16 Describe their responsibilities with regard to the reporting lines and procedures in their working area 2.17 Describe the appropriate people and their responsibilities within the learner's working area			

Learner name: _____

Date: _____

Learner signature: _____

Date: _____

Assessor signature: _____

Date: _____

Internal verifier signature: _____

Date: _____

(if sampled)

Unit 13: Carrying out finishing operations

Unit reference number: L/602/2127

Level: 1

Credit value: 15

Guided learning hours: 49

Unit summary

This unit covers the skills and knowledge needed to prove the competences required to carry out finishing operations on materials or products which are used, either to enhance its appearance, increase its protection or improve its safety properties. Examples of this could be applying decorative coatings, applying protective coatings, removing sharp edges, etc.

Assessment requirements/evidence requirements

This unit must be assessed in a work environment and must be assessed in accordance with the 'Semta Assessment Strategy'. Detailed information is given in Annexe D.

Unit specific additional assessment requirements:

Learning outcomes where assessor observation and/or examination of naturally occurring workplace products is mandatory: 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 1.8, 1.10, 1.11. 1.1 should be observed and recorded over a period of time.

Learning outcomes where the use of simulation within a realistic working environment is acceptable, if the learning outcome cannot be covered by workplace evidence through the learner's job role: 1.9, 1.12.

Assessment methodology

Learners can enter the types of evidence they are presenting for assessment and the submission date against each assessment criterion. Alternatively, centre documentation should be used to record this information.

Learning outcomes and assessment criteria

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
1a Carry out finishing operations	1.1 Work safely at all times, complying with health and safety, environmental and other relevant regulations and guidelines 1.2 Ensure that they have the correct job instructions and any relevant finishing procedure and quality specifications 1.3 Follow the relevant finishing procedures and safety requirements, to include all of the following: <ul style="list-style-type: none"> - health and safety regulations - safe working practices - job instructions - finishing equipment/tool operating instructions - company standards and procedures 1.4 Use the correct tools and equipment for the finishing operations being performed 1.5 Carry out the finishing operation according to instructions and safe operating procedures 1.6 Carry out finishing operations, using one of the following methods: <ul style="list-style-type: none"> - hand finishing operations - manually controlled machine finishing operations - fully automated finishing operations - combined finishing operations 			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
1b Carry out finishing operations (Continued)	<p>1.7 Monitor the finishing operation and identify any problems that occur</p> <p>1.8 Carry out checks of the finishing operations, to include the following:</p> <ul style="list-style-type: none"> - completeness of the finishing operations and one other check from the following: <ul style="list-style-type: none"> - appearance of finished product - freedom from contamination - freedom from damage <p>1.9 Report problems to the appropriate person, to include one of the following:</p> <ul style="list-style-type: none"> - supervisor - team leader - quality control <p>1.10 Produce finished products which comply with the finishing specification and quality requirements</p> <p>1.11 Work to achieve production targets for both of the following:</p> <ul style="list-style-type: none"> - output - quality <p>1.12 Deal appropriately with the finished products and complete any necessary documentation</p>			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
2a Know how to carry out finishing operations	2.1 Describe the relevant health and safety requirements of the work area in which they are carrying out the finishing operations 2.2 Describe the specific safe working practices, finishing procedures and environmental regulations that must be observed 2.3 Describe the hazards associated with carrying out the finishing operations 2.4 Describe the actions to be taken in case of emergencies 2.5 Describe the personal protective equipment to be used during the finishing activities and where can it be obtained 2.6 Explain how to make sure that they have the necessary job instructions, finishing equipment operating procedures and finishing specifications 2.7 Describe the tools and equipment used for the finishing operations undertaken and how to check that they are in a safe and usable condition			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
2b Know how to carry out finishing operations (Continued)	2.8 Describe the specific finishing operations to be performed 2.9 Explain why it is important to follow the sequence of finishing operations at all times 2.10 Explain how to operate the finishing equipment to achieve the required specification 2.11 Describe the problems that can occur in the finishing operation, how to identify them and to whom to report them 2.12 Explain why it is important to report problems immediately 2.13 How to check the quality of the finishing operations against the required quality standards 2.14 Describe the documentation that may have to be completed 2.15 Describe their responsibilities with regard to the reporting lines and procedures in their working area 2.16 Describe the appropriate people and their responsibilities within the learner's working area			

Learner name: _____

Date: _____

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Date: _____

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Internal verifier signature: _____

Date: _____

(if sampled)

Unit 14: Carrying out moulding operations

Unit reference number: L/602/2130

Level: 1

Credit value: 16

Guided learning hours: 49

Unit summary

This unit covers the skills and knowledge needed to prove the competences required to carry out moulding operations that involves using a pattern or mould to change the shape of the material. This will include injection moulding, casting, laying up using resin and fibre materials, etc. This will involve carrying out the moulding operation according to defined operating procedures. The learner will be expected to monitor the moulding operation, ensuring that the moulded components are to the required specification. Meeting production targets will be an important issue and the learner's production records must show consistent and satisfactory performance.

Assessment requirements/evidence requirements

This unit must be assessed in a work environment and must be assessed in accordance with the 'Semta Assessment Strategy'. Detailed information is given in Annexe D.

Unit specific additional assessment requirements:

Learning outcomes where assessor observation and/or examination of naturally occurring workplace products is mandatory: 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 1.8, 1.9, 1.11, 1.12. 1.1 should be observed and recorded over a period of time.

Learning outcomes where the use of simulation within a realistic working environment is acceptable, if the learning outcome cannot be covered by workplace evidence through the learner's job role: 1.10, 1.13.

Assessment methodology

Learners can enter the types of evidence they are presenting for assessment and the submission date against each assessment criterion. Alternatively, centre documentation should be used to record this information.

Learning outcomes and assessment criteria

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
1a Carry out moulding operations	1.1 Work safely at all times, complying with health and safety, environmental and other relevant regulations and guidelines 1.2 Ensure that they have the correct job instructions and any relevant moulding procedure and quality specifications 1.3 Follow the relevant moulding procedures and safety requirements, to include all of the following: <ul style="list-style-type: none"> - health and safety regulations - safe working practices - job instructions - moulding equipment/tool operating instructions - company standards and procedures 1.4 Use the correct moulding tools and equipment for the operations being carried out 1.5 Apply appropriate release agents to the patterns or moulds when required 1.6 Carry out the moulding operations according to instructions and safe operating procedures			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
	1.7 Carry out moulding operations, using one of the following methods: <ul style="list-style-type: none"> - hand moulding operations - manually controlled machine moulding operations - fully automated machine moulding operations - combined moulding operations 			
1b Carry out moulding operations (Continued)	1.8 Monitor the moulding operation and identify any problems that occur 1.9 Carry out checks of the moulded products, to include the following: <ul style="list-style-type: none"> - completeness of moulding operations and one other check from the following: <ul style="list-style-type: none"> - shape/profile of the moulded components - surface quality and appearance - freedom from deformity or damage - freedom from contamination 1.10 Report problems to the appropriate person, to include one of the following: <ul style="list-style-type: none"> - supervisor - team leader - quality control 1.11 Produce moulded products which comply with the specification and quality requirements			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
	1.12 Work to achieve production targets for both of the following: <ul style="list-style-type: none"> - output - quality 1.13 Deal appropriately with finished products and complete any necessary documentation			
2a Know how to carry out moulding operations	2.1 Describe the relevant health and safety requirements of the work area in which they are carrying out the moulding operations 2.2 Describe the specific safe working practices, moulding procedures and environmental regulations that must be observed 2.3 Describe the hazards associated with carrying out the moulding operations 2.4 Describe the actions to be taken in case of emergencies 2.5 Describe the personal protective equipment to be used during the moulding activities and where can it be obtained 2.6 Explain how to make sure that they have the necessary job instructions, moulding procedures and quality specifications that are used			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
	2.7 Describe the specific moulding operations to be performed 2.8 Describe the tools and equipment used for the moulding operations being carried out and how to check that they are in a safe and usable condition			
2b Know how to carry out moulding operations (Continued)	2.9 Explain how to prepare the patterns or moulds in readiness for the moulding activities, and the use of mould release agents where applicable 2.10 Explain how to carry out the moulding process to achieve the required specification 2.11 Explain why it is important to follow the specified moulding sequence and procedure at all times 2.12 Describe the problems that can occur with the moulding operation, how to identify them and to whom to report them 2.13 Explain why it is important to report problems immediately 2.14 Explain how to monitor and check the quality of the moulding operations against the quality standards required 2.15 Describe the documentation that may have to be completed 2.16 Describe their responsibilities with regard to the reporting lines and procedures in their working area 2.17 Describe the appropriate people and their responsibilities within the learner's working area			

Learner name: _____

Date: _____

Learner signature: _____

Date: _____

Assessor signature: _____

Date: _____

Internal verifier signature: _____

Date: _____

(if sampled)

Unit 15: Carrying out packaging operations

Unit reference number:	D/602/2133
Level:	1
Credit value:	14
Guided learning hours:	49

Unit summary

This unit covers the skills and knowledge needed to prove the competences required to carry out packaging operations on finished products which may be for protective, decorative, marketing or transportation purposes. This will include wrapping, boxing, bagging, bottling, etc.

Assessment requirements/evidence requirements

This unit must be assessed in a work environment and must be assessed in accordance with the 'Semta Assessment Strategy'. Detailed information is given in Annexe D.

Unit specific additional assessment requirements:

Learning outcomes where assessor observation and/or examination of naturally occurring workplace products is mandatory: 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 1.8, 1.10, 1.11. 1.1 should be observed and recorded over a period of time.

Learning outcomes where the use of simulation within a realistic working environment is acceptable, if the learning outcome cannot be covered by workplace evidence through the learner's job role: 1.9, 1.12.

Assessment methodology

Learners can enter the types of evidence they are presenting for assessment and the submission date against each assessment criterion. Alternatively, centre documentation should be used to record this information.

Learning outcomes and assessment criteria

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
1a Carry out packaging operations	1.1 Work safely at all times, complying with health and safety, environmental and other relevant regulations and guidelines 1.2 Ensure that they have the correct job instructions and any relevant packaging procedure and quality specifications 1.3 Follow the relevant packaging procedures and safety requirements, to include all of the following: <ul style="list-style-type: none"> - health and safety regulations - safe working practices - job instructions - packaging equipment/tool operating instructions - company standards and procedures 1.4 Use the correct tools, equipment and materials for the packaging operations being performed 1.5 Carry out the packaging operation according to instructions and safe operating procedures 1.6 Carry out packaging operations, using one of the following methods: <ul style="list-style-type: none"> - hand packaging operations - manually controlled machine packaging operations - fully automated packaging operations - combined packaging operations 			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
1b Carry out packaging operations (Continued)	1.7 Monitor the packaging operation and identify any problems that occur 1.8 Carry out checks of the packaging operations, to include the following: - completeness of the packaging operations and one other check from the following: - appearance of finished product - security of the packaging - freedom from contamination - freedom from damage - correct quantity - correct volume 1.9 Report problems to the appropriate person, to include one of the following: - supervisor - team leader - quality control 1.10 Produce packaged products which comply with the packaging specification and quality requirements 1.11 Work to achieve production targets for both of the following: - output - quality 1.12 Deal appropriately with the packaged products and complete any necessary documentation			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
2a Know how to carry out packaging operations	2.1 Describe the relevant health and safety requirements of the work area in which they are carrying out the packaging operations 2.2 Describe the specific safe working practices, packaging procedures and environmental regulations that must be observed 2.3 Describe the hazards associated with carrying out the packaging operations 2.4 Describe the actions to be taken in case of emergencies 2.5 Describe the personal protective equipment to be used during the packaging activities and where can it be obtained 2.6 Explain how to make sure that they have the necessary job instructions, packaging equipment operating procedures and packaging specifications 2.7 Describe the tools and equipment used for the packaging operations undertaken and how to check that they are in a safe and usable condition			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
2b Know how to carry out packaging operations (Continued)	2.8 Describe the specific packaging operations to be performed 2.9 Explain why it is important to follow the sequence of packaging operations at all times 2.10 Explain how to operate the packaging equipment to achieve the required specification 2.11 Describe the problems that can occur in the packaging operation, how to identify them and to whom to report them 2.12 Explain why it is important to report problems immediately 2.13 Explain how to check the quality of the packaging operations against the required quality standards 2.14 Describe the documentation that may have to be completed 2.15 Describe their responsibilities with regard to the reporting lines and procedures in their working area 2.16 Describe the appropriate people and their responsibilities within the learner's working area			

Learner name: _____

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Date: _____

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Date: _____

(if sampled)

Unit 16: Servicing the line

Unit reference number: H/602/2134

Level: 1

Credit value: 11

Guided learning hours: 39

Unit summary

This unit covers the skills and knowledge needed to prove the competences required to keep the manufacturing operation going, by 'servicing the line'. This will involve supplying the work area for which the learner is responsible with the correct materials and/or products, while taking account of all relevant health and safety requirements. The learner will be expected to identify and anticipate when the materials and/or products will be required in the manufacturing operation, and to make sure that adequate supplies of materials and/or products are maintained to keep the manufacturing operation going.

Assessment requirements/evidence requirements

This unit must be assessed in a work environment and must be assessed in accordance with the 'Semta Assessment Strategy'. Detailed information is given in Annexe D.

Unit specific additional assessment requirements:

Learning outcomes where assessor observation and/or examination of naturally occurring workplace products is mandatory: 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 1.8, 1.9, 1.10, 1.11, 1.13. 1.1, 1.2, 1.3, 1.9, 1.10, 1.11 should be observed and recorded over a period of time.

Learning outcomes where the use of simulation within a realistic working environment is acceptable, if the learning outcome cannot be covered by workplace evidence through the learner's job role: 1.12, 1.14.

Assessment methodology

Learners can enter the types of evidence they are presenting for assessment and the submission date against each assessment criterion. Alternatively, centre documentation should be used to record this information.

Learning outcomes and assessment criteria

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
1a Service the line	<p>1.1 Work safely at all times, complying with health and safety, environmental and other relevant regulations and guidelines</p> <p>1.2 Follow the relevant lifting and moving procedures and safety requirements, to include all of the following:</p> <ul style="list-style-type: none"> - health and safety regulations - safe working practices - job instructions - lifting and moving equipment operating instructions - company standards and procedures <p>1.3 Move materials/products safely, using one of the following methods:</p> <ul style="list-style-type: none"> - hand - power operated - combination <p>1.4 Ensure that they have the correct equipment, job instructions and any relevant specifications</p> <p>1.5 Identify when materials/products will be required in the work area that they are responsible for</p> <p>1.6 Transfer the materials/products to the work area that they are responsible for, at the correct time, in the correct quantity</p>			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
	1.7 Transfer materials, to include one of the following: <ul style="list-style-type: none"> - production materials - consumable materials - work in progress - finished products or components - waste or scrap 			
1b Service the line (Continued)	1.8 Check availability of stocks and take action to replenish them when required 1.9 Always maintain correct levels of supplies of materials/products in the area of work that they are responsible for 1.10 Keep the manufacturing operation going, by carrying out all of the following when transferring materials/products to the line: <ul style="list-style-type: none"> - identify when materials/products will be required - check that the materials/products are as specified on the documentation - ensure that the materials/products are transferred safely - check that there are no restrictions or obstacles preventing the transfer of the materials/products 1.11 Maintain a safe and organised work area at all times			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
	1.12 Report problems to the appropriate person, to include one of the following: <ul style="list-style-type: none"> - supervisor - team leader - quality control 1.13 Work to achieve their production targets 1.14 Complete documentation when necessary			
2a Know how to service the line	2.1 Describe the relevant health and safety requirements of the work area in which they are carrying out the material moving operations 2.2 Describe the specific safe working practices, procedures and regulations that must be observed 2.3 Describe the hazards associated with carrying out the operation 2.4 Describe the personal protective equipment to be used during the activities and where can it be obtained 2.5 Explain how to make sure that they have the necessary job instructions, specifications and/or operating procedures 2.6 Describe the tools and equipment that may be used for the transfer of materials/products and how to check that they are in a safe and usable condition			

Learning outcomes	Assessment criteria	Evidence	Portfolio	Date
	2.7 Explain how to identify when materials/products will be required in the work area that they are responsible for 2.8 Explain how to transfer materials/products safely to the line			
2b Know how to service the line (Continued)	2.9 Explain how to apply safe manual movement techniques when working alone 2.10 Explain how to check stock levels to ensure that materials/products are available when required 2.11 Explain why it is important to keep the operation going 2.12 Describe the problems that may occur in servicing the line, how to identify them, and to whom to report them 2.13 Explain why is it important to keep their area of work clean and tidy 2.14 Describe the documentation that may have to be completed 2.15 Describe their responsibilities with regard to the reporting lines and procedures in their working area 2.16 Describe the appropriate people and their responsibilities within the learner's working area			

Learner name: _____

Date: _____

Learner signature: _____

Date: _____

Assessor signature: _____

Date: _____

Internal verifier signature: _____

Date: _____

(if sampled)

Further information and useful publications

To get in touch with us visit our 'Contact us' pages:

- Edexcel, BTEC and Pearson Work Based Learning contact details: qualifications.pearson.com/en/support/contact-us.html
- books, software and online resources for UK schools and colleges: www.pearsonschoolsandfecolleges.co.uk

Key publications

- *Adjustments for candidates with disabilities and learning difficulties, Access and Arrangements and Reasonable Adjustments, General and Vocational qualifications* (Joint Council for Qualifications (JCQ))
- *Supplementary guidance for reasonable adjustments and special consideration in vocational internally assessed units* (Pearson)
- *General and Vocational qualifications, Suspected Malpractice in Examination and Assessments: Policies and Procedures* (JCQ)
- *Equality Policy* (Pearson)
- *Recognition of Prior Learning Policy and Process* (Pearson)
- *UK Information Manual* (Pearson)
- *Pearson Edexcel NVQs, SVQs and competence-based qualifications – Delivery Requirements and Quality Assurance Guidance* (Pearson)

All of these publications are available on our website: qualifications.pearson.com

Further information and publications on the delivery and quality assurance of NVQ/Competence-based qualifications are available at our website on the Delivering BTEC pages. Our publications catalogue lists all the material available to support our qualifications. To access the catalogue and order publications, please go to the resources page of our website.

How to obtain National Occupational Standards

Semta (Head Office)
14 Upton Road
Watford
WD18 0JT

Telephone: 01923 238441
Fax: 01923 256086
Email: customerservices@semta.org.uk

Professional development and training

Pearson supports UK and international customers with training related to NVQ and BTEC qualifications. This support is available through a choice of training options offered in our published training directory or through customised training at your centre.

The support we offer focuses on a range of issues including:

- planning for the delivery of a new programme
- planning for assessment and grading
- developing effective assignments
- building your team and teamwork skills
- developing student-centred learning and teaching approaches
- building functional skills into your programme
- building effective and efficient quality assurance systems.

The national programme of training we offer can be viewed on our website (qualifications.pearson.com). You can request customised training through the website or by contacting one of our advisers in the Training from the Pearson team via Customer Services to discuss your training needs.

The training we provide:

- is active
- is designed to be supportive and thought-provoking
- builds on best practice
- may be suitable for those seeking evidence for their continuing professional development.

Annexe A: Quality assurance

Key principles of quality assurance

- A centre delivering Pearson qualifications must be an Pearson-recognised centre and must have approval for qualifications that it is offering.
- The centre agrees as part of gaining recognition to abide by specific terms and conditions around the effective delivery and quality assurance of assessment; the centre must abide by these conditions throughout the period of delivery.
- Pearson makes available to approved centres a range of materials and opportunities to exemplify the processes required for effective assessment and provide examples of effective standards. Approved centres must use the guidance on assessment to ensure that staff who are delivering Pearson qualifications are applying consistent standards.
- An approved centre must follow agreed protocols for: standardisation of assessors; planning, monitoring and recording of assessment processes; internal verification and recording of internal verification processes; and for dealing with special circumstances, appeals and malpractice.

Quality assurance processes

The approach to quality assured assessment is made through a partnership between a recognised centre and Pearson. Pearson is committed to ensuring that it follows best practice and employs appropriate technology to support quality assurance process where practicable. Therefore, the specific arrangements for working with centres will vary. Pearson seeks to ensure that the quality assurance processes that it uses do not place undue bureaucratic processes on centres and works to support centres in providing robust quality assurance processes.

The learning outcomes and assessment criteria in each unit within this specification set out the standard to be achieved by each learner in order to gain the qualification. Pearson operates a quality assurance process, which is designed to ensure that these standards are maintained by all assessors and verifiers.

For the purposes of quality assurance all individual qualifications and units are considered as a whole. Centres offering these qualifications must be committed to ensuring the quality of the units and qualifications they offer, through effective standardisation of assessors and internal verification of assessor decisions. Centre quality assurance and assessment processes are monitored by Pearson.

The Pearson quality assurance processes will involve:

- gaining centre recognition and qualification approval if a centre is not currently approved to offer Pearson qualifications
- annual visits to centres by Pearson for quality review and development of overarching processes and quality standards. Quality review and development visits will be conducted by an Pearson quality development reviewer
- annual visits by occupationally competent and qualified Pearson Standards Verifiers for sampling of internal verification and assessor decisions for the occupational sector
- the provision of support, advice and guidance towards the achievement of National Occupational Standards.

Centres are required to declare their commitment to ensuring quality and appropriate opportunities for learners that lead to valid and accurate assessment outcomes. In addition, centres will commit to undertaking defined training and online standardisation activities.

Annexe B: Centre certification and registration

Pearson Standards Verifiers will provide support, advice and guidance to centres to achieve Direct Claims Status (DCS). Pearson will maintain the integrity of Pearson NVQs through ensuring that the awarding of these qualifications is secure. Where there are quality issues identified in the delivery of programmes, Pearson will exercise the right to:

- direct centres to take actions
- limit or suspend certification
- suspend registration.

The approach of Pearson in such circumstances is to work with the centre to overcome the problems identified. If additional training is required, Pearson will aim to secure the appropriate expertise to provide this.

What are the access arrangements and special considerations for the qualification in this specification?

Centres are required to recruit learners to Pearson qualifications with integrity. Appropriate steps should be taken to assess each applicant's potential and a professional judgement made about their ability to successfully complete the programme of study and achieve the qualification. This assessment will need to take account of the support available to the learner within the centre during their programme of study and any specific support that might be necessary to allow the learner to access the assessment for the qualification. Centres should consult Pearson's policy on learners with particular requirements.

Pearson's policy on access arrangements and special considerations for Pearson qualifications aims to enhance access to the qualifications for learners with disabilities and other difficulties (as defined by the 2010 Equality Act) without compromising the assessment of skills, knowledge, understanding or competence. Please refer to *Access Arrangements and Special Considerations for BTEC and Pearson Edexcel NVQ Qualifications* for further details. qualifications.pearson.com.

Annexe C: Additional Requirements for Qualifications that use the title NVQ

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Purpose of document

- 1 The purpose of this document is to make clear what additional requirements are needed to assess and quality assure qualifications that use the title NVQ.

- 2 When an SSC/SSB and awarding organisation wants to use the title NVQ in the naming of a qualification, the awarding organisation is required to make sure this qualification is assessed and quality assured in accordance with these additional requirements and other requirements described in the SSC/SSB Assessment strategy.

- 3 The aims of these additional requirements are to
 - ensure that all competence based qualifications that use the title NVQ are:
 - assessed consistently
 - quality assured consistently
 - maintain the integrity of qualifications that use the title NVQ
 - establish the NVQ brand
 - keep bureaucracy associated with assessment and quality assurance of qualifications that use the title NVQ to a minimum.

Background

- 4 ¹ “At the heart of an NVQ is the concept of occupational competence; the ability to perform to the standards required in employment across a range of circumstances and to meet changing demands. NVQs are first and foremost about what people can do. They go beyond technical skills to include planning, problem solving, dealing with unexpected occurrences, working with other people and applying the knowledge and understanding that underpins overall competence”.
- 5 NVQs are based entirely on National Occupational Standards (NOS) developed by an SSC/SSB, which describe the competence needed in an occupational role.
- 6 Qualifications that use the title NVQ must comply with the rules of combination determined by the SSC/SSB. Awarding organisations are not allowed to develop another qualification that does not use the title NVQ, if it uses the same rules of combination as a qualification that does use the title NVQ.
- 7 The Qualification Framework offers increased flexibility in the way occupational competence can be assessed and demonstrated. Qualifications that use the title NVQ are just one way of assessing and demonstrating occupational competence. SSCs/SSBs are free to work with their awarding organisations to agree what qualifications will be used to assess occupational competence. Qualifications that use the title NVQ, are not a preferred method for assessing occupational competence and all qualifications that are accredited have equal status.
- 8 When developing a qualification, including qualifications that use the title NVQ, an awarding organisation must be a recognised awarding organisation and must meet the Qualification Requirements in the Regulatory Arrangements for the Qualifications Framework, published by The Office of the Qualifications and Examinations Regulator (Ofqual) in August 2008.
- 9 The qualification regulators confirmed that a group of SSCs and SSBs would be free to develop specific, additional requirements about the way in which qualifications that use the title NVQ will be assessed and quality assured. For those recognised awarding organisations that want to assess occupational competence through the use of qualifications that use the title NVQn, it has been agreed by SSCs and SSBs that the following additional requirements must be met.

¹ *NCVQ's NVQ Criteria and Guidance* 1995.

Additional requirements for qualifications that use the title NVQ

Introduction

- 10 Qualifications that use the title NVQ must be assessed and quality assured in accordance with the following additional requirements.

Assessment Requirements

- 11 When a qualification uses the title NVQ, awarding organisations are required to make sure their recognised assessment centres understand how learners are to be assessed.
- 12 Assessment methodologies must meet the Assessment strategy developed in partnership between the relevant SSC or SSB and awarding organisations for the qualification. The Assessment strategy must be published and made available separately and will include the requirements for assessment of qualifications that use the title NVQ. The assessment criteria for each unit will be part of the units that make up the qualification.
- 13 Learners must complete real work activities in order to produce evidence to demonstrate they have met the NOS and are occupationally competent.
- 14 When a learner cannot complete a real work activity, simulation is allowed.
- 15 Simulation is allowed when
- a learner is required to complete a work activity that does not occur on a regular basis and therefore opportunities to complete a particular work activity do not easily arise
 - a learner is required to respond to a situation that rarely occurs, such as responding to an emergency situation
 - the safety of a learner, other individuals and/or resources will be put at risk.
- 16 When simulation is used, assessors must be confident that the simulation replicates the workplace to such an extent that learners will be able to fully transfer their occupational competence to the workplace and real situations.
- 17 Units that must not be assessed by simulation must be identified by the SSC/SSB in the Assessment strategy for the qualification or family of qualifications.

- 18 Learners must be assessed by assessors
- who are occupationally competent in the occupational areas they are assessing where they have sufficient and relevant technical/occupational competence in the unit, at or above the level of the unit being assessed and as defined by the Assessment strategy for that qualification
 - ²who must hold or be working towards a suitable assessor qualification to confirm they understand assessment and how to assess learners
 - must be fully conversant with the unit(s) against which the assessments and verification are to be undertaken.
- 19 All assessors must carry out assessment to the standards specified in the A units.
- 20 All assessment decisions made by a trainee assessor must be checked by a qualified assessor or an assessor recognised by an awarding organisation.
- 21 Trainee assessors must have a plan, which is overseen by the recognised assessment centre, to achieve the relevant assessor qualification(s) within an agreed timescale.

² Currently an assessor could hold unit A1 and/or unit A2. Or from the past unit D32 and/or unit D33. SSCs also identify other suitable equivalent qualifications.

Quality assurance requirements

- 22 When a qualification uses the title NVQ, awarding organisations are required to make sure their recognised assessment centres understand how the qualification will be quality assured.
- 23 Qualifications that use the title NVQ, must be verified
- internally by an internal verifier, who is accountable to the assessment centre
 - externally by an external verifier, who is accountable to the awarding organisation or an agent of the awarding organisation.
- 24 With reference to internal verification, internal verifiers must
- ³hold or be working towards a suitable internal verifier qualification to confirm they understand how to internally verify assessments
 - have sufficient and relevant technical/occupational familiarity in the unit(s) being verified
 - be fully conversant with the standards and assessment criteria in the units to be assessed
 - understand the awarding organisation's quality assurance systems and requirements for this qualification.
- 25 Trainee internal verifiers must have a plan, which is overseen by the recognised assessment centre, to achieve the internal verifier qualification within an agreed timescale.
- 26 With reference to external verification, external verifiers must
- ⁴hold or be working towards a suitable external verification qualification to confirm they understand and are able to carry out external verification
 - have no connections with the assessment centre, in order to maintain objectivity
 - have sufficient and relevant technical/occupational understanding in the unit(s) being verified
 - be fully conversant with the standards and performance criteria in the units to be assessed
 - understand the awarding organisation's quality assurance systems for this qualification.

³ Currently an internal verifier needs to hold unit V1. Or from the past unit D34. SSCs also identify other suitable equivalent qualifications.

⁴ Currently an external verifier needs to hold unit V2. Or from the past unit D35.

- 27 Trainee external verifiers must have a plan, which is overseen by the awarding organisation, to achieve the external verifier qualification within an agreed timescale.
- 28 Awarding organisations must decide the frequency of external monitoring activities. Any decision must be based on
- the risks associated with a qualification that is designed to help a learner demonstrate occupational competence
 - an evaluation of the centre's performance and past record.
- 29 Awarding organisations will have in place suitably constituted audit processes, which are supported by naturally occurring quality assurance and monitoring systems that already exist in workplace assessment environments.



Semta

Performing Manufacturing Operations

NVQ Level 1 and 2

Unit Assessment strategy

Version 1. 18th May 2010

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Introduction

[Semta], the Sector Skills Council for the Science Engineering Manufacturing Technologies Sector, has produced this Unit Assessment strategy to:

- assist Assessors, Internal Verifiers and External Verifiers
- encourage and promote consistent assessment of NVQ units
- promote cost effective assessment plans.

This document also provides definitions for:

- the qualifications and experience required for Assessors and Verifiers
- the assessment environment and notes on simulation/replication.
- access to units.

and requirements relating to:

- carrying out assessments
- performance evidence
- assessing knowledge and understanding.

The importance and value in which employers and learners place on undertaking NVQ units will provide a key measure of [Semta's] success with this unit Assessment strategy. Another key success factor will be [Semta's] partnership with the relevant Awarding Organisations.

Assessor Requirements to Demonstrate Effective Assessment Practice

Assessment must be carried out by competent Assessors who hold, or are working towards, the nationally recognised Assessor units A1 and/or A2 as appropriate to the assessment being carried out. Assessors that hold units D32 and/or D33 must demonstrate that they are applying the assessment principles and practices set down in A1 and/or A2 as appropriate to the assessment being carried out.

Assessor Technical Requirements

Assessors must be able to demonstrate that they have verifiable, relevant and sufficient technical competence to evaluate and judge performance and knowledge evidence requirements as set out in the relevant unit learning outcomes and associated assessment criteria.

This will be demonstrated either by holding a relevant technical qualification or by proven industrial experience of the technical areas to be assessed. The assessor's competence must, at the very least, be at the same level as that required of the learner(s) in the units being assessed.

Assessors must also be:

Fully conversant with the Awarding Organisation's assessment recording documentation used for the NVQ units against which the assessments and verification are to be carried out, other relevant documentation and system and procedures to support the QA process.

Verifier Requirements

Internal Verifiers must hold, or be working towards, the nationally recognised Internal Verifier unit V1 and would be expected to be familiar with, and preferably hold, the nationally recognised Assessor units. Internal Verifiers that hold unit D34 must demonstrate that they are applying the verification principles and practices set down in V1.

External Verifiers must hold, or be working towards, the nationally recognised External Verifier unit V2 and would be expected to be familiar with, and preferably hold, the nationally recognised Assessor units, and Internal Verifier unit. External Verifiers that hold unit D35 must demonstrate that they are applying the verification principles and practices set down in V2.

Verifiers, both Internal and External, will also be expected to be fully conversant with the terminology used in the NVQ units against which the assessments and verification are to be carried out, the appropriate Regulatory Body's systems and procedures and the relevant Awarding Organisation's documentation, systems and procedures within which the assessment and verification is taking place.

Specific technical requirements for internal and external verifiers

Internal and external verifiers of this qualification must be able to demonstrate that have verifiable, sufficient and relevant industrial experience, and must have a working knowledge of the processes, techniques and procedures that are used in the relevant sector/occupation.

The tables on the following page show the recommended levels of technical competence for assessors, internal verifiers, and external verifiers.

Technical Requirements for Assessors and Verifiers

Position	Prime activity requirements	Support activity requirements	Technical requirements (see notes)
Assessor	Assessment Skills	IV Systems	Technical competence in the areas covered by the units being assessed
Internal Verifier	Verification Skills	Assessment Knowledge	Technical understanding of the areas covered by the qualifications
External Verifier	Verification skills	Assessment Understanding	Technical awareness of the areas covered by the qualifications

Notes

- 1 Technical competence is defined here as a combination of practical skills, knowledge, and the ability to apply both of these, in familiar and new situations, within a real working environment.
- 2 Technical understanding is defined here as having a good understanding of the technical activities being assessed, together with knowledge of relevant Health & Safety implications and requirements of the assessments.
- 3 Technical awareness is defined here as a general overview of the subject area, sufficient to ensure that assessment and portfolio evidence are reliable, and that relevant Health and Safety requirements have been complied with.
- 4 The competence required by the assessor, internal verifier and external verifier, in the occupational area being assessed, is likely to exist at three levels as indicated by the shaded zones in the following table.

Technical Competence required by:	An ability to discuss the general principles of the competences being assessed	An ability to describe the practical aspects of the competence being assessed	An ability to demonstrate the practical competences being assessed
Assessor			
Internal Verifier			
External Verifier			

Assessment Environment

The evidence put forward for this unit can only be regarded valid, reliable, sufficient and authentic if achieved and obtained in the working environment and be clearly attributable to the learner. However, in certain circumstances, simulation/replication of work activities may be acceptable.

- The use of high quality, realistic simulations/replication, which impose pressures which are consistent with workplace expectations, should only be used in relation to the assessment of the following:-
 - rare or dangerous occurrences, such as those associated with health, safety and the environment issues, emergency scenarios and rare operations at work;
 - the response to faults and problems for which no opportunity has presented for the use of naturally occurring workplace evidence of learners competence;
 - aspects of working relationships and communications for which no opportunity has presented for the use of naturally occurring workplace evidence of learners competence.
- Simulations/replications will require prior approval from the specific Awarding Organisation and should be designed in relation to the following parameters:-
 - the environment in which simulations take place must be designed to match the characteristics of the working environment;
 - competencies achieved via simulation/replication must be transferable to the working environment;
 - simulations which are designed to assess competence in dealing with emergencies, accidents and incidents must be verified as complying with relevant health, safety and environmental legislation by a competent health and safety/environmental control officer before being used;
 - simulated activities should place learners under the same pressures of time, access to resources and access to information as would be expected if the activity was real;
 - simulated activities should require learners to demonstrate their competence using plant and/or equipment used in the working environment;

simulated activities which require interaction with colleagues and contacts should require the learner to use the communication media that would be expected at the workplace;

- for health and safety reason simulations need not involve the use of genuine substances/materials. Any simulations which require the learner to handle or otherwise deal with materials substances/should ensure that the substitute take the same form as in the workplace.

Note 1: See assessment guidance section in units of assessment for additional information where simulation/replication is acceptable.

Access to Assessment

There are no entry qualifications or age limits required by learners to undertake the NVQ units unless this is a legal requirement of the process or the environment. Assessment is open to any learner who has the potential to achieve the assessment criteria set out in the units.

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

Carrying Out Assessment

The NVQ units were specifically developed to cover a wide range of activities. The evidence produced for the units will, therefore, depend on the learners choice of "bulleted items" listed in the unit assessment criteria.

Where the assessment criteria gives a choice of bulleted items (for example 'any three from five'), assessors should note that learners do not need to provide evidence of the other items to complete the unit (in this example, two) items, particularly where these additional items may relate to other activities or methods that are not part of the learners normal workplace activity or area of expertise.

Performance Evidence Requirements

Performance evidence must be the main form of evidence gathered. In order to demonstrate consistent, competent performance for a unit, a minimum of three different examples of performance must be provided, and must be sufficient to show that the assessment criteria have been achieved to the prescribed standards. It is possible that some of the bulleted items in the assessment criteria may be covered more than once. The assessor and learner need to devise an assessment plan to ensure that performance evidence is sufficient to cover all the specified assessment criteria and which maximises the opportunities to gather evidence. Where applicable, performance evidence may be used for more than one unit.

The most effective way of assessing competence, is through direct observation of the learner. Assessors must make sure that the evidence provided reflects the learner's competence and not just the achievement of a training programme.

Evidence that has been produced from team activities, for example, maintenance or installation activities is only valid when it clearly relates to the learners specific and individual contribution to the activity, and not to the general outcome(s).

Each example of performance evidence will often contain features that apply to more than one unit, and can be used as evidence in any unit where appropriate.

Performance evidence must be a combination of:

- outputs of the learner's work, such as items that have been manufactured, installed, maintained, designed, planned or quality assured, and documents produced as part of a work activity.

together with:

- evidence of the way the learner carried out the activities such as witness testimonies, assessor observations or authenticated learner reports,

Competent performance is more than just carrying out a series of individual set tasks. Many of the units contain statements that require the learner to provide evidence that proves they are capable of combining the various features and techniques. Where this is the case, separate fragments of evidence would not provide this combination of features and techniques and will not, therefore, be acceptable as demonstrating competent performance.

If there is any doubt as to what constitutes valid, authentic and reliable evidence, the internal and/or external verifier should be consulted.

Note 2: See assessment guidance section in units of assessment for additional information where assessment by observation is recommended

Assessing knowledge and understanding

Knowledge and understanding are key components of competent performance, but it is unlikely that performance evidence alone will provide enough evidence in this area. Where the learners knowledge and understanding (and the handling of contingency situations) is not apparent from performance evidence, it must be assessed by other means and be supported by suitable evidence.

Knowledge and understanding can be demonstrated in a number of different ways. Semta expects oral questioning and practical demonstrations to be used, as these are considered the most appropriate for these units. Assessors should ask enough questions to make sure that the learner has an appropriate level of knowledge and understanding, as required by the unit. Awarding Organisations may choose other methods, which must be supported by a suitable rationale.

Evidence of knowledge and understanding will not be required for those bulleted items in the assessment criteria that have not been selected by the learner.

The achievement of the specific knowledge and understanding requirements of the units cannot simply be inferred by the results of tests or assignments from other units, qualifications or training programmes. Where evidence is submitted from these sources, the assessor must, as with any assessment, make sure the evidence is valid, reliable, authentic, directly attributable to the learner, and meets the full knowledge and understanding requirements of the unit.

Where oral questioning is used the assessor must retain a record of the questions asked, together with the learner's answers.

Awarding Organisations may choose other methods, which must be supported by a suitable rationale.

Witness testimony

Where 'observation is used to obtain performance evidence, this must be carried out against the unit assessment criteria. Best practice would require that such observation is carried out by a qualified Assessor. If this is not practicable, then alternative sources of evidence may be used.

For example, the observation may be carried out against the assessment criteria by someone else that is in close contact with the learner. This could be a team leader, supervisor, mentor or line manager who may be regarded as a suitable witness to the learners competency. However, the witness must be technically competent in the process or skills that they are providing testimony for, to at least the same level of expertise as that required of the learner. It will be the responsibility of the assessor to make sure that any witness testimonies accepted as evidence of the learner's competency are reliable, auditable and technically valid.

Quality Control of Assessment

General

There are two major points where an Awarding Organisation interacts with the Centre in relation to the External Quality Control of Assessment for a qualification and these are:

- Approval - when a Centre take on new qualifications, the Awarding Organisation, normally through an External Verifier (EV) ensures that the Centre is suitably equipped and prepared to deliver the new qualification
- Monitoring - throughout the ongoing delivery of the qualification the Awarding Organisation, through EV monitoring and other mechanisms must maintain and the quality and consistency of assessment of the qualification.

Approval

In granting Approval, the Awarding Organisation, normally through its External Verifiers (EV) Must ensure that the prospective Centre:

- Meets any procedural requirements specified by the Awarding Organisation
- Has sufficient and appropriate physical and staff resources
- Meets relevant health and safety and/or equality and access requirements
- Has a robust plan for the delivery, assessment and QA for the qualifications.

Awarding Organisation's may decide to visit the Centre to view the evidence provided.

The Awarding Organisation must have a clear rationale for the method(s) deployed.

Monitoring

The Awarding Organisation, through EV monitoring and other mechanisms must ensure:

- that a strategy is developed and deployed for the ongoing Awarding Organisation monitoring of the Centre. This strategy must be based on an active risk assessment of the Centre. In particular the strategy must identify the learner, assessor and IV sampling strategy to be deployed and the rationale behind this
- that the Centre's internal quality assurance processes are effective in learner assessment
- that sanctions are applied to a Centre where necessary and that corrective actions are taken by the Centre and monitored by the Awarding Organisation/EV
- that reviews of Awarding Organisation's external auditing arrangements are undertaken.

Awarding Organisations are required to provide to SEMTA, on request, details of the strategies, rationales and reviews detailed above.

Additional Information:

- a) It is recognised that some Awarding Organisations provide supplementary guidance and documentation to centres to support the quality of assessment and verification practice of NVQs.

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