

GQA PAA\VQSET LEVEL 3 NVQ DIPLOMA IN SIGNMAKING

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Centre Qualification Handbook

Competence-based Qualifications

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**GQA Qualifications
Unit 1, 12 O'clock Court, Sheffield, S4 7WW
info@gqaqualifications.com**



PAA\VQ-SET

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INTRODUCTION TO THE HANDBOOK

This qualification sits within the Regulated Qualifications Framework (RQF).

This Qualification Handbook has been developed to ensure that GQA Centres understand the requirements of the qualification. The Handbook contains the following information:

- Qualification Structure
- Assessment Requirements
- Assessment Methods
- Glossary
- Qualification Units

This Qualification Handbook has been developed to provide support in the implementation of the qualification as well as giving information to ensure that the assessment and quality assurance is consistent, robust and reliable within each centre and nationally. The handbook also contains details of the skills and/or knowledge the learner must obtain to achieve the units and qualification.

Qualification Structure

This section of the handbook summarises the content of the qualification and the skills and/or knowledge learners that achieve it can be expected to gain. It also outlines the units required to achieve the qualification and will give the learner an idea of how long the qualification will take to achieve through the Total Qualification Time (TQT) and how much contact time they can expect through the Guided Learning Hours (GLH). It also provides information about possible progression opportunities once the qualification has been achieved.

Assessment Requirements

The assessment requirements for the qualification will cover any specific information about how the qualification may be assessed, such as whether assessors require specific qualifications or occupational competence and whether simulation is permitted in the achievement process.

Assessment Methods

This section summarises the different assessment methods and types of evidence that support assessment; these may be used to demonstrate competence or the achievement of knowledge and understanding.

Qualification Units

The unit overview summarises the content of the unit and the skills and/or knowledge the learner will have gained on achievement of the unit. The units may also contain additional information in the assessment context which will describe the areas to be covered and any appropriate assessment guidance and evidence requirements which will outline additional assessment requirements and should be built into assessment plans and included on assessment records. The unit detail will also confirm whether simulation is permitted for that particular unit.

Qualification Assessment and Support Materials

Centres will be sent the following qualification assessment and support materials:

- Assessment Forms - it is not mandatory to use these forms. Centres may wish to use their own assessment documentation - these should be approved by the External Verifier prior to use.
- Learner Guide
- Qualification Handbook
- Registration Spreadsheet & Certification Claim Forms

LEVEL 3 NVQ DIPLOMA IN SIGNMAKING

Qualification Summary

This qualification will provide recognition of the skills and knowledge of individuals working in the Signmaking industry. It covers monitoring and maintaining health, safety and environment; creating, developing and maintaining effective working relationships; and receiving, interpreting and confirming instructions.

Total Qualification Time (TQT) and Guided Learning Hours (GLH)

Guided Learning Hours (GLH)

Guided Learning Hours are the time the learner is under the immediate supervision or guidance of a lecturer, supervisor, tutor or other appropriate provider or education or training.

The GLH for this qualification is 245

Total Qualification Time (TQT)

Total Qualification Time is comprised of 2 elements:

1. GLH
plus
2. an estimate of the number of hours a learner will reasonably be likely to spend in preparation, study or any other form of participation in education or training, including assessment, which takes place as directed by (but not under the immediate supervision of) a lecturer, supervisor, tutor or other appropriate provider or education or training

The TQT for this qualification is 370

Achieving the Qualification

For the qualification learners must achieve a minimum of 37 Credits.

Mandatory Units: 3 Mandatory Units must be achieved, totalling 17 Credits.

Optional Units Group A: A minimum of 14 Credits to be achieved from this Option Group.

Optional Units Group B: A minimum of 6 credits to be achieved from this Option Group.

Mandatory Units

Unit No.	Unit Name	Credit Value
23	Monitor and Maintain Safety, Health and Environment in a Signmaking Environment	8
24	Create, Develop and Maintain Effective Working Relationships in a Signmaking Environment	5
25	Receive, Interpret and Confirm Instructions in a Signmaking Environment	4

Optional Units - Group A

A minimum of 14 Credits to be achieved from this Option Group.

Unit No.	Unit Name	Credit Value
20	Determine and Carry Out Maintenance of Sign Products in a Signmaking Environment	10

26	Prepare and Produce Quotations in a Signmaking Environment	8
27	Establish and Identify Variations to Contract in a Signmaking Environment	6
28	Plan and Monitor Production Process in a Signmaking Environment	8
29	Prepare, Plan and Monitor Installation Process in a Signmaking Environment	18
30	Enable Learning Through Demonstration and Instruction in a Signmaking Environment	3
31	Conduct Site Survey in a Signmaking Environment	6
32	Establish and Develop Detailed Design Work for Signmaking	10
33	Produce Traffic Signface Designs using Computer Software in a Signmaking Environment	10

Optional Units - Group B

A minimum of 6 credits to be achieved from this Option Group.

Unit No.	Unit Name	Credit Value
8	Carry out Wide Format Digital Print Operations in a Signmaking Environment	6
9	Carry out Shaping Operations in a Signmaking Environment	6
10	Carry out Joining Operations in a Signmaking Environment	6
11	Carry out Engraving Operations in a Signmaking Environment	6
12	Carry out Etching Operations in a Signmaking Environment	6
13	Carry out Hand Finishing Operations in a Signmaking Environment	10
14	Carry out Spray Paint Operations in a Signmaking Environment	10
15	Carry out Screen Print Operations in a Signmaking Environment	6
16	Carry out Forming Operations in a Signmaking Environment	6
17	Carry out Self-Adhesive Operations in a Signmaking Environment	6
21	Carry Out the Installation Operation for Commercial Signage Operations	12
22	Carry Out Basic Installation Operations for Road Traffic Signage Operations	10
34	Specify and Produce Graphical Images using ICT (Information Communication Technology) in a Signmaking Environment	10
35	Carry Out Complex Installation Operations for Road Traffic Signage Operations	12

Progression

This Diploma is part of a suite of qualifications developed from the Signmaking National Occupational Standards (NOS) at Levels 2 and 3.

Further information can be found on the GQA website www.gqaqualifications.com or on the Register of Regulated Qualifications website <http://register.ofqual.gov.uk>

ASSESSMENT REQUIREMENTS

Assessors must ensure that, when assessing the skills, knowledge and/or understanding, the evidence produced by learners is:

- Valid - does evidence meet the requirements described in the unit?
- Authentic - has the learner produced the evidence?
- Current - has the evidence been produced recently and does it demonstrate current competence?
- Sufficient - is there enough evidence to demonstrate competence?

to enable reliable and consistent judgements to be made about the achievement of all the requirements of the unit(s) and qualification.

GQA Centres must ensure that people involved in the assessment process have the appropriate expertise and are adequately informed and supported to fulfil their responsibilities.

ASSESSMENT STRATEGY

Below is the information to support the assessment requirements of the qualification:

- Mandatory use of evidence from workplace performance
- Use of Simulation
- Occupational competence of assessors and verifiers

Mandatory use of evidence from workplace performance

- a. Unless the use of simulation is expressly permitted within the qualification or unit specific evidence requirements, evidence must demonstrate the learner's competence in a real or realistic environment.
- b. Knowledge and Understanding will be assessed via (pre-set and/or free form) questions, or by inference from performance, which cover three primary types of knowledge:
 - Knowledge of facts and procedures
 - Understanding of principles, concepts and underpinning procedures
 - How to apply principles and procedures in specific contexts

All questions must be asked by the assessor at appropriate moments throughout the assessment process, preferably linked to observed activity and/or review of documentary evidence. The questions asked of, and answers provided by, the learner must be recorded.

Use of Simulation

- c. The qualification or unit specific assessment requirements will define where evidence from simulation is acceptable, and in which contexts.

Simulation should be used only where direct evidence of learner performance cannot be obtained. Under these circumstances simulation may be used for summative assessment. Reasons for the use of simulation should be made clear to and agreed by the external verifier and should include the following details:

- which competence (and standards) the simulation was designed to assess;
- the kind of equipment, facilities and physical environment proposed for the simulation of performance. It is unlikely that the External Verifier will approve a simulation if it does not involve real plant and equipment;
- how the simulated activity relates to the learner's normal work context in terms of the pressures of time, access to resources and access to information, and the communication media; and

- how the simulation was set up and conducted, preferably supported by physical evidence such as photographs or inspection of a test rig.

Assessors, internal verifiers and external verifiers should monitor the proportion of evidence generated via simulations to ensure that it is not the primary source of a learner's claim to competence.

- d. Under these circumstances simulations are reserved for aspects of competence illustrated by the following contexts:
- where demonstration of emergency shutdown and related safety procedures would be; **dangerous and/or disruptive** to plant/environment/individuals; **too costly** such as total plant shutdown or dealing with spillage of dangerous substances; where **issues of confidentiality** restrict access to real work opportunities;
 - demonstrating specific aspects of the operation which rarely or never occur due to effective quality assurance systems;
 - the capacity to integrate disparate knowledge to cope with unforeseen events and to solve problems; or
 - aspects of working relationships and communications for which no opportunity has presented for the use of naturally occurring workplace evidence of learner performance.
- e. Simulation must enable the individual to demonstrate competence in a real or realistic work environment. In this context this means in specialist centres which replicate the workplace in terms of equipment and environment, reflect normal working situations and use relevant industrial or commercial standards and procedures. Short work placements or non-realistic work environments which do not replicate the pressures and requirements of normal commercial or industrial activities will not be acceptable. The bulk of the learner's evidence should be drawn from their normal working activity and not consist of artificially contrived opportunities for one-off demonstration of competence. Similarly equipment must be that used in current commercial and industrial contexts. Procedures and standards used should be those which are nationally or internationally recognised or devised by specific companies as standard operating procedure.
- f. Simulation must enable the individual to acquire his/her skills and knowledge in a realistic work environment. In this context this means in specialist centres which replicate the workplace in terms of equipment and environment, it reflects normal working situations and uses relevant industrial or commercial standards and procedures. Where possible providers should attempt to replicate the pressures and requirements of normal commercial or industrial activities. Equipment must be that used in current commercial and industrial contexts. Procedures and standards used should be those which are nationally or internationally recognised or devised by specific companies as standard operating procedure.
- g. Circumstances outside of those listed in Section D above may also be considered suitable for the use of simulation with the agreement of the External Verifier and GQA. Under these circumstances simulation may be used for formative assessment only.

Occupational competence of Assessor and Verifiers

h. Assessors:

- must be competent in the units they are assessing. This is shown through the assessor having achieved the award they are assessing OR providing quality evidence to the external verifier that they are able to make valid judgements of the competence of learners. This could be done through a combination of a) personal interview, b) review of employment histories and/or c) examination of the assessor's judgement during assessments.
- must have a working knowledge of awards and a full understanding of that part of the award for which they have responsibility.
- should hold or be working towards suitable qualifications for assessment, as defined by GQA.

i. Internal verifiers:

- must be either working in the appropriate sector itself OR they must be able to demonstrate they possess practical and up-to-date knowledge of current working practices appropriate to the sector in which they are carrying out verification practices; and
- must be appointed by a GQA recognised centre
- must have a working knowledge of the awards they are internally verifying
- should hold or be working towards suitable qualifications for verification, as defined by PAA\VQ-SET.

ASSESSMENT METHODS AND TYPES OF EVIDENCE

The following section gives information on the different assessment methods/types of evidence that support assessment. The following assessment methods/types of evidence may be used to demonstrate competence or that the learner has achieved the required level of knowledge and understanding.

Observation of Performance

Observation allows the assessor to see learners carrying out their work activities. It will take place primarily in the workplace but can also be undertaken in a training scheme. Natural discussion should take place where possible during observation, allowing the assessor to ask questions relating to what they are observing at the time. Assessors must capture their observations either by a written report and/or other methods (e.g. video, audio recording).

Questioning

This method of assessment can be used to ensure that the learner has knowledge and understanding to support their skills. Questions can be used to check knowledge - these questions can either be verbal during or at the end of an observation, or they can be set in a written format in formal or informal conditions. As some units may focus entirely on learners' knowledge, assessors may encourage a variety of evidence to meet the requirements of the unit - use of verbal and/or written questions, learner statements and professional discussion (see below). Verbal questioning or professional discussion should be captured, either by written notes or audio recording.

Products

Work product evidence may be generated as a result of work activities undertaken by learners, and could include reports, letters, or records of work carried out.

Witness Statement or Testimony

A Witness Statement or Testimony is confirmation by others that the learner carried out an activity or series of activities relevant to the requirements of the unit. It could be written by the learner and signed by the witness to confirm that it did take place, or the witness may write the statement. Alternatively, the assessor could speak to the witness and record the discussion. The statement can then be used as evidence within an assessment.

There may be occasions when an Expert Witness may be required to contribute to the assessment process. GQA's definition of an Expert Witness is 'an experienced employee who works in partnership with the assessor, by observing the learner carrying out their duties and recording their observations in line with the assessment procedures'. It should be noted that while the Expert Witness makes a valued contribution to the assessment process, it is the assessor who makes the assessment decision.

Simulation

Simulations are a source of performance evidence showing how an activity is carried out. Simulations require careful planning to ensure that they reflect as near as possible "real life" conditions and the requirements of the qualification(s). As a result of this the costs to set up a simulation may be considerable. Simulations are likely to be used in the following situations:

- they occur infrequently (e.g. dealing with emergencies)
- they involve unusual working conditions (e.g. working in isolation, outside the workplace)
- the work is hazardous
- it is not cost effective

Any use of simulation should be discussed and agreed with the GQA External Verifier and approved prior to implementation.

Recognition of Prior Learning (RPL)

This is the process whereby credit is given to experienced individuals for their previous achievements. It requires careful mapping of the individual's experience to the unit(s) to ensure that it meets the requirements. This exercise must be referred to the External Verifier to ensure that all the evidence presented is acceptable.

Professional Discussion

A Professional Discussion gives the learner the opportunity to tell their assessor what they are doing and why they are doing it in a particular way. The discussion should be supported by appropriate evidence - an observation report, work product or witness testimony. Professional Discussions should be planned to give the learner the chance to prepare, and should be recorded.

Learner Statements

A Learner Statement is an account of an activity that took place, described by the learner. A detailed statement could demonstrate skill, and also provides evidence of knowledge and understanding. Learner statements should be authenticated by an appropriate person.

Photographs and use of other media

Photographs and use of other media, e.g. video and audio, can provide detail of work activities carried out and questioning. Photographs are more effective when used with supporting statements. Video and audio evidence should be effectively referenced to allow specific activities or questioning to be found easily. It is important to note that if photographs and other media are to be used, the learner and assessor should ensure that permission is gained from all people who may be involved.

GLOSSARY

Term	Definition
Access Arrangements	Arrangements that are approved in advance of an examination or assessment to allow achievement to be demonstrated by learners with a disability, special learning needs (including where the learner's first language is not English, Welsh or Irish) or to avoid unlawful discrimination
Appeal	The process through which an awarding organisation may be challenged on the outcome of an enquiry about results or, where appropriate, other procedural decisions affecting a centre or an individual learner
Assessment	The process of making judgements about the extent to which a learner's work meets the requirements of a unit, or any additional assessment requirements of a qualification
Assessor	A person who assesses a learner's work
Award of Qualifications	A certificate (electronic or paper-based) issued to an individual that recognises their achievement
Award	A qualification with a TQT value between 10 and 129
Awarding Organisation	A body recognised by the qualifications regulators to award qualifications
Centre	An organisation accountable to an awarding organisation for assessment arrangements leading to the award of qualifications
Centre Recognition	A process through which a centre wishing to offer an award or awards is confirmed as being able to maintain the required quality and consistency of assessment, and comply with other requirements of the awarding organisation
Certificate (1) for a Unit or Qualification	A record of attainment of a qualification issued by an awarding organisation
Certificate (2)	A qualification with a TQT value between 130 and 369
Credit	An award that may be made to a learner in recognition of the achievement of a unit or qualification
Credit Value	The number of credits that may be awarded to a learner for the successful achievement of a unit or qualification
Diploma	A qualification with a TQT value of 370 or above
Guided Learning Hours	The number of hours of teacher-supervised or directed study time required to teach a qualification or unit of a qualification
Learning Time	The amount of time a learner at the level of the unit is expected to take, on average, to complete the unit to the standard required
Level	An indication of the relative demand, complexity and/or depth of achievement, and/or the autonomy of the learner in demonstrating that achievement

Term	Definition
Mandatory Units	Units that must be achieved for the qualification to be awarded
National Occupational Standards (NOS)	Describe what a person needs to do, know and understand in a job to carry out the role in a consistent and competent way
Optional Unit	A unit that a learner may choose to complete to achieve the required number of units for award of the qualification
Pathway	A route to the achievement of a qualification that requires particular units to be achieved and is identified by an endorsement to a qualification title
Qualification	An award made to a Learner for the achievement of the required units or other components for that qualification
Qualification Level	An indication of the relative demand, complexity and/or depth of achievement, and/or the autonomy of the learner, represented by a qualification
Qualifications Regulators	Government-designated statutory organisations required to establish national standards for qualifications and secure consistent compliance with them
Recognition of Prior Learning (RPL)	A method of assessment that considers whether a learner can demonstrate that they can meet the assessment requirements for a unit through knowledge, understanding or skills they already possess and do not need to develop through a course of learning
Sector Skills Council	A body responsible for formulating and reviewing occupational standards for a specific sector across the UK, and for supporting the development of units and qualifications based on these standards. Each SSC is an employer-led, independent organisation and is licensed by government
Standardisation Of Assessment	A process to ensure that assessment leading to the award of qualifications is applied consistently by individuals, centres and awarding organisations
Unique Learner Number (ULN)	The unique number that is used to identify an individual learner
Unit	A component of a qualification

LEVEL 3 NVQ DIPLOMA IN SIGNMAKING

CONTENT OF THE QUALIFICATION

MANDATORY UNITS

UNIT 23	MONITOR AND MAINTAIN SAFETY, HEALTH AND ENVIRONMENT IN A SIGNMAKING ENVIRONMENT
LEVEL	3
CREDIT VALUE	8
GUIDED LEARNING HOURS	64

Unit Overview

This unit addresses the skills and knowledge required to monitor and maintain safety, health and environment in a signmaking environment.

Assessment Guidance and Evidence Requirements

The learner should provide evidence to meet the requirements of the Assessment Criteria, and those aspects of the Assessment Context (described below) that are relevant to their workplace and work role. In order to demonstrate consistent performance, evidence should be provided to show different examples of the learner's competence over a period of time (approximately 3 months) in activities relating to this unit.

For the Assessment Criteria relating to the learner's knowledge, different types of evidence and assessment methods could be used, for example learner statements, questioning and professional discussion which should be recorded for verification.

Assessment Guidance

- The use of simulation is acceptable in the assessment of this unit.
- The assumption is made that the learner undertaking this unit will have experience in their industry and is developing their role to include additional knowledge and skill.

Information on use of Assessment Context

The learner will work safely in accordance with organisational and operational procedures. Organisational and operational procedures relate to:

- legal requirements
- workplace policies
- manufacturers' instructions
- work instructions
- Health, safety and environmental

The following terms have a specific meaning in this unit:

Personal Protective Equipment

To include eye protection, hearing protection, safety gloves, safety footwear, hard hats and respirators/masks when appropriate

Health and Safety and Environmental Requirements

Responsibilities in respect of health and safety and environmental requirements and legislation, regulations, safe working practices, local, national and organisational/site specific procedures

Procedures to include the following types of emergency

Fire, contamination (e.g. from leaks, spillages, gas emission), accident and injury to persons

Environment

This is a broad term which refers to the global environment with which we all interact

Hazards

The Health and Safety Executive (HSE) definition is “a hazard is something with potential to cause harm

Risk/s

The Health and Safety Executive definition is “a risk is the likelihood of a hazard’s potential being realised”. In this unit these definitions apply equally to environmental hazards and risks. Risks to the environment covered by this unit are arising from:

- The use of materials and substances hazardous to the environment
- The disposal of waste, materials and substances hazardous to the environment
- Emission of gases, fumes or dust

Safe Working Practice

Method Statement

Workplace

This is the single or multiple areas in which work is carried out. This may be a shop, office, a manufacturing plant, outdoors, or an educational establishment

Working practices

These are any activities, procedures, use of materials or equipment and working techniques used. It also covers any omissions in good working practice which may pose a threat to health and safety

Workplace policies

This covers documentation prepared by the employer on the procedures to be followed regarding safety, health and environmental matters. It could be the employer’s environmental policy statement, or guidance covering aspects of the working practices or workplace that should be drawn to the employees’ (and “other persons”) attention

Workplace environmental procedures

These contain the specific instructions or details for people at work to follow for an environmentally friendly working environment. They will contain the instructions, for example, on disposal of materials hazardous to the environment. Legal and workplace environmental procedures covered by this unit are:

- Waste minimisation
- The use of environmentally safe working methods and equipment
- The use of personal protection equipment
- What to do in the event of an emergency involving environmental hazards
- Authorisation for handling, storing, using or disposing hazardous materials, products or equipment

Safety Audits

This can include reviewing of safety records, carrying out random safety checks.

Maintain the Work Environment

Good Housekeeping

Learning Outcome and Assessment Criteria

Learning outcomes The learner will:	Assessment criteria The learner can:
1. Know how to ensure compliance with safe working practices	1.1. Explain when and how to ensure that equipment is in safe working order 1.2. Explain when and why it is necessary to wear personal protective equipment (PPE) 1.3. Explain how to obtain and select appropriate personal protective equipment (PPE) 1.4. Explain why and when Portable Appliance Testing (PAT testing) should be carried out 1.5. Explain the principles of safe manual and mechanical handling
2. Know how to minimise risks	2.1. Compare the different types of hazard 2.2. Describe the different types of environmental hazard controls and when and how to use them 2.3. Explain why it is important to maintain the work environment to minimise risk 2.4. Explain when and why is it necessary to undertake and review a risk assessment
3. Know how to respond to accidents, incidents, hazards and emergencies	3.1. Explain how and why accidents, incidents and hazards should be reported 3.2. Explain how to respond in an emergency situation
4. Know how to undertake a safety audit	4.1. Explain why it is necessary and how often it is required to carry out a safety audit 4.2. Explain the different things that need to be checked in a safety audit
5. Know how to work to organisational and operational procedures	5.1. Explain what the current Health and Safety and environmental requirements are within the workplace and how to follow them 5.2. Explain the importance of complying with the Health and Safety and environmental policies 5.3. Explain what the consequences are of not following Health and Safety and environmental requirements 5.4. Explain what action to take if there are Health and Safety and environmental problems within the workplace 5.5. Compare the different ways to inform personnel about changes to procedures and requirements 5.6. Explain when and why is it necessary to undertake and review a safe working practice 5.7. Explain what the relevant first aid procedures are and how to ensure they are followed 5.8. Explain why certain data should be protected

<p>6. Be able to monitor and maintain personal protective equipment</p>	<p>6.1. Ensure that all personal protective equipment is maintained in accordance with company policy</p> <p>6.2. Ensure that the correct personal protective equipment is selected and used by all in the workplace and is appropriate for the work being carried out</p>
<p>7. Be able to control the response to accidents, incidents, hazards and emergencies</p>	<p>7.1. Ensure that all incidents and accidents are responded to and meet organisational procedures</p> <p>7.2. Ensure environmental hazards are controlled</p>
<p>8. Be able to ensure compliance with organisational and operational procedures</p>	<p>8.1. Ensure that all work carried out is in line with current legal requirements, workplace policies, Health and Safety and environmental procedures</p> <p>8.2. Ensure that risk assessments and safe working practices are present and up-to-date</p> <p>8.3. Ensure safety audits are carried out in accordance with company policy</p>

UNIT 24	CREATE, DEVELOP AND MAINTAIN EFFECTIVE WORKING RELATIONSHIPS IN A SIGNMAKING ENVIRONMENT
LEVEL	3
CREDIT VALUE	5
GUIDED LEARNING HOURS	34

Unit Overview

This unit addresses the skills and knowledge required to create, develop and maintain effective working relationships in a signmaking environment.

Assessment Guidance and Evidence Requirements

The learner should provide evidence to meet the requirements of the Assessment Criteria, and those aspects of the Assessment Context (described below) that are relevant to their workplace and work role. In order to demonstrate consistent performance, evidence should be provided to show different examples of the learner's competence over a period of time (approximately 3 months) in activities relating to this unit.

For the Assessment Criteria relating to the learner's knowledge, different types of evidence and assessment methods could be used, for example learner statements, questioning and professional discussion which should be recorded for verification.

Assessment Guidance

- The use of simulation is not acceptable in the assessment of this unit.
- Workplace performance evidence is mandatory.
- The assumption is made that the learner undertaking this unit will have experience in their industry and is developing their role to include additional knowledge and skill.

Information on use of Assessment Context

The learner will work safely in accordance with organisational and operational procedures. Organisational and operational procedures relate to:

- legal requirements
- workplace policies
- manufacturers' instructions
- work instructions
- Health, safety and environmental policies

The following terms have a specific meaning in this unit:

Colleagues

Work contacts within own organisation, colleagues in the same work group, colleagues in other work groups, immediate supervisors, those for whom the learner has responsibility, personnel in other departments

Identified Needs

By self, by others

External Contacts

Those supplying services, those requiring services

Relevant Personnel

Supervisor, line manager, team leader etc.

Learning Outcome and Assessment Criteria

Learning outcomes The learner will:	Assessment criteria The learner can:
1. Know how to create effective working relationships	1.1. Explain how to establish and build constructive relationships 1.2. Explain own work role and responsibilities 1.3. Explain colleagues' work roles and responsibilities
2. Know how to communicate to develop and maintain effective working relationships	2.1. Explain how to seek and exchange information, advice and support 2.2. Explain how to inform and consult with others about problems and proposals 2.3. Compare the use of different styles of approach in different situations 2.4. Compare methods of communication to suit individual needs 2.5. Explain how to check that people have understood the information given to them
3. Know how to deal with problems	3.1. Explain how to deal with disagreements and conflict 3.2. Explain what working relationship problems may occur 3.3. Explain what action to take if there are problems
4. Know own authority for dealing with external relationships	4.1. Explain the scope and limit of own authority for dealing with external relationships 4.2. Explain the organisational requirements for dealing with external relationships
5. Know how to work to organisational and operational procedures	5.1. Explain how to deal with confidential information 5.2. Explain the organisation's reporting procedures 5.3. Explain what legislation and organisational codes of practice are relevant 5.4. Explain what the consequences of not following legislation and organisational requirements are
6. Be able to create, develop and maintain effective working relationships	6.1. Create, develop and maintain constructive relationships with colleagues and external contacts to enable working arrangements to be fulfilled 6.2. Meet commitments to colleagues and external contacts within agreed timescales 6.3. Provide colleagues with information and support, to meet identified needs 6.4. Identify and raise concerns over quality of work within agreed timescales and discuss with the relevant person
7. Be able to develop communication methods to maintain effective working relationships	7.1. Ensure that the methods of communication and support are appropriate to the needs of colleagues and external contacts 7.2. Respond to requests for information within agreed timescales, courteously and accurately
8. Be able to deal with confidential information	8.1. Maintain the confidentiality of information relating to colleagues and external contacts according to organisational requirements

UNIT 25	RECEIVE, INTERPRET AND CONFIRM INSTRUCTIONS IN A SIGNMAKING ENVIRONMENT
LEVEL	3
CREDIT VALUE	4
GUIDED LEARNING HOURS	23

Unit Overview

This unit addresses the skills and knowledge required to receive, interpret and confirm instructions in a signmaking environment.

Assessment Guidance and Evidence Requirements

The learner should provide evidence to meet the requirements of the Assessment Criteria, and those aspects of the Assessment Context (described below) that are relevant to their workplace and work role. In order to demonstrate consistent performance, evidence should be provided to show that learners carry out activity relevant to this unit on at least two separate occasions.

For the Assessment Criteria relating to the learner's knowledge, different types of evidence and assessment methods could be used, for example learner statements, questioning and professional discussion which should be recorded for verification.

Assessment Guidance

- The use of simulation is not acceptable in the assessment of this unit.
- Workplace performance evidence is mandatory.
- The assumption is made that the learner undertaking this unit will have experience in their industry and is developing their role to include additional knowledge and skill.

Information on use of Assessment Context

The learner will work safely in accordance with organisational and operational procedures. Organisational and operational procedures relate to:

- legal requirements
- workplace policies
- manufacturers' instructions
- work instructions
- Health, safety and environmental policies

The following terms have a specific meaning in this unit:

Organisational Requirements

Policies, procedures

Clients

Internal and/or external, colleagues, line managers, supervisors, team leaders etc.

Specifications for Work

New work, variations

Relevant Personnel

Sales personnel, supervisor, line manager, team leader etc.

Learning Outcome and Assessment Criteria

Learning outcomes The learner will:	Assessment criteria The learner can:
1. Know how to identify the information to meet customer needs	1.1. Explain what types of information are required 1.2. Explain how to identify and agree the information which will meet customer needs 1.3. Explain why it is important to identify and clarify omissions and inconsistencies in information
2. Know how to deal with problems	2.1. Explain how to inform relevant personnel about problems in meeting work specifications 2.2. Explain what problems may occur when receiving, interpreting and confirming instructions 2.3. Explain what the appropriate action to take is if there are problems 2.4. Explain who to refer requests to which are outside own responsibility
3. Know how to present instructions	3.1. Explain how to present instructions 3.2. Explain how to represent amended instructions
4. Know how to record information in accordance with organisational procedures	4.1. Explain why it is important to record advice given to the customer 4.2. Explain how to record information which is complete and accurate 4.3. Explain the documentation procedures and how they are completed 4.4. Explain which recording methods and storage places to use and why and how to use them
5. Know how to maintain confidentiality	5.1. Explain how to comply with data protection legislation 5.2. Explain who authorised and unauthorised personnel are 5.3. Explain what the consequences are for the individual and the organisation of not maintaining security and confidentiality in line with relevant legislation
6. Be able to select suitable information to meet identified customer needs	6.1. Ensure that all information used is relevant, current, accurate and suitable to meet identified customer needs 6.2. Ensure that any omissions and inconsistencies in information are clarified with the customer
7. Be able to deal with instructions	7.1. Ensure that instructions received conform to organisational capabilities and requirements 7.2. Confirm and agree final instructions
8. Be able to deal with problems	8.1. Identify problems in meeting work specification and deal with in accordance with organisational procedures 8.2. Refer requests which are outside own responsibility to relevant personnel

9. Be able to complete and store records	<ul style="list-style-type: none">9.1. Record relevant information accurately and legibly and forward to the relevant personnel according to organisational procedures9.2. Ensure that records are stored according to organisational procedures9.3. Ensure compliance with organisational confidentiality procedures
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OPTIONAL UNITS - GROUP A

UNIT 20	DETERMINE AND CARRY OUT MAINTENANCE OF SIGN PRODUCTS IN A SIGNMAKING ENVIRONMENT
LEVEL	2
CREDIT VALUE	10
GUIDED LEARNING HOURS	60

Unit Overview

This unit addresses the skills and knowledge required to determine and carry out maintenance of sign products in a signmaking environment.

Assessment Guidance and Evidence Requirements

The learner should provide evidence to meet the requirements of the Assessment Criteria, and those aspects of the Assessment Context (described below) that are relevant to their workplace and work role. In order to demonstrate consistent performance, evidence should be provided to show that learners carry out activity relevant to this unit on at least two separate occasions.

For the Assessment Criteria relating to the learner's knowledge, different types of evidence and assessment methods could be used, for example learner statements, questioning and professional discussion which should be recorded for verification.

Assessment Guidance

- The use of simulation is not acceptable in the assessment of this unit.
- Workplace performance evidence is mandatory.
- The assumption is made that the learner undertaking this unit will have a fundamental level of experience and induction of the sector and will be looking for recognition of their skills, understanding and knowledge.

Information on use of Assessment Context

The learner will work safely in accordance with organisational and operational procedures. Organisational and operational procedures relate to:

- legal requirements
- workplace policies
- manufacturers' instructions
- work instructions
- Health and Safety and environmental policies

The following terms have a specific meaning in this unit:

Sources of Danger

People, equipment, components, surrounding environment

Records

Written, graphic

Installations

Indoor, outdoor, unrestricted access, restricted access

Specification

Written, in diagrammatic form, provided verbally

Equipment and Components

Complex; Simple, fragile, robust

Removal and Replacement Involving

Easy access, simple removal and replacement difficult access, complex removal and replacement

Post-Removal Handling

Cleaning, marking, storing, transporting

Repairs

Simple, routine

Relevant Personnel

Line manager, supervisor, team leader, client, supplier etc.

Relevant Health and Safety and Environmental Requirements

Responsibilities in respect of Health and Safety and environmental requirements and legislation, regulations, safe working practices, local, national and organisational/site specific procedures

Learning Outcome and Assessment Criteria

Learning outcomes The learner will:	Assessment criteria The learner can:
1. Know how to carry out maintenance procedures	1.1. State why is it important that disconnections and isolation have been carried out prior to maintenance or repair 1.2. Identify the different types of maintenance used to maintain sign products 1.3. Outline the consequences of not carrying out preventative maintenance 1.4. State how to interpret instructions and work to agreed timescales 1.5. Identify personal and organisational consequences of not being efficient 1.6. Describe the relevant authorisation procedures and how to follow them 1.7. State how to determine the resources required and how to use them cost effectively 1.8. Describe what marking systems could be used and how to use them
2. Know how to identify and eliminate sources of danger	2.1. Identify the sources of danger associated with the installation and how to eliminate them 2.2. Describe why dangers need to be considered before starting and the consequences of not doing so

<p>3. Know how to position and install sign maintenance equipment</p>	<p>3.1. Describe how to determine the structural and equipment factors which affect where equipment can be positioned</p> <p>3.2. State what is acceptable positioning and why its consideration is important</p> <p>3.3. Describe what is acceptable and unacceptable damage</p> <p>3.4. Identify the methods and techniques for securing equipment and how to carry them out</p> <p>3.5. Describe the meanings of terms used in installation specifications</p>
<p>4. Know how to repair and restore components to their original condition</p>	<p>4.1. Identify suitable repair materials to meet required specifications for type, quality and serviceability</p> <p>4.2. Identify the appropriate timescale for a given repair or replacement</p> <p>4.3. Identify the operations that could be disrupted by repair and explain how to minimise the disruption</p> <p>4.4. Identify removal and replacement methods and techniques that are suitable in given situations and explain how to carry them out</p> <p>4.5. Identify acceptable tools, equipment and methods for the given repair or replacement and explain how to use them</p> <p>4.6. Identify suitable types of protection for components and surrounding components in various situations</p> <p>4.7. State when repaired components comply with the specified condition for the operation</p>
<p>5. Know how to deal with problems</p>	<p>5.1. Identify the types of problems that may occur</p> <p>5.2. Identify the appropriate action to take if there are problems</p> <p>5.3. Outline the action to take to prevent damage to components, tools and equipment during repair</p> <p>5.4. Describe how and why it is important to control the release of hazardous substances</p> <p>5.5. Describe the risks associated with the removal and replacement of substances and components</p>
<p>6. Know how to maintain records and other documentation</p>	<p>6.1. Identify which records are required and explain how to complete them accurately</p> <p>6.2. Identify when to complete documentation and why it must be completed accurately</p>
<p>7. Be able to carry out maintenance procedures</p>	<p>7.1. Ensure that resources comply with specification and are used cost effectively</p> <p>7.2. Remove, clean and replace signs and associated fittings in line with work instructions</p> <p>7.3. Ensure appropriate action is taken during maintenance operations to minimise disruption</p> <p>7.4. Carry out maintenance procedures within an agreed timescale</p> <p>7.5. Use tools, equipment and methods according to safe working practices</p>

<p>8. Be able to position and install sign maintenance equipment</p>	<p>8.1. Identify, report and eliminate potential sources of danger before installation</p> <p>8.2. Undertake installation safely using approved methods and techniques following quality procedures</p> <p>8.3. Ensure that the position of equipment and components meets specified requirements</p> <p>8.4. Check that equipment and components are free of damage after positioning and installation</p> <p>8.5. Ensure that the installation is secure in the specified location with fixed items attached to suitable load bearing structures</p> <p>8.6. Carry out necessary preventative maintenance and remedial actions</p>
<p>9. Be able to remove and replace sign components</p>	<p>9.1. Apply clear and appropriate marking systems for components and connections</p> <p>9.2. Ensure that the removal and replacement of components is completed using appropriate methods within agreed timescales</p> <p>9.3. Handle components after removal according to specification</p> <p>9.4. Check that any replacements used meet the required specification</p> <p>9.5. Check that the repaired components comply with operational requirements</p> <p>9.6. Complete repairs within an agreed timescale and take the appropriate action to minimise disruption to operations</p> <p>9.7. Take adequate precautions to prevent damage to components, tools and equipment during repairs</p>
<p>10. Be able to deal with problems</p>	<p>10.1. Deal with problems and report those that cannot be solved personally to the relevant person</p> <p>10.2. Minimise the release of hazardous materials according to site and environmental requirements</p>
<p>11. Be able to maintain records and other documentation</p>	<p>11.1. Ensure that work records are complete, accurate, current and legible</p>

UNIT 26	PREPARE AND PRODUCE QUOTATIONS IN A SIGNMAKING ENVIRONMENT
LEVEL	3
CREDIT VALUE	8
GUIDED LEARNING HOURS	54

Unit Overview

This unit addresses the skills and knowledge required to prepare and produce quotations in a signmaking environment.

Assessment Guidance and Evidence Requirements

The learner should provide evidence to meet the requirements of the Assessment Criteria, and those aspects of the Assessment Context (described below) that are relevant to their workplace and work role. In order to demonstrate consistent performance, evidence should be provided to show that learners carry out activity relevant to this unit on at least two separate occasions.

For the Assessment Criteria relating to the learner's knowledge, different types of evidence and assessment methods could be used, for example learner statements, questioning and professional discussion which should be recorded for verification.

Assessment Guidance

- The use of simulation is not acceptable in the assessment of this unit.
- Workplace performance evidence is mandatory.
- The assumption is made that the learner undertaking this unit will have experience in their industry and is developing their role to include additional knowledge and skill.

Information on use of Assessment Context

The learner will work safely in accordance with organisational and operational procedures. Organisational and operational procedures relate to:

- legal requirements
- workplace policies
- manufacturers' instructions
- work instructions
- Health, safety and environmental policies

The following terms have a specific meaning in this unit:

Relevant Personnel

Suppliers, colleagues, internal and external technical specialists, purchasing, team leaders, supervisors etc.

Information Sources

Material costs, labour requirements, labour costs, policies for allocating overheads, running allowances, historical data

Organisational Requirements

Manufacturing, sales, policies, procedures

Production Costs

Cost rates, machine time/outputs

Materials and Services

Raw materials, consumables, externally purchased

Relevant Remedial Action

Record, report, adjust

Recording Methods

Manual, computerised

Strengths, Weaknesses, Opportunities and Threats

Market forces, current workload, type of work, client history, changes in technology

Specifications

Price, quality, quantity, delivery schedule

Contact with Suppliers

Written, telephone, face-to-face

Client

Internal or external

Format of Final Estimates

Routine formal estimate with sales letter, promotional packages, samples

Relevant Health and Safety and Environmental Requirements

Responsibilities in respect of health and safety and environmental requirements and legislation, regulations, safe working practices, local, national and organisational/site specific procedures

Learning Outcome and Assessment Criteria

Learning outcomes The learner will:	Assessment criteria The learner can:
1. Know how to obtain and analyse the information needed for the quotation	1.1. Explain how to consult with relevant personnel to obtain the price of materials and services to achieve the specification 1.2. Explain how to check that the information obtained is current, relevant and accurate 1.3. Explain how to establish production, design, manufacture and installation costs 1.4. Explain how to identify purchase requirements 1.5. Explain how to identify and contact suppliers
2. Know how to request and analyse estimates from suppliers	2.1. Explain how to request estimates to meet supply specifications and ensure they arrive within required time schedule 2.2. Explain how to analyse estimates received against specifications and enter into negotiations as required 2.3. Explain how to select the estimate that is most suitably matched to specifications 2.4. Explain the importance of communication when negotiating with suppliers 2.5. Analyse the consequences of inaccurate estimates
3. Know how to prepare quotations	3.1. Explain the importance of obtaining accurate quotations 3.2. Explain how to prepare quotations in a suitable format using appropriate documentation to meet the needs of the customer and organisation 3.3. Explain the importance of accurate costings and calculations
4. Know how to determine the correct pricing	4.1. Explain pricing policies and how to apply them 4.2. Analyse how to ensure that prices take into account current strengths, weaknesses, opportunities and threats
5. Know how to calculate the cost	5.1. Explain how to confirm costings in accordance with requirements 5.2. Explain how to adjust costs where time constraints or resource contingencies necessitate alternative provision 5.3. Explain how to confirm that costings are accurate and current according to organisational requirements
6. Know how to produce quotations	6.1. Compare the different formats in which estimates can be produced 6.2. Explain how to undertake a final check of quotations and identify and note any contingencies and potential liabilities

	<p>6.3. Explain how to identify, obtain and submit samples and relevant information requested by the client with the quotation</p> <p>6.4. Explain how to forward quotations to the customer in the requested format and follow up in accordance with organisational requirements</p> <p>6.5. Explain how to record and document established selling price accurately and legibly according to organisational requirements</p>
7. Know how to deal with problems when preparing and producing quotations	<p>7.1. Analyse the problems that may occur</p> <p>7.2. Explain what the appropriate action to take is if there are problems</p> <p>7.3. Explain the discrepancies likely to be encountered and how they are dealt with</p>
8. Be able to prepare quotations	<p>8.1. Establish production, design, manufacture and installation costs</p> <p>8.2. Take account of any potential contingencies and potential liabilities</p> <p>8.3. Prepare quotation ensuring compliance and accuracy with specification and customer instructions</p> <p>8.4. Prepare the quote including accurate costings and calculations</p> <p>8.5. Ensure accurate information is obtained to prepare a quote</p>
9. Be able to select the resources needed to produce the quotation	<p>9.1. Consult a variety of information sources to identify materials and products</p> <p>9.2. Identify and obtain suppliers in accordance with company procedures</p> <p>9.3. Identify sub-contractors in accordance with company procedures</p>
10. Be able to produce the quotation	<p>10.1. Identify purchase requirements</p> <p>10.2. Produce quotation in accordance with company procedures</p> <p>10.3. Present final quotation with supporting information</p> <p>10.4. Provide a sample to support the quotation if required by the customer</p>

UNIT 27	ESTABLISH AND IDENTIFY VARIATIONS TO CONTRACT IN A SIGNMAKING ENVIRONMENT
LEVEL	3
CREDIT VALUE	6
GUIDED LEARNING HOURS	42

Unit Overview

This unit addresses the skills and knowledge required to establish and identify variations to the contract in a signmaking environment.

Assessment Guidance and Evidence Requirements

The learner should provide evidence to meet the requirements of the Assessment Criteria, and those aspects of the Assessment Context (described below) that are relevant to their workplace and work role. In order to demonstrate consistent performance, evidence should be provided to show that learners carry out activity relevant to this unit on at least two separate occasions.

For the Assessment Criteria relating to the learner's knowledge, different types of evidence and assessment methods could be used, for example learner statements, questioning and professional discussion which should be recorded for verification.

Assessment Guidance

- The use of simulation is not acceptable in the assessment of this unit.
- Workplace performance evidence is mandatory.
- The assumption is made that the learner undertaking this unit will have experience in their industry and is developing their role to include additional knowledge and skill.

Information on use of Assessment Context

The learner will work safely in accordance with organisational and operational procedures. Organisational and operational procedures relate to:

- legal requirements
- workplace policies
- manufacturers' instructions
- work instructions
- Health, safety and environmental policies

The following terms have a specific meaning in this unit:

Method of Communication

Verbal, written

Variations Identified

Visual checks or dimensional accuracy checks and/or product specification checks as appropriate to the process

Different types of variations

Variation within specification but not optimum, variation out of specification

Consequences of Variations

Immediate, long-term

Types of Work Instructions

Technical, non-technical

Inspection Techniques and Methods

Visual, use of equipment, use of instruments

Relevant Personnel

Line manager, team leader, supervisor, maintenance department etc.

Learning Outcome and Assessment Criteria

Learning outcomes The learner will:	Assessment criteria The learner can:
1. Know how to select and analyse information	1.1. Compare the different types of work instructions 1.2. Explain how to analyse information 1.3. Explain when to consult with the relevant personnel to obtain additional information 1.4. Explain how to record information 1.5. Explain why it is important to record information 1.6. Outline the relevant legislative requirements
2. Know how to establish and identify variations or non-conformances	2.1. Compare the different types of inspection techniques and methods 2.2. Describe the different types of variations or non-conformances 2.3. Compare the consequences of variations or non-conformances 2.4. Explain how to identify obvious variations or non-conformances in products and materials using suitable techniques and methods
3. Know how to rectify variations or non-conformances	3.1. Explain how to identify the appropriate action needed to minimise the adverse consequence of variations or non-conformances 3.2. Explain how to obtain authorisation for identified rectification from relevant personnel, when appropriate 3.3. Explain how to report recommendations promptly and clearly to relevant personnel using the appropriate method of communication
4. Be able to establish and identify variations or non-conformances to contract	4.1. Establish the consequences of variations or non-conformances to contract using appropriate inspection method 4.2. Identify and recommend realistic potential solutions to the cause of variations or non-conformances using appropriate inspection method

<p>5. Be able to resolve variations or non-conformances to contract</p>	<p>5.1. Resolve variations and non-conformances using inspection methods as appropriate</p> <p>5.2. Inform relevant personnel as appropriate</p>
<p>6. Be able to deal with adverse consequences</p>	<p>6.1. Identify any adverse consequences of variations or non-conformance</p> <p>6.2. Minimise any adverse consequences of variations or non-conformance</p> <p>6.3. Inform the customer of any adverse consequences of variations or non-conformance</p>
<p>7. Be able to analyse and record information on contract variation or non-conformances</p>	<p>7.1. Analyse information taking account of all factors</p> <p>7.2. Record information as required using the documentation in accordance with organisational requirements</p> <p>7.3. Record details of the variation or non-conformance and solutions and store in accordance with organisational procedures</p>

UNIT 28	PLAN AND MONITOR PRODUCTION PROCESS IN A SIGNMAKING ENVIRONMENT
LEVEL	3
CREDIT VALUE	8
GUIDED LEARNING HOURS	55

Unit Overview

This unit addresses the skills and knowledge required to plan and monitor production process within a signmaking environment.

Assessment Guidance and Evidence Requirements

The learner should provide evidence to meet the requirements of the Assessment Criteria, and those aspects of the Assessment Context (described below) that are relevant to their workplace and work role. In order to demonstrate consistent performance, evidence should be provided to show that learners carry out activity relevant to this unit on at least two separate occasions.

For the Assessment Criteria relating to the learner's knowledge, different types of evidence and assessment methods could be used, for example learner statements, questioning and professional discussion which should be recorded for verification.

Assessment Guidance

- The use of simulation is not acceptable in the assessment of this unit.
- Workplace performance evidence is mandatory.
- The assumption is made that the learner undertaking this unit will have experience in their industry and is developing their role to include additional knowledge and skill.

Information on use of Assessment Context

The learner will work safely in accordance with organisational and operational procedures. Organisational and operational procedures relate to:

- legal requirements
- workplace policies
- manufacturers' instructions
- work instructions
- Health, safety and environmental policies

The following terms have a specific meaning in this unit:

Appropriate Action

Report, record, clarify, rectify

Production Specifications

Delivery schedule, quality, quantity, effective use of supplies

Relevant Personnel

Line manager, team leaders, supervisors, production, purchasing, sales, despatch, client

Documentation

Purchase orders for supplies, order acknowledgement, works instruction ticket

Organisational Requirements

Policies, procedures

Problems

Machine availability, availability of materials, sub-contractor availability

Production Problems

Limitations of production processes, conflict of demand, customer delays in forwarding materials, material delays, technical faults, machine breakdowns, manpower availability, bottlenecks

Work Activities/Records to Comply with

Organisational policy, practices and procedures, health, hygiene and safety legislation, employment and other legal requirements, industry-specific legislation, approved codes of practice, customer requirements

Communications

Written, verbal, computer-based, practical demonstration, visual/pictorial

Relevant Health and Safety and Environmental Requirements

Responsibilities in respect of health and safety and environmental requirements and legislation, regulations, safe working practices, local, national and organisational/site specific procedures

Learning Outcome and Assessment Criteria

Learning outcomes The learner will:	Assessment criteria The learner can:
1. Know how to plan a safe production process	1.1. Explain how to identify and interpret work instructions for the production process 1.2. Describe the different specification requirements 1.3. Describe the importance of resources availability 1.4. Compare different manufacturing methods 1.5. Explain how to organise and schedule workload and why it is important according to organisational procedures 1.6. Describe how to carry out a risk assessment to ensure a safe production process 1.7. Outline the relevant legislative requirements 1.8. Explain how the production process plan is recorded according to organisational procedures
2. Know how to monitor the production process	2.1. Explain how to monitor the production process 2.2. Describe the process for recommending improvements in operations 2.3. Explain how to communicate requirements for work activities 2.4. Explain how to complete documentation according to organisational requirements

<p>3. Know how to deal with production process problems</p>	<p>3.1. Explain the type of problems that can occur when planning the production process</p> <p>3.2. Explain the type of problems that can occur when monitoring the production process</p> <p>3.3. Explain what actions to take if operations are disrupted</p> <p>3.4. Explain the importance of maintaining quality assurance</p> <p>3.5. Explain how to report any production problems promptly and clearly to relevant personnel using the appropriate method of communication</p>
<p>4. Be able to plan the production process</p>	<p>4.1. Establish schedule of work according to work instructions, organisational, customer and legislative requirements</p> <p>4.2. Record details of schedule of work according to work instructions, organisational and customer requirements</p> <p>4.3. Ensure the resources are available to achieve the production specification</p> <p>4.4. Carry out a risk assessment to ensure a safe production process</p> <p>4.5. Inform relevant personnel as appropriate</p>
<p>5. Be able to monitor the production process</p>	<p>5.1. Monitor production to meet scheduled requirements</p> <p>5.2. Check process against production specification</p> <p>5.3. Identify any discrepancies and problems and take the appropriate action</p> <p>5.4. Communicate and liaise with relevant personnel throughout the process</p> <p>5.5. Ensure all documentation is completed accurately for the job</p>

UNIT 29	PREPARE, PLAN AND MONITOR INSTALLATION PROCESS IN A SIGNMAKING ENVIRONMENT
LEVEL	4
CREDIT VALUE	18
GUIDED LEARNING HOURS	125

Unit Overview

This unit addresses the skills and knowledge required to prepare, plan and monitor installation process within a signmaking environment.

Assessment Guidance and Evidence Requirements

The learner should provide evidence to meet the requirements of the Assessment Criteria, and those aspects of the Assessment Context (described below) that are relevant to their workplace and work role. In order to demonstrate consistent performance, evidence should be provided to show that learners carry out activity relevant to this unit on at least two separate occasions.

For the Assessment Criteria relating to the learner's knowledge, different types of evidence and assessment methods could be used, for example learner statements, questioning and professional discussion which should be recorded for verification.

Assessment Guidance

- The use of simulation is not acceptable in the assessment of this unit.
- Workplace performance evidence is mandatory.
- The assumption is made that the learner undertaking this unit will have experience in their industry and is developing their role to include additional knowledge and skill.

Information on use of Assessment Context

The learner will work safely in accordance with organisational and operational procedures. Organisational and operational procedures relate to:

- legal requirements
- workplace policies
- manufacturers' instructions
- work instructions
- Health, safety and environmental policies

The following terms have a specific meaning in this unit:

Project Data

Conditions of contract, bills of quantities, specifications, schedules, detailed site drawings, detailed utilities drawings and Health and Safety procedures

Methods of Installation and Work

Sequence of operations, organisation of resources

Alternative Sources of Information

Client, client's representatives, contractors, subcontractors, suppliers, regulatory authorities, technical literature, trade literature

Factors Compromising Works

Site conditions, statutory regulations and limitations, codes of practice, Health and Safety

Resources

Personnel, plant and equipment, materials and components, sub-contractors

Special Requirements

Occupiers, near neighbours, public access, site conditions, statutory regulations and limitations, codes of practice

Relevant Health and Safety and Environmental Requirements

Responsibilities in respect of Health and Safety and environmental requirements and legislation, regulations, safe working practices, local, national and organisational/site specific procedures

Workplace

This is a single outdoor area in which work is carried out

Monitoring

Can include supervision

Plan

Schedule

Learning Outcome and Assessment Criteria

Learning outcomes The learner will:	Assessment criteria The learner can:
1. Know how to prepare for the installation process	1.1. Explain how to identify and interpret work instructions 1.2. State the different types of statutory controls and consents that may be used in an installation process 1.3. Explain how to identify aspects of the project to which statutory controls apply and for which consents are required 1.4. Describe how to carry out a risk assessment of the installation site 1.5. Explain how to identify the different types of factors that could compromise the installation process 1.6. Explain how to identify relevant utility and emergency services 1.7. Explain how and when to notify the customer 1.8. State the relevant health, safety and environmental legislation that needs to be taken into consideration
2. Know how to plan the installation process	2.1. Explain how to plan the storage and use of materials and components to minimise wastage 2.2. Explain how to ensure that there are sufficient resources to meet the work programme 2.3. Explain how to identify, obtain, organise and plan resources for installation process 2.4. Explain how to maximise efficient logistics and materials handling 2.5. Explain how to notify proposed works to utility and emergency services 2.6. Explain how to organise and control site conditions 2.7. Explain how to complete the relevant organisational documentation for the installation process 2.8. Explain when and how to alter the work plan as appropriate 2.9. Explain how to identify site and works access points which maximise logistics and minimise disruption 2.10. Explain how to agree and communicate programme and methods to relevant personnel within agreed timescales
3. Know how to monitor the installation process	3.1. Explain how to ensure that adequate site security arrangements are made prior to and during operations 3.2. Explain how to identify, quantify and justify any alterations to the work programme to suit changed circumstances 3.3. Explain how to organise and control the workplace 3.4. Explain how to clarify, confirm, update, agree, communicate and monitor contract programmes and methods

<p>4. Know how maintain information and records</p>	<p>4.1. Explain what records of notices need to be cited and maintained</p> <p>4.2. Explain the statutory requirements for notices and information</p> <p>4.3. Explain what records of attendance need to be organised</p>
<p>5. Be able to prepare for installation process</p>	<p>5.1. Interpret work instructions for the installation process</p> <p>5.2. Comply with appropriate health and safety legislation</p> <p>5.3. Establish the statutory controls and consents required for the installation process</p> <p>5.4. Carry out a risk assessment of the installation site</p> <p>5.5. Establish the relevant health, safety and environmental requirements</p> <p>5.6. Establish where the relevant utility services are within the installation site</p> <p>5.7. Inform relevant personnel as appropriate</p>
<p>6. Be able to plan the installation process</p>	<p>6.1. Plan the installation in accordance with work instructions</p> <p>6.2. Plan the storage and use of materials and components to minimise wastage</p> <p>6.3. Ensure that there are sufficient resources to meet the work programme</p> <p>6.4. Identify, obtain, organise and plan resources for installation process</p> <p>6.5. Notify and receive authorisation for proposed works from utility and emergency services as appropriate</p> <p>6.6. Organise and control site conditions to relevant health, safety and environmental requirements</p> <p>6.7. Complete the relevant organisational documentation for the installation process</p> <p>6.8. Alter the work plan as appropriate</p> <p>6.9. Ensure site and works access points are accessible with minimum disruption</p> <p>6.10. Inform relevant personnel as appropriate</p>
<p>7. Be able to monitor the installation process</p>	<p>7.1. Monitor the installation in accordance with work instructions</p> <p>7.2. Ensure that adequate site security arrangements are made prior to and during operations</p> <p>7.3. Identify, quantify and justify any alterations to the work programme to suit changed circumstances</p> <p>7.4. Organise and control the workplace</p> <p>7.5. Clarify, confirm, update, agree, communicate and monitor contract programmes and methods</p> <p>7.6. Comply with relevant health, safety and environmental legislation</p>
<p>8. Be able to maintain information and records</p>	<p>8.1. Record all information accurately and legibly using appropriate documentation in accordance with organisational procedures</p>

UNIT 30	ENABLE LEARNING THROUGH DEMONSTRATION AND INSTRUCTION IN A SIGMAKING ENVIRONMENT
LEVEL	3
CREDIT VALUE	3
GUIDED LEARNING HOURS	18

Unit Overview

This unit addresses the skills and knowledge required to enable learning through demonstration and instruction in a signmaking environment.

Assessment Guidance and Evidence Requirements

The learner should provide evidence to meet the requirements of the Assessment Criteria, and those aspects of the Assessment Context (described below) that are relevant to their workplace and work role. In order to demonstrate consistent performance, evidence should be provided to show that learners carry out activity relevant to this unit on at least two separate occasions.

For the Assessment Criteria relating to the learner's knowledge, different types of evidence and assessment methods could be used, for example learner statements, questioning and professional discussion which should be recorded for verification.

Assessment Guidance

- The use of simulation is not acceptable in the assessment of this unit.
- Workplace performance evidence is mandatory.
- The assumption is made that the learner undertaking this unit will have experience in their industry and is developing their role to include additional knowledge and skill.

Information on use of Assessment Context

The learner will work safely in accordance with organisational and operational procedures. Organisational and operational procedures relate to:

- legal requirements
- workplace policies
- manufacturers' instructions
- work instructions
- Health, safety and environmental policies

Learning Outcome and Assessment Criteria

Learning outcomes The learner will:	Assessment criteria The learner can:
1. Know how to prepare for the demonstration and instruction	1.1. Describe how to identify demonstration and instruction needs in relation to the learners 1.2. Explain how to choose and prepare appropriate materials, including technology-based materials 1.3. Explain which factors are likely to prevent learning and how to overcome them 1.4. Describe how to plan a demonstration
2. Know how to undertake demonstration and instruction in signmaking operations	2.1. Describe how to carry out a demonstration 2.2. Explain the order in which the signmaking activity must be carried out 2.3. Explain how to decide whether the language and level used is appropriate for the learners 2.4. Explain how to encourage learners to ask questions and get explanation at appropriate stages in the demonstration 2.5. Explain how to reduce distractions and disruptions as much as possible 2.6. Explain how and when to check learners' understanding and progress 2.7. Explain how to give positive feedback
3. Be able to prepare to carry out demonstration and instruction in signmaking operations	3.1. Create a demonstration plan 3.2. Ensure that demonstrations take place in a safe environment and allow learners to see the demonstration clearly 3.3. Assess needs in relation to the learners 3.4. Choose and prepare appropriate materials, including technology-based materials 3.5. Overcome any factors that are likely to prevent learning
4. Be able to carry out demonstration and instruction in signmaking operations	4.1. Carry out a demonstration 4.2. Encourage learners to ask questions and get explanation at appropriate stages in the demonstration 4.3. Reduce distractions and disruptions as much as possible 4.4. Check learners' understanding and progress 4.5. Give positive feedback

UNIT 31	CONDUCT SITE SURVEY IN A SIGMAKING ENVIRONMENT
LEVEL	3
CREDIT VALUE	6
GUIDED LEARNING HOURS	38

Unit Overview

This unit addresses the skills and knowledge required to conduct site survey in a signmaking environment.

Assessment Guidance and Evidence Requirements

The learner should provide evidence to meet the requirements of the Assessment Criteria, and those aspects of the Assessment Context (described below) that are relevant to their workplace and work role. In order to demonstrate consistent performance, evidence should be provided to show that learners carry out activity relevant to this unit on at least two separate occasions.

For the Assessment Criteria relating to the learner's knowledge, different types of evidence and assessment methods could be used, for example learner statements, questioning and professional discussion which should be recorded for verification.

Assessment Guidance

- The use of simulation is not acceptable in the assessment of this unit.
- Workplace performance evidence is mandatory.
- The assumption is made that the learner undertaking this unit will have experience in their industry and is developing their role to include additional knowledge and skill.

Information on use of Assessment Context

The learner will work safely in accordance with organisational and operational procedures. Organisational and operational procedures relate to:

- legal requirements
- workplace policies
- manufacturers' instructions
- work instructions
- Health, safety and environmental policies

The following terms have a specific meaning in this unit:

Site Survey Factors

Location, environment and amenities

Relevant Information

Site, manpower capabilities, and sequence of operations

Company or Organisation's Standards/Procedures

File-naming and location, frequency of file maintenance

Relevant Health and Safety and Environmental Requirements

Responsibilities in respect of Health and Safety and environmental requirements and legislation, regulations, safe working practices, local, national and organisational/site specific procedures

Learning Outcome and Assessment Criteria

Learning outcomes The learner will:	Assessment criteria The learner can:
1. Know how to conduct a site survey	1.1. Explain the requirements for gaining access to the site 1.2. Explain how to handle and operate equipment safely 1.3. State the legal requirements, workplace policies, manufacturers' instructions, work instructions, Health, Safety and Environmental requirements for carrying out a site survey 1.4. Explain how to carry out a site survey in a safe and professional manner 1.5. Outline the relevant information required for utilities and emergency services 1.6. Explain how to record all required information for a site survey
2. Know how to deal with problems	2.1. Explain the different problems that may occur 2.2. Explain the appropriate action to take if there are problems 2.3. Explain how to inform the relevant personnel
3. Know how to analyse and evaluate sign survey data	3.1. Explain how to ensure data collected is accurate 3.2. Explain how to analyse and evaluate survey data 3.3. Explain how to ensure survey data meets requirements 3.4. Explain how to record and store all required information prior to installation
4. Be able to conduct site survey	4.1. Carry out site survey to legal requirements, workplace policies, manufacturers' instructions, work instructions, Health, Safety and Environmental requirements 4.2. Act in a safe and professional manner on site 4.3. Handle and operate equipment safely at all times
5. Be able to deal with problems	5.1. Identify the different problems that may occur 5.2. Deal with problems in accordance with organisational procedures 5.3. Inform relevant personnel as appropriate
6. Be able to analyse and evaluate sign survey data	6.1. Collate survey data in accordance with organisational procedures 6.2. Analyse and evaluate survey data to ensure it is accurate 6.3. Record and store all information accurately and legibly according to organisational procedures

UNIT 32	ESTABLISH AND DEVELOP DETAILED DESIGN WORK FOR SIGNMAKING
LEVEL	3
CREDIT VALUE	10
GUIDED LEARNING HOURS	64

Unit Overview

This unit addresses the skills and knowledge required to establish and develop detailed design work for signmaking.

Assessment Guidance and Evidence Requirements

The learner should provide evidence to meet the requirements of the Assessment Criteria, and those aspects of the Assessment Context (described below) that are relevant to their workplace and work role. In order to demonstrate consistent performance, evidence should be provided to show that learners carry out activity relevant to this unit on at least two separate occasions.

For the Assessment Criteria relating to the learner's knowledge, different types of evidence and assessment methods could be used, for example learner statements, questioning and professional discussion which should be recorded for verification.

Assessment Guidance

- The use of simulation is not acceptable in the assessment of this unit.
- Workplace performance evidence is mandatory.
- The assumption is made that the learner undertaking this unit will have experience in their industry and is developing their role to include additional knowledge and skill.

Information on use of Assessment Context

The learner will work safely in accordance with organisational and operational procedures. Organisational and operational procedures relate to:

- legal requirements
- workplace policies
- manufacturers' instructions
- work instructions
- Health, safety and environmental policies

The following terms have a specific meaning in this unit:

Areas of Work

Own work, work of others

Proposals

Formal, informal

Tasks

Own work, work of others

Monitoring Arrangements

Formal, informal

Final Artwork

Own work, work of others

Relevant Personnel

Line manager, supervisor, team leader, client, supplier etc.

Relevant Health and Safety and Environmental Requirements

Responsibilities in respect of health and safety and environmental requirements and legislation, regulations, safe working practices, local, national and organisational/site specific procedures

Learning Outcome and Assessment Criteria

Learning outcomes The learner will:	Assessment criteria The learner can:
1. Know how to define and agree resource requirements	1.1. Explain the methods to use to estimate the resources required 1.2. Identify the organisational planning sources 1.3. Identify the monitoring arrangement sources
2. Know how to plan for detailed design work	2.1. Explain how to formulate the development timetable 2.2. Explain how to produce the overall production timetable 2.3. Explain how to analyse the project brief 2.4. Explain the roles of relevant personnel involved in the work 2.5. Explain how to use planning tools 2.6. Explain how to use time management when planning for detailed design work 2.7. Explain how to monitor work programmes 2.8. Identify different types and sources of relevant information 2.9. Outline the legal requirements in relation to published, printed and electronic material
3. Know how to develop detailed design work	3.1. Explain how to produce typographical layouts 3.2. Explain how to apply visualisation techniques 3.3. Explain how to use computer programming and desktop publishing 3.4. Explain how to apply communication design in context 3.5. Explain how to conduct skills analysis 3.6. Explain the signing off procedures
4. Know how to prepare schedule of work	4.1. Explain how to invite tenders 4.2. Explain how to prepare costs 4.3. Explain the limits of personal responsibility within organisation

<p>5. Know how to deal with problems</p>	<p>5.1. Explain the problems that may occur 5.2. Explain the appropriate action to take if there are problems</p>
<p>6. Be able to prepare for detailed design work</p>	<p>6.1. Discuss and agree the limits of personal responsibility for required work programme 6.2. Identify own areas of work within overall programme 6.3. Ensure that the skills necessary to complete each work area are clearly and accurately identified 6.4. When required, identify and obtain costs from outside agencies that have the skills necessary to undertake the work 6.5. Clearly present proposals for action, with details of all costs involved</p>
<p>7. Be able to prepare schedule of work</p>	<p>7.1. Prepare the schedule of work for developing design in an appropriate format 7.2. Ensure that the schedule takes account of on-going design priorities 7.3. Disseminate the schedule to all relevant personnel 7.4. Identify changes and priorities and adapt the schedule accordingly</p>
<p>8. Be able to develop detailed design work</p>	<p>8.1. Identify and prioritise tasks 8.2. Establish monitoring arrangements to ensure programme is completed to timetable 8.3. Discuss and agree the format for final artwork 8.4. Prepare detailed final working drawings/plans 8.5. Where appropriate, prepare scaled models 8.6. Discuss and agree the final design work</p>

UNIT 33	PRODUCE TRAFFIC SIGNFACE DESIGNS USING COMPUTER SOFTWARE IN A SIGNMAKING ENVIRONMENT
LEVEL	3
CREDIT VALUE	10
GUIDED LEARNING HOURS	64

Unit Overview

This unit addresses the skills and knowledge required to produce traffic signface designs using computer software in a signmaking environment.

Assessment Guidance and Evidence Requirements

The learner should provide evidence to meet the requirements of the Assessment Criteria, and those aspects of the Assessment Context (described below) that are relevant to their workplace and work role. In order to demonstrate consistent performance, evidence should be provided to show that learners carry out activity relevant to this unit on at least two separate occasions.

For the Assessment Criteria relating to the learner's knowledge, different types of evidence and assessment methods could be used, for example learner statements, questioning and professional discussion which should be recorded for verification.

Assessment Guidance

- The use of simulation is not acceptable in the assessment of this unit.
- Workplace performance evidence is mandatory.
- The assumption is made that the learner undertaking this unit will have experience in their industry and is developing their role to include additional knowledge and skill.

Information on use of Assessment Context

The learner will work safely in accordance with organisational and operational procedures. Organisational and operational procedures relate to:

- legal requirements
- workplace policies
- manufacturers' instructions
- work instructions
- Health, safety and environmental policies

The following terms have a specific meaning in this unit:

Requirements

Type of signface, content, delivery timescale

Data

Customer design, sketch or reference to current Traffic Signs Regulations and General Directions (TSRGD) and Chapter 7 of The Traffic Signs Manual (TSM)

File

New, existing

Images

Bitmap, vector file types

Input Device

Keyboard, email, data storage device, scanner, digitiser

Company or Organisation's Standards

File-naming and location, frequency of file maintenance

Functions

Size, rotation, invert, prepare for drawing or plotting design, file location

Additional Elements

More than one x-height, shape, alphabets

Attributes

TSRGD number, sign details, Traffic Signface sheeting

Destination Device

Printer, production plotter, file storage device, file transmittal device

Materials

Paper, signface sheeting

Output Parameters

Design range, number of copies, device settings, colour

Relevant Health and Safety and Environmental Requirements

Responsibilities in respect of Health and Safety and environmental requirements and legislation, regulations, safe working practices, local, national and organisational/site specific procedures

Learning Outcome and Assessment Criteria

Learning outcomes The learner will:	Assessment criteria The learner can:
1. Know how to work to current regulations and design rules	1.1. Explain the current regulatory requirements regarding producing traffic signface designs 1.2. Explain the relevant design parameters 1.3. Explain the organisational procedures applicable to accessing data
2. Know how to understand customer requirements	2.1. Explain how to obtain and understand customer requirements 2.2. Explain how to develop design options 2.3. Explain how to agree preferred design option with the customer
3. Know how to create and update required files	3.1. Compare the types of compatible formats that can be used to store signface design information 3.2. Analyse the methods to use to produce Traffic Signface design 3.3. Explain how to use industry specific software 3.4. Explain the methods of using bitmap and vector images 3.5. Explain the methods used for saving and locating design files 3.6. Explain the methods for using input devices and scanning for viruses 3.7. Explain the available procedures for automating designs and checking 3.8. Explain which methods of recovering from file or data corruption should be used 3.9. Identify who is responsible for updating virus software and computer maintenance
4. Know how to produce traffic signface design	4.1. Explain what industry specific Traffic Signface design software is available to produce designs 4.2. Analyse the industry design criteria that should be used for producing designs 4.3. Explain the relevant design rules that need to be followed when producing drawings 4.4. Explain the software functions that should be used for inputting text and selecting symbols 4.5. Explain which software functions should be used for design layout 4.6. Explain which software functions should be used for displaying signs 4.7. Explain how to check that the signface conforms to customer requirements 4.8. Explain the problems that may occur and the appropriate action to take within the limits of own responsibility

<p>5. Know how to output traffic signface design to destination</p>	<p>5.1. Compare the types of destination devices that are available</p> <p>5.2. Explain the methods of using hard copy devices</p> <p>5.3. Explain the methods of using file storage devices</p> <p>5.4. Explain the methods of communicating with selected device for printing or cutting signface design</p> <p>5.5. Explain the methods that can be used to check output</p> <p>5.6. Explain which materials are available for hard copy output and which is the correct material to choose</p>
<p>6. Be able to understand the customer requirements</p>	<p>6.1. Obtain and understand customer design requirements</p> <p>6.2. Record customer design requirements using appropriate method</p> <p>6.3. Develop design options</p> <p>6.4. Identify Traffic Signface Design rules and regulations which apply to the design</p> <p>6.5. Agree preferred design option with the customer</p>
<p>7. Be able to create and update required files</p>	<p>7.1. Identify and locate existing files and data to be updated</p> <p>7.2. Enter designs using appropriate device within time schedule</p> <p>7.3. Follow procedures for computer "back up" and take the appropriate action if file or data corruption occurs</p> <p>7.4. Use available automated procedures for design entry or checking</p> <p>7.5. Save any files created or updated according to company or organisation's procedures</p>
<p>8. Be able to produce traffic signface design</p>	<p>8.1. Use the appropriate procedures to enter, select and combine stored designs</p> <p>8.2. Select and use software functions correctly to manipulate image</p> <p>8.3. Use appropriate design rules when regulatory or warning sign designs are combined on directional signs</p> <p>8.4. Produce signface design, incorporating roundabout and/or other designs</p> <p>8.5. Check that the signface design conforms to regulations, design rules and customer requirements</p>
<p>9. Be able to output traffic signface design to destination</p>	<p>9.1. Select the destination device and materials which are suitable for purpose</p> <p>9.2. Check the destination device to ensure that it is ready to receive output</p> <p>9.3. Take the appropriate action if problems occur</p> <p>9.4. Check that the sign design is complete and correct prior to output</p> <p>9.5. Ensure that output parameters are identified and set up correctly to meet output requirements</p> <p>9.6. Check that the output is complete and meets customer requirements</p>

OPTIONAL UNITS - GROUP B

UNIT 8	CARRY OUT WIDE FORMAT DIGITAL PRINT OPERATIONS IN A SIGNMAKING ENVIRONMENT
LEVEL	2
CREDIT VALUE	6
GUIDED LEARNING HOURS	32

Unit Overview

This unit addresses the skills and knowledge required to carry out wide format digital print operations in a signmaking environment.

Assessment Guidance and Evidence Requirements

The learner should provide evidence to meet the requirements of the Assessment Criteria, and those aspects of the Assessment Context (described below) that are relevant to their workplace and work role. In order to demonstrate consistent performance, evidence should be provided to show that learners carry out activity relevant to this unit on at least two separate occasions.

For the Assessment Criteria relating to the learner's knowledge, different types of evidence and assessment methods could be used, for example learner statements, questioning and professional discussion which should be recorded for verification.

Assessment Guidance

- The use of simulation is not acceptable in the assessment of this unit.
- Workplace performance evidence is mandatory.
- The assumption is made that the learner undertaking this unit will have a fundamental level of experience and induction of the sector and will be looking for recognition of their skills, understanding and knowledge.

Information on use of Assessment Context

The learner will work safely in accordance with organisational and operational procedures. Organisational and operational procedures relate to:

- legal requirements
- workplace policies
- manufacturers' instructions
- work instructions
- Health and Safety and environmental policies

The following terms have a specific meaning in this unit:

Tools

Scissors, knives, cutting blades, knives, bits, brush

File

New, existing

Image

Bitmap, vector

Output

ICC profile, ink type, media

Materials

Vinyl, polyester, metal, wood, plastics, polystyrene, composite boards

Protection Methods

Warning signs, coverings, paddings, buffers

Relevant Personnel

Line manager, supervisor, team leader, etc.

Relevant Health and Safety and Environmental Requirements

Responsibilities in respect of health and safety and environmental requirements and legislation, regulations, safe working practices, local, national and organisational/site specific procedures

Equipment

Manual, automated, electronic

Finish

Hand finishing, manually and/or fully automated, machine finishing, polishing, shaping, reducing

Customer

Internal colleagues and external clients

Fault indicators

Unusual machine noise, vibration, machine stoppage, warning devices, alarm systems, fumes, etc.

Learning Outcome and Assessment Criteria

Learning outcomes	Assessment criteria
The learner will:	The learner can:
1. Know the principles of carrying out wide format digital print operations	1.1. Explain the techniques and methods needed to complete the activity
2. Know how to prepare for wide format digital print operations	2.1. Explain how to ensure that the appropriate equipment, tools and materials are available and ready for use 2.2. Explain why it is important to calibrate and carry out test prints 2.3. Identify acceptable protection methods and when and how to use them
3. Know how to produce the required graphical image	3.1. Explain the different ways to manipulate the image 3.2. Identify when the job is in the correct file format 3.3. Explain why it is important to gas off printed media
4. Know how to carry out wide format digital print operations	4.1. Explain why it is important to monitor the print quality 4.2. Explain why it is important to check the finished print against the specification 4.3. Explain what is regarded as acceptable quality 4.4. Identify how to meet a product that is of an acceptable quality

5. Know how to finish the signage operation	<p>5.1. Explain how to maintain the equipment</p> <p>5.2. Explain how to shut down any equipment that has been used</p> <p>5.3. Identify suitable places to store the finished product</p>
6. Know how to deal with problems	<p>6.1. Identify the different fault indicators that may be activated</p> <p>6.2. Identify the problems that may occur when operating and maintaining a wide format printer</p> <p>6.3. Explain what action to take if there are problems</p> <p>6.4. Identify the hazards associated with own working environment and the risks they pose</p>
7. Know how to complete the documentation	<p>7.1. Identify when to complete documentation</p> <p>7.2. Explain why the documentation must be completed accurately</p>
8. Be able to prepare for wide format digital print operations	<p>8.1. Check that received job for printing is in the correct file format</p> <p>8.2. Check that all tools and equipment are in a safe condition and are operating correctly</p> <p>8.3. Ensure the selected media is appropriate for the image and specification requirements</p> <p>8.4. Set up and load the media for printing in accordance with manufacturers' instructions</p> <p>8.5. Carry out media feed calibrations and test prints that are appropriate for the printer</p>
9. Be able to produce the required graphical image	<p>9.1. Export and manipulate the image into the RIP to meet the specification</p> <p>9.2. Carry out sheet cut in line with specification</p>
10. Be able to carry out wide format digital print operations	<p>10.1. Print and monitor the quality of printing against specification</p> <p>10.2. Finish off the print and check against specification</p>
11. Be able to finish the signage operation	<p>11.1. Carry out the appropriate maintenance for the particular type of printer</p> <p>11.2. Safely shut down any equipment that has been used</p> <p>11.3. Store the finished product appropriately</p>
12. Be able to deal with problems	<p>12.1. Deal promptly with problems that are within personal responsibility</p> <p>12.2. Report problems that cannot be solved and/or are not own responsibility, to the relevant person</p>
13. Be able to complete the documentation	<p>13.1. Complete job records legibly and in accordance with organisational requirements</p>

UNIT 9	CARRY OUT SHAPING OPERATIONS IN A SIGNSMAKING ENVIRONMENT
LEVEL	2
CREDIT VALUE	6
GUIDED LEARNING HOURS	32

Unit Overview

This unit addresses the skills and knowledge required to carry out shaping operations in a signmaking environment.

Assessment Guidance and Evidence Requirements

The learner should provide evidence to meet the requirements of the Assessment Criteria, and those aspects of the Assessment Context (described below) that are relevant to their workplace and work role. In order to demonstrate consistent performance, evidence should be provided to show that learners carry out activity relevant to this unit on at least two separate occasions.

For the Assessment Criteria relating to the learner's knowledge, different types of evidence and assessment methods could be used, for example learner statements, questioning and professional discussion which should be recorded for verification.

Assessment Guidance

- The use of simulation is not acceptable in the assessment of this unit.
- Workplace performance evidence is mandatory.
- The assumption is made that the learner undertaking this unit will have a fundamental level of experience and induction of the sector and will be looking for recognition of their skills, understanding and knowledge.

Information on use of Assessment Context

The learner will work safely in accordance with organisational and operational procedures. Organisational and operational procedures relate to:

- legal requirements
- workplace policies
- manufacturers' instructions
- work instructions
- Health and Safety and environmental policies

The following terms have a specific meaning in this unit:

Types of Equipment

Manual, mechanised, electronic

Types of Material

Metal, wood, plastics, vinyl, polystyrene, composite boards etc.

Types of Cutting Tools

Blades, knives, bits

Securing, Fixing and Fastening Methods

Jigs, clamps, fixing materials

Relevant Personnel

Line manager, supervisor, team leader etc.

Relevant Health and Safety and Environmental Requirements

Responsibilities in respect of health and safety and environmental requirements and legislation, regulations, safe working practices, local, national and organisational/site specific procedures

Template Material

Rigid, flexible

Learning Outcome and Assessment Criteria

Learning outcomes The learner will:	Assessment criteria The learner can:
1. Understand the methods needed to carry out shaping operations	1.1. Explain how to select and use appropriate techniques and methods to shape the materials by cutting
2. Know how to prepare the materials needed for shaping and cutting	2.1. Identify when and how to set out materials to the specified tension without distortion 2.2. Identify the materials that can be used to separate and prevent distortion in cutting and where to insert them 2.3. Explain how to set up the correct quantity of materials to match specification lengths, widths and number 2.4. Identify template materials appropriate for the work to be completed 2.5. Explain the consequences of not using the appropriate template material 2.6. Identify how and where to store materials
3. Know how to prepare the equipment needed for shaping and cutting	3.1. Explain how to identify, select and use tools and equipment 3.2. Explain how to identify and position securing devices and equipment
4. Know how to cut materials according to the specification	4.1. Explain the consequences of not getting the cutting device accurately positioned at the start of the process 4.2. Identify the need for notches and marks and how to cut them in the correct position 4.3. Describe how to measure shapes accurately and draw them onto a suitable template material 4.4. Explain the accepted sequences for cutting 4.5. Explain how to cut shapes accurately within specified tolerances 4.6. Explain how to deal with shaped products

<p>5. Know how to maintain quality during shaping operations</p>	<p>5.1. Identify what is regarded as acceptable quality (e.g. marks, scratches, chips and dust)</p> <p>5.2. Explain how to follow quality control procedures</p> <p>5.3. Identify the specified tolerances and why these are important</p>
<p>6. Know how to deal with problems</p>	<p>6.1. Identify the problems that may occur when carrying out shaping operations</p> <p>6.2. Explain what action to take if there are problems</p>
<p>7. Know how to complete the documentation</p>	<p>7.1. Identify when to complete documentation</p> <p>7.2. Explain why the documentation must be completed accurately</p>
<p>8. Be able to interpret the work instructions</p>	<p>8.1. Check and confirm that the work is carried out to the quality specifications, work instructions and any shaping relevant to the operations</p>
<p>9. Be able to prepare the resources needed for shaping and cutting</p>	<p>9.1. Select template materials appropriate for the work to be completed</p> <p>9.2. Set out materials according to work instructions</p> <p>9.3. Confirm that the correct quantity of materials is set out to match the specification</p> <p>9.4. Confirm that the necessary resources to shape the materials to specification have been obtained</p> <p>9.5. Check and confirm that the appropriate tools, equipment and resources, including Personal Protective Equipment, have been obtained</p>
<p>10. Be able to cut materials according to the specification</p>	<p>10.1. Identify required template shapes</p> <p>10.2. Measure and, where necessary, cut the template to shape</p> <p>10.3. Position notches and marks accurately according to cutting order requirements</p> <p>10.4. Position the template on the material to be shaped</p> <p>10.5. Ensure that positioning, securing devices and equipment are accurately, securely, safely and correctly positioned for the cutting process</p> <p>10.6. Position the cutting device and cut the shapes within specified tolerances</p>
<p>11. Be able to maintain quality during shaping operations</p>	<p>11.1. Follow the approved quality control procedures</p> <p>11.2. Ensure that cut shapes are free from marks, scratches, chips and dust</p> <p>11.3. Ensure that materials are kept free of contamination</p> <p>11.4. Store excess materials in an approved manner</p> <p>11.5. Deal with the shaped product, according to procedures</p>
<p>12. Be able to deal with problems</p>	<p>12.1. Report any problems that cannot be solved to the relevant personnel</p>
<p>13. Be able to complete the documentation</p>	<p>13.1. Complete documentation accurately and in accordance with organisational requirements</p>

UNIT 10	CARRY OUT JOINING OPERATIONS IN A SIGNMAKING ENVIRONMENT
LEVEL	2
CREDIT VALUE	6
GUIDED LEARNING HOURS	32

Unit Overview

This unit addresses the skills and knowledge required to carry out joining operations in a signmaking environment.

Assessment Guidance and Evidence Requirements

The learner should provide evidence to meet the requirements of the Assessment Criteria, and those aspects of the Assessment Context (described below) that are relevant to their workplace and work role. In order to demonstrate consistent performance, evidence should be provided to show that learners carry out activity relevant to this unit on at least two separate occasions.

For the Assessment Criteria relating to the learner's knowledge, different types of evidence and assessment methods could be used, for example learner statements, questioning and professional discussion which should be recorded for verification.

Assessment Guidance

- The use of simulation is not acceptable in the assessment of this unit.
- Workplace performance evidence is mandatory.
- The assumption is made that the learner undertaking this unit will have a fundamental level of experience and induction of the sector and will be looking for recognition of their skills, understanding and knowledge.

Information on use of Assessment Context

The learner will work safely in accordance with organisational and operational procedures. Organisational and operational procedures relate to:

- legal requirements
- workplace policies
- manufacturers' instructions
- work instructions
- Health and Safety and environmental policies

The following terms have a specific meaning in this unit:

Types of Securing Devices

Manual, automated

Types of Material

Metal, wood, plastics, vinyl, glass, polystyrene, composite board

Types of Bonding Methods

Heat welding, heat soldering, fixings, riveting, nuts and bolts, screws, taps

Securing, Fixing and Fastening Methods

Jigs, clamps, fixing materials

Relevant Personnel

Line manager, supervisor, team leader etc.

Relevant Health and Safety and Environmental Requirements

Responsibilities in respect of health and safety and environmental requirements and legislation, regulations, safe working practices, local, national and organisational/site specific procedures

Learning Outcome and Assessment Criteria

Learning outcomes The learner will:	Assessment criteria The learner can:
1. Know how to access and interpret the instructions for joining operations	1.1. Explain how to check and confirm that the relevant work instructions and assembly instructions and procedures are ready for use 1.2. Explain how to check that the correct bonding instructions and quality specification relevant to the procedure have been obtained
2. Know how to prepare the resources needed for joining operations	2.1. Explain how to select and use appropriate materials, techniques and methods needed to complete the bonding activity 2.2. Explain how to ensure that the appropriate equipment, tools and materials are available
3. Know how to carry out joining operations according to the specification	3.1. Identify the appropriate securing and fixing devices for the materials being bonded 3.2. Explain how to use the securing and fixing devices 3.3. Explain how to position and secure devices for bonding materials together 3.4. Identify the relevant techniques and methods for assembling materials and how to perform them
4. Know how to maintain quality during joining operations	4.1. Identify the acceptable tolerances to work within for different types of materials 4.2. Explain how to interpret the quality specification for the materials that are worked with 4.3. Identify what is regarded as acceptable quality and how to meet that requirement 4.4. Explain how to deal with assembled products to maintain quality
5. Know how to deal with problems	5.1. Identify the problems that may occur when carrying out joining operations 5.2. Explain what action to take if there are problems
6. Know how to complete the documentation	6.1. Identify when to complete documentation 6.2. Explain why the documentation must be completed accurately

7. Be able to interpret the work instructions	7.1. Check and confirm that the work is carried out to the quality specifications, work instructions and any bonding procedures relevant to the operations
8. Be able to prepare the resources needed for joining operations	<p>8.1. Check and confirm that the tools, equipment and resources, including Personal Protective Equipment appropriate for the bonding and assembly operation have been obtained</p> <p>8.2. Ensure that materials to be bonded are of the specified dimensions</p> <p>8.3. Position and secure devices prior to assembly of materials</p>
9. Be able to carry out joining operations according to the specification	<p>9.1. Identify, position and use securing and fixing devices</p> <p>9.2. Ensure that materials are positioned, assembled and layered in the correct order within specified tolerances</p> <p>9.3. Ensure that bonded materials are completed to timescale</p>
10. Be able to maintain quality during joining operations	10.1. Ensure that the bonded materials are clean and free from marks, scratches, chips and dust within specified tolerances
11. Be able to deal with problems	11.1. Report any problems that cannot be solved promptly to the relevant personnel
12. Be able to complete the documentation	12.1. Complete documentation accurately and in accordance with organisational requirements, when this is required

UNIT 11	CARRY OUT ENGRAVING OPERATIONS IN A SIGNMAKING ENVIRONMENT
LEVEL	2
CREDIT VALUE	6
GUIDED LEARNING HOURS	32

Unit Overview

This unit addresses the skills and knowledge required to carry out engraving operations in a signmaking environment.

Assessment Guidance and Evidence Requirements

The learner should provide evidence to meet the requirements of the Assessment Criteria, and those aspects of the Assessment Context (described below) that are relevant to their workplace and work role. In order to demonstrate consistent performance, evidence should be provided to show that learners carry out activity relevant to this unit on at least two separate occasions.

For the Assessment Criteria relating to the learner's knowledge, different types of evidence and assessment methods could be used, for example learner statements, questioning and professional discussion which should be recorded for verification.

Assessment Guidance

- The use of simulation is not acceptable in the assessment of this unit.
- Workplace performance evidence is mandatory.
- The assumption is made that the learner undertaking this unit will have a fundamental level of experience and induction of the sector and will be looking for recognition of their skills, understanding and knowledge.

Information on use of Assessment Context

The learner will work safely in accordance with organisational and operational procedures. Organisational and operational procedures relate to:

- legal requirements
- workplace policies
- manufacturers' instructions
- work instructions
- Health and Safety and environmental policies

The following terms have a specific meaning in this unit:

Removal Methods

Hand held tools, fixed tools

Types of Rectification Methods

Manual, automated

Relevant Personnel

Line manager, supervisor, team leader etc.

Relevant Health and Safety and Environmental Requirements

Responsibilities in respect of health and safety and environmental requirements and legislation, regulations, safe working practices, local, national and organisational/site specific procedures

Learning Outcome and Assessment Criteria

Learning outcomes The learner will:	Assessment criteria The learner can:
1. Know how to access and interpret the instructions for engraving operations	1.1. Explain how to check that the relevant work instructions and any relevant engraving procedures are ready for use 1.2. Explain how to check that the quality specification relevant to the procedure is ready for use
2. Know how to prepare for engraving operations	2.1. Explain how to determine the resources i.e. equipment, tools and materials needed to complete the activity 2.2. Explain how to identify and select template materials appropriate for the work to be completed 2.3. Identify the consequences of not using appropriate template material 2.4. Identify how and why surrounding areas should be protected from damage 2.5. Identify the acceptable pre marking methods 2.6. Identify the lubricants and coolants that are used in engraving operations and which to use in particular jobs
3. Know how to carry out engraving operations according to the specification	3.1. Explain how to select and use appropriate techniques and methods needed to carry out engraving operations 3.2. Explain how to measure shapes accurately and draw them onto a suitable template material 3.3. Explain how to carry out the engraving operation 3.4. Identify the specified requirements and positioning and quality tolerances and explain why these are important 3.5. Identify how to store the engraved product, if this is necessary 3.6. Identify what is regarded as acceptable quality
4. Know how to deal with problems	4.1. Identify the problems that may occur when carrying out engraving operations 4.2. Explain what action to take if there are problems
5. Know how to complete the documentation	5.1. Identify when to complete documentation 5.2. Explain why the documentation must be completed accurately

6. Be able to interpret the work instructions	6.1. Check and confirm that the work is carried out to the quality specifications, work instructions and any engraving procedures relevant to the operations
7. Be able to prepare for engraving operations	7.1. Protect the surrounding areas from damage 7.2. Ensure that the necessary resources appropriate for the engraving operation, including suitable Personal Protective Equipment are available 7.3. Identify required template shapes and measure them
8. Be able to carry out engraving operations according to the specification	8.1. Cut the template shapes if required, and then position on materials to be engraved 8.2. Confirm that the areas to be engraved are identified and pre-marked using an accepted method 8.3. Ensure that the correct lubricants and coolants are used at the appropriate time to minimise damage to materials, tools and equipment
9. Be able to deal with problems	9.1. Identify any defects and problems with the surface to be engraved prior to operation and inform the relevant personnel 9.2. Report any problems promptly to the relevant personnel
10. Be able to complete the documentation	10.1. Complete documentation accurately and in accordance with organisational requirements, when this is required

UNIT 12	CARRY OUT ETCHING OPERATIONS IN A SIGMAKING ENVIRONMENT
LEVEL	2
CREDIT VALUE	6
GUIDED LEARNING HOURS	32

Unit Overview

This unit addresses the skills and knowledge required to carry out etching operations in a signmaking environment.

Assessment Guidance and Evidence Requirements

The learner should provide evidence to meet the requirements of the Assessment Criteria, and those aspects of the Assessment Context (described below) that are relevant to their workplace and work role. In order to demonstrate consistent performance, evidence should be provided to show that learners carry out activity relevant to this unit on at least two separate occasions.

For the Assessment Criteria relating to the learner's knowledge, different types of evidence and assessment methods could be used, for example learner statements, questioning and professional discussion which should be recorded for verification.

Assessment Guidance

- The use of simulation is not acceptable in the assessment of this unit.
- Workplace performance evidence is mandatory.
- The assumption is made that the learner undertaking this unit will have a fundamental level of experience and induction of the sector and will be looking for recognition of their skills, understanding and knowledge.

Information on use of Assessment Context

The learner will work safely in accordance with organisational and operational procedures. Organisational and operational procedures relate to:

- legal requirements
- workplace policies
- manufacturers' instructions
- work instructions
- Health and Safety and environmental policies

The following terms have a specific meaning in this unit:

Types of Surface Defect

Visual, tactile (touch)

Types of Rectification Methods

Manual, automated

Masking Methods

Physical, photographic

Etching Agents or Methods
Chemical, abrasive

Etching Equipment
Sealed liquid, sealed air

Relevant Personnel
Line manager, supervisor, team leader etc.

Relevant Health and Safety and Environmental Requirements
Responsibilities in respect of health and safety and environmental requirements and legislation, regulations, safe working practices, local, national and organisational/site specific procedures

Learning Outcome and Assessment Criteria

Learning outcomes	Assessment criteria
The learner will:	The learner can:
1. Know how to access and interpret the instructions for etching operations	1.1. Explain how to check that the correct work instructions and any relevant etching procedures and quality specification are ready for use
2. Know how to prepare for etching operations	2.1. Explain how to ensure that the appropriate equipment, tools and materials have been obtained 2.2. Explain how to ensure that masking materials are appropriate for the work to be completed 2.3. Identify the consequences of not using appropriate masking materials 2.4. Explain what the acceptable pre-marking methods are
3. Know how to carry out etching operations according to the specification	3.1. Explain how to select and use appropriate techniques and methods needed to complete the activity 3.2. Explain how to position masking shape and check the measurements 3.3. Identify the specified requirements and positioning and quality tolerances and explain why these are important 3.4. Explain why etching agents are used and how and when to use them 3.5. Explain how to draw shapes onto a suitable masking material 3.6. Identify how to store the etched product, if this is necessary 3.7. Identify what is regarded as acceptable quality
4. Know how to deal with problems	4.1. Identify the types of problem that may occur 4.2. Explain what action to take if there are problems 4.3. Identify the types of defects and how to identify them
5. Know how to complete the documentation	5.1. Identify when to complete documentation 5.2. Explain why the documentation must be completed accurately

6. Be able to interpret the work instructions	6.1. Check and confirm that the work is carried out to the quality specifications, work instructions and any etching procedures relevant to the operations
7. Be able to prepare for etching operations	7.1. Protect the surrounding areas from damage 7.2. Ensure that the necessary resources appropriate for the etching operation, including suitable Personal Protective Equipment are available 7.3. Identify required template shapes and measure them
8. Be able to carry out etching operations according to the specification	8.1. Cut the template shapes if required, and then position on materials to be etched 8.2. Confirm that the areas to be etched are identified and pre-marked using an accepted method 8.3. Carry out the etching operation according to work instructions and safe operating/quality procedures
9. Be able to deal with problems	9.1. Identify any defects and problems with the surface to be etched prior to operation and inform the relevant personnel 9.2. Report any problems promptly to the relevant personnel
10. Be able to complete the documentation	10.1. Complete documentation accurately and in accordance with organisational requirements, when this is required

UNIT 13	CARRY OUT HAND FINISHING OPERATIONS IN A SIGMAKING ENVIRONMENT
LEVEL	2
CREDIT VALUE	10
GUIDED LEARNING HOURS	40

Unit Overview

This unit addresses the skills and knowledge required to carry out hand finishing operations in a signmaking environment.

Assessment Guidance and Evidence Requirements

The learner should provide evidence to meet the requirements of the Assessment Criteria, and those aspects of the Assessment Context (described below) that are relevant to their workplace and work role. In order to demonstrate consistent performance, evidence should be provided to show that learners carry out activity relevant to this unit on at least two separate occasions.

For the Assessment Criteria relating to the learner's knowledge, different types of evidence and assessment methods could be used, for example learner statements, questioning and professional discussion which should be recorded for verification.

Assessment Guidance

- The use of simulation is not acceptable in the assessment of this unit.
- Workplace performance evidence is mandatory.
- The assumption is made that the learner undertaking this unit will have a fundamental level of experience and induction of the sector and will be looking for recognition of their skills, understanding and knowledge.

Information on use of Assessment Context

The learner will work safely in accordance with organisational and operational procedures. Organisational and operational procedures relate to:

- legal requirements
- workplace policies
- manufacturers' instructions
- work instructions
- Health and Safety and environmental policies

The following terms have a specific meaning in this unit:

Types of Substrate

Porous, non-porous

Types of Coatings

Paint, stain, gild

Types of Treatments

Pre-treatments, primers, intermediate coatings, finishing coatings

Methods of Application

Brush, roller, airbrush

Masking Preparation Methods

Manual, automated

Types of Masking Materials

Rigid, flexible

Preparation Techniques

Stir, strain, decant, viscosity adjustment

Types of Protection Methods

Warning signs, coverings, buffers, paddings

Relevant Personnel

Line manager, supervisor, team leader etc.

Relevant Health and Safety and Environmental Requirements

Responsibilities in respect of health and safety and environmental requirements and legislation, regulations, safe working practices, local, national and organisational/site specific procedures

Learning Outcome and Assessment Criteria

Learning outcomes The learner will:	Assessment criteria The learner can:
1. Know how to access and interpret the instructions for hand finishing operations	1.1. Explain how to check that the correct work instructions and any relevant hand finishing procedures and quality specification are ready for use
2. Know how to prepare for hand finishing operations	2.1. Explain how to ensure that the appropriate equipment, tools and materials have been obtained 2.2. Explain how to ensure that the template materials are appropriate for the work to be completed 2.3. Identify what the consequences are of not using the appropriate template 2.4. Explain how to protect the surface from damage 2.5. Identify the correct preparation technique to use
3. Know how to carry out hand finishing operations according to the specification	3.1. Explain how to select and use appropriate techniques and methods needed to complete the activity 3.2. Explain how to measure shapes accurately and draw them onto a suitable template material 3.3. Explain how and when to apply coatings 3.4. Identify the specified positioning and quality tolerances and explain why these are important 3.5. Describe the accepted sequences and combinations for applying coatings 3.6. Identify how to store the hand finished product, if this is necessary

4. Know how to deal with problems	<p>4.1. Identify the types of problem that may occur</p> <p>4.2. Explain what action to take if there are problems</p> <p>4.3. Identify the types of defects and how to identify them</p>
5. Know how to complete the documentation	<p>5.1. Identify when to complete documentation</p> <p>5.2. Explain why the documentation must be completed accurately</p>
6. Be able to interpret the work instructions	6.1. Check and confirm that the work is carried out to the quality specifications, work instructions and any hand finishing procedures relevant to the operations
7. Be able to prepare for hand finishing operations	<p>7.1. Ensure that the necessary resources for the hand finishing operation, including suitable PPE (Personal Protective Equipment) have been obtained</p> <p>7.2. Protect surfaces from damage using an accepted method</p> <p>7.3. Ensure that the substrate is suitably prepared to receive subsequent treatments and coatings</p> <p>7.4. Carry out the correct preparation technique</p>
8. Be able to carry out hand finishing operations according to the specification	<p>8.1. Identify required template shapes, measure and where necessary, cut and then position on the materials to be decorated</p> <p>8.2. Carry out the hand decorating operation according to work instructions and safe operating/quality procedures</p> <p>8.3. Ensure that the time left between treatments and coatings meets manufacturers' recommendations</p>
9. Be able to deal with problems	9.1. Report any problems promptly to the relevant personnel
10. Be able to complete the documentation	10.1. Complete documentation accurately and in accordance with organisational requirements, when this is required

UNIT 14	CARRY OUT SPRAY PAINT OPERATIONS IN A SIGMAKING ENVIRONMENT
LEVEL	2
CREDIT VALUE	10
GUIDED LEARNING HOURS	40

Unit Overview

This unit addresses the skills and knowledge required to carry out spray paint operations in a signmaking environment.

Assessment Guidance and Evidence Requirements

The learner should provide evidence to meet the requirements of the Assessment Criteria, and those aspects of the Assessment Context (described below) that are relevant to their workplace and work role. In order to demonstrate consistent performance, evidence should be provided to show that learners carry out activity relevant to this unit on at least two separate occasions.

For the Assessment Criteria relating to the learner's knowledge, different types of evidence and assessment methods could be used, for example learner statements, questioning and professional discussion which should be recorded for verification.

Assessment Guidance

- The use of simulation is not acceptable in the assessment of this unit.
- Workplace performance evidence is mandatory.
- The assumption is made that the learner undertaking this unit will have a fundamental level of experience and induction of the sector and will be looking for recognition of their skills, understanding and knowledge.

Information on use of Assessment Context

The learner will work safely in accordance with organisational and operational procedures. Organisational and operational procedures relate to:

- legal requirements
- workplace policies
- manufacturers' instructions
- work instructions
- Health and Safety and environmental policies

The following terms have a specific meaning in this unit:

Types of Substrate

Porous, non-porous

Types of Coatings

Pre-treatments, primers, intermediate coatings, finishing coatings

Masking Preparation Methods

Manual, automated

Types of Masking Materials

Rigid, flexible

Paint Preparation Technique

Stir, strain, decant, viscosity adjustment

Types of Protection Methods

Warning signs, coverings, buffers, paddings

Methods of Application

Air, airless, electrostatic, high volume/low pressure (HVLP)

Relevant Personnel

Line manager, supervisor, team leader etc.

Relevant Health and Safety and Environmental Requirements

Responsibilities in respect of health and safety and environmental requirements and legislation, regulations, safe working practices, local, national and organisational/site specific procedures

Learning Outcome and Assessment Criteria

Learning outcomes The learner will:	Assessment criteria The learner can:
1. Know how to access and interpret the instructions for spray paint operations	1.1. Explain how to check that the correct work instructions and any relevant spray paint procedures and quality specification are ready for use
2. Know how to prepare for spray paint operations	2.1. Explain how to ensure that the appropriate equipment, tools and materials have been selected 2.2. Explain how to ensure that the template materials are appropriate for the work to be completed 2.3. Identify what the consequences are of not using the appropriate template 2.4. Identify acceptable protection methods and when and how to use them 2.5. Identify the correct preparation technique to use
3. Know how to carry out spray paint operations according to the specification	3.1. Explain how to select and use appropriate techniques and methods needed to complete the activity 3.2. Explain how to use template materials appropriate for the work to be completed and what the consequences are of not using the appropriate template material 3.3. Identify the specified positioning and quality tolerances and why these are important 3.4. Explain how to use spray painting tools and equipment 3.5. Explain how to use shapes accurately and draw them onto a suitable template material 3.6. Explain how and when to apply coatings

4. Know how to deal with problems	4.1. Identify the types of problem that may occur 4.2. Explain what action to take if there are problems
5. Know how to complete the documentation	5.1. Identify when to complete documentation 5.2. Explain why the documentation must be completed accurately
6. Be able to interpret the work instructions	6.1. Check and confirm that the work is carried out to the quality specifications, work instructions and any spray paint procedures relevant to the operations
7. Be able to prepare for spray paint operations	7.1. Ensure that the necessary resources for the spray paint operation, including suitable PPE (Personal Protective Equipment) have been selected 7.2. Protect surfaces from damage using an accepted method 7.3. Carry out the relevant preparation technique and ensure that the substrate is suitably prepared to receive subsequent treatments and coatings
8. Be able to carry out spray paint operations according to the specification	8.1. Confirm that the required template shapes have been obtained, measure and position on the materials to be spray painted 8.2. Carry out the spray paint operation according to work instructions and safe operating/ quality procedures 8.3. Ensure that the time left between treatments and coatings meets manufacturers' recommendations
9. Be able to deal with problems	9.1. Report any problems promptly to the relevant personnel
10. Be able to complete the documentation	10.1. Complete documentation accurately and in accordance with organisational requirements, when this is required

UNIT 15	CARRY OUT SCREEN PRINT OPERATIONS IN A SIGNSMAKING ENVIRONMENT
LEVEL	2
CREDIT VALUE	6
GUIDED LEARNING HOURS	32

Unit Overview

This unit addresses the skills and knowledge required to screen print products in a signmaking environment.

Assessment Guidance and Evidence Requirements

The learner should provide evidence to meet the requirements of the Assessment Criteria, and those aspects of the Assessment Context (described below) that are relevant to their workplace and work role. In order to demonstrate consistent performance, evidence should be provided to show that learners carry out activity relevant to this unit on at least two separate occasions.

For the Assessment Criteria relating to the learner's knowledge, different types of evidence and assessment methods could be used, for example learner statements, questioning and professional discussion which should be recorded for verification.

Assessment Guidance

- The use of simulation is not acceptable in the assessment of this unit.
- Workplace performance evidence is mandatory.
- The assumption is made that the learner undertaking this unit will have a fundamental level of experience and induction of the sector and will be looking for recognition of their skills, understanding and knowledge.

Information on use of Assessment Context

The learner will work safely in accordance with organisational and operational procedures. Organisational and operational procedures relate to:

- legal requirements
- workplace policies
- manufacturers' instructions
- work instructions
- Health and Safety and environmental policies

The following terms have a specific meaning in this unit:

Types of Substrate

Porous, non-porous

Types of Inks

Water based, solvent based, spirit based

Methods of Application

Manual, automated

Types of Protection Methods

Warning signs, coverings, buffers, paddings

Positioning and Securing Methods

Vacuum, jigs, clamps, fixing materials

Stencil Preparation Techniques

Hand, photographic, light sensitive films

Relevant Personnel

Line manager, supervisor, team leader etc.

Relevant Health and Safety and Environmental Requirements

Responsibilities in respect of health and safety and environmental requirements and legislation, regulations, safe working practices, local, national and organisational/site specific procedures

Learning Outcome and Assessment Criteria

Learning outcomes The learner will:	Assessment criteria The learner can:
1. Know how to access and interpret the instructions for screen print operations	1.1. Explain how to check that the correct work instructions and any relevant screen print procedures and quality specification are ready for use
2. Know how to prepare for screen print operations	2.1. Explain how to ensure that the appropriate equipment, tools and materials have been obtained 2.2. Identify the different types of positioning and securing devices and how to use them 2.3. Identify acceptable protection methods and when and how to use them 2.4. Identify the correct preparation technique to use
3. Know how to carry out screen print operations according to the specification	3.1. Explain how to select and use appropriate techniques and methods needed to complete the activity, to include organic and non-organic mesh stencil equipment 3.2. Identify the specified positioning and quality tolerances and why these are important 3.3. Explain how to use screen printing tools and equipment
4. Know how to deal with problems	4.1. Identify the types of problem that may occur 4.2. Explain what action to take if there are problems
5. Know how to complete the documentation	5.1. Identify the documentation to complete and explain why it must be completed accurately
6. Be able to interpret the work instructions	6.1. Check and confirm that the work is carried out to the quality specifications, work instructions and screen print procedures relevant to the operations
7. Be able to prepare for screen print operations	7.1. Ensure that the necessary resources for the screen print operation, including suitable PPE (Personal Protective Equipment) have been obtained 7.2. Protect relevant surfaces from damage using an accepted method 7.3. Carry out any relevant preparation technique prior to screen print operations
8. Be able to carry out screen print operations according to the specification	8.1. Position and secure devices and equipment and, when appropriate, set out materials to the specified tension without distortion 8.2. Carry out the screen print operation according to work instructions and safe operating/ quality procedures
9. Be able to deal with problems	9.1. Report any problems promptly to the relevant personnel
10. Be able to complete the documentation	10.1. Complete documentation accurately and in accordance with organisational requirements, when this is required

UNIT 16	CARRY OUT FORMING OPERATIONS IN A SIGNMAKING ENVIRONMENT
LEVEL	2
CREDIT VALUE	6
GUIDED LEARNING HOURS	32

Unit Overview

This unit addresses the skills and knowledge required to form materials and products in a signmaking environment.

Assessment Guidance and Evidence Requirements

The learner should provide evidence to meet the requirements of the Assessment Criteria, and those aspects of the Assessment Context (described below) that are relevant to their workplace and work role. In order to demonstrate consistent performance, evidence should be provided to show that learners carry out activity relevant to this unit on at least two separate occasions.

For the Assessment Criteria relating to the learner's knowledge, different types of evidence and assessment methods could be used, for example learner statements, questioning and professional discussion which should be recorded for verification.

Assessment Guidance

- The use of simulation is not acceptable in the assessment of this unit.
- Workplace performance evidence is mandatory.
- The assumption is made that the learner undertaking this unit will have a fundamental level of experience and induction of the sector and will be looking for recognition of their skills, understanding and knowledge.

Information on use of Assessment Context

The learner will work safely in accordance with organisational and operational procedures. Organisational and operational procedures relate to:

- legal requirements
- workplace policies
- manufacturers' instructions
- work instructions
- Health and Safety and environmental policies

The following terms have a specific meaning in this unit:

Types of Forming Devices

Manual, automated

Types of Materials

Metal, wood, plastics, vinyl, polystyrene, composite boards

Forming Methods

Mechanical or manual methods using either heat and/or manipulation

Securing, Fixing and Fastening Methods

Jigs, clamps, fixing materials

Relevant Personnel

Line manager, supervisor, team leader, etc.

Relevant Health and Safety and Environmental Requirements

Responsibilities in respect of health and safety and environmental requirements and legislation, regulations, safe working practices, local, national and organisational/site specific procedures

Learning Outcome and Assessment Criteria

Learning outcomes The learner will:	Assessment criteria The learner can:
1. Know how to access and interpret the instructions for carrying out forming operations	1.1. Explain how to check that the correct work instructions and any relevant forming procedures and quality specification are ready for use
2. Know how to prepare for forming operations	2.1. Explain how to check and confirm that the appropriate resources for forming operations, including suitable PPE (Personal Protective Equipment) are available
3. Know how to carry out forming operations according to the specification	3.1. Explain how to identify and use positioning and securing devices 3.2. Identify the specified tolerances and why these are important 3.3. Identify the preliminary positioning places, suitable fastening and fixing methods and materials 3.4. Explain how to determine positioning, fastening and fixing methods and materials for the materials being formed 3.5. Explain how to carry out the forming operation 3.6. Explain how to deal with formed products appropriately i.e. bundled, batched and stored 3.7. Identify the acceptable quality for the forming operations and how this is achieved
4. Know how to deal with problems	4.1. Identify the types of problem that may occur 4.2. Explain what action to take if there are problems
5. Know how to complete the documentation	5.1. Identify the documentation to complete and explain why it must be completed accurately
6. Be able to interpret the work instructions	6.1. Check and confirm that the work is carried out to the quality specifications, work instructions and any forming procedures relevant to the operations
7. Be able to select the resources needed to carry out forming operations	7.1. Ensure that the necessary resources for the forming operation, including suitable PPE (Personal Protective Equipment) have been obtained

<p>8. Be able to carry out forming operations according to the specification</p>	<p>8.1. Position and secure suitable positioning and securing devices for the forming process</p> <p>8.2. Ensure that preliminary positioning, where used, is accurate and secure using suitable fastening and fixing methods and materials</p> <p>8.3. Check that the dimensions, position and angles of bend are accurate to specified tolerances</p> <p>8.4. Carry out the forming operation according to work instructions and safe operating/quality procedures</p> <p>8.5. Ensure that formed materials are completed to timescale and are clean, free from marks, scratches, chips and dust and accurate within specified tolerances</p>
<p>9. Be able to deal with problems</p>	<p>9.1. Report any problems promptly to the relevant personnel</p>
<p>10. Be able to complete the documentation</p>	<p>10.1. Complete documentation accurately and in accordance with organisational requirements, when this is required</p>

UNIT 17	CARRY OUT SELF-ADHESIVE OPERATIONS IN A SIGNMAKING ENVIRONMENT
LEVEL	2
CREDIT VALUE	6
GUIDED LEARNING HOURS	32

Unit Overview

This unit addresses the skills and knowledge required to apply self-adhesive materials in a signmaking environment.

Assessment Guidance and Evidence Requirements

The learner should provide evidence to meet the requirements of the Assessment Criteria, and those aspects of the Assessment Context (described below) that are relevant to their workplace and work role. In order to demonstrate consistent performance, evidence should be provided to show that learners carry out activity relevant to this unit on at least two separate occasions.

For the Assessment Criteria relating to the learner's knowledge, different types of evidence and assessment methods could be used, for example learner statements, questioning and professional discussion which should be recorded for verification.

Assessment Guidance

- The use of simulation is not acceptable in the assessment of this unit.
- Workplace performance evidence is mandatory.
- The assumption is made that the learner undertaking this unit will have a fundamental level of experience and induction of the sector and will be looking for recognition of their skills, understanding and knowledge.

Information on use of Assessment Context

The learner will work safely in accordance with organisational and operational procedures. Organisational and operational procedures relate to:

- legal requirements
- workplace policies
- manufacturers' instructions
- work instructions
- Health and Safety and environmental policies

The following terms have a specific meaning in this unit:

Self-adhesive Methods and Techniques

Application, pressing, wet, dry, heat

Tools

Scissors, knives

Materials

Vinyl, polyester

Securing, Fixing and Fastening Methods

Jigs, clamps, fixing materials

Types of Substrate

Porous, non-porous

Types of Protection Methods

Warning signs, coverings, paddings, buffers

Preparation Techniques

Cutting, positioning

Template Materials

Rigid, flexible

Relevant Personnel

Line manager, supervisor, team leader etc.

Relevant Health and Safety and Environmental Requirements

Responsibilities in respect of health and safety and environmental requirements and legislation, regulations, safe working practices, local, national and organisational/site specific procedures

Learning Outcome and Assessment Criteria

Learning outcomes The learner will:	Assessment criteria The learner can:
1. Know how to access and interpret the instructions for carrying out self-adhesive operations	1.1. Explain how to check that the correct work instructions and any relevant self-adhesive procedures and quality specification have been obtained
2. Know how to prepare for self-adhesive operations	2.1. Explain how to ensure that the appropriate equipment, tools, materials, techniques and methods needed to complete the activity are available 2.2. Identify acceptable protection methods and when and how to use them 2.3. Identify the preparation techniques that are relevant
3. Know how to carry out self-adhesive operations according to the specification	3.1. Explain how to use application and setting out tools and equipment 3.2. Explain how to identify template materials appropriate for the work to be completed and what the consequences are of not using appropriate template materials 3.3. Identify the specified positioning and quality tolerances that are required 3.4. Explain how to carry out the self-adhesive operation
4. Know how to deal with problems	4.1. Identify the types of problem that may occur 4.2. Explain what action to take if there are problems

5. Know how to complete the documentation	5.1. Identify the documentation to complete and explain why it must be completed accurately
6. Be able to interpret the work instructions	6.1. Check and confirm that the work is carried out to the quality specifications, work instructions and any forming procedures relevant to the operations
7. Be able to prepare for self-adhesive operations	<p>7.1. Ensure that the necessary resources for the application operation, including suitable PPE (Personal Protective Equipment) have been obtained</p> <p>7.2. Protect surfaces from damage using an accepted method</p> <p>7.3. Carry out the relevant preparation technique</p>
8. Be able to carry out self-adhesive operations according to the specification	<p>8.1. Identify template shapes, measure and where necessary, cut and then position on the materials</p> <p>8.2. Position and secure devices and equipment for self-adhesive operations</p> <p>8.3. Check that materials are laid out to the specified tension without distortion</p> <p>8.4. Carry out the self-adhesive operation according to work instructions and safe operating/ quality procedures</p>
9. Be able to deal with problems	9.1. Report any problems promptly to the relevant personnel
10. Be able to complete the documentation	10.1. Complete documentation accurately and in accordance with organisational requirements, when this is required

UNIT 21	CARRY OUT THE INSTALLATION OPERATION FOR COMMERCIAL SIGNAGE OPERATIONS
LEVEL	2
CREDIT VALUE	12
GUIDED LEARNING HOURS	86

Unit Overview

This unit addresses the skills and knowledge required to carry out the installation operation for illuminated and/or non-illuminated sign products, in a signmaking environment.

Assessment Guidance and Evidence Requirements

The learner should provide evidence to meet the requirements of the Assessment Criteria, and those aspects of the Assessment Context (described below) that are relevant to their workplace and work role. In order to demonstrate consistent performance, evidence should be provided to show that learners carry out activity relevant to this unit on at least two separate occasions.

For the Assessment Criteria relating to the learner's knowledge, different types of evidence and assessment methods could be used, for example learner statements, questioning and professional discussion which should be recorded for verification.

Assessment Guidance

- The use of simulation is not acceptable in the assessment of this unit.
- Workplace performance evidence is mandatory.
- The assumption is made that the learner undertaking this unit will have a fundamental level of experience and induction of the sector and will be looking for recognition of their skills, understanding and knowledge.

Information on use of Assessment Context

The learner will work safely in accordance with organisational and operational procedures. Organisational and operational procedures relate to:

- legal requirements
- workplace policies
- manufacturers' instructions
- work instructions
- Health and Safety and environmental policies

The following terms have a specific meaning in this unit:

Types of Positioning and Securing Devices

Jigs, clamps, hoists, lifts, portable towers, ladders, access equipment

Types of Products and Materials

Metal, wood, composite boards, plastics, vinyl, glass, fabric

Types of Tools

Cutting, boring, assembling, bending, heat generating, holding

Types of Assembly Equipment

Jigs, clamps

Types of Installation

Illuminated and/or non-illuminated

Relevant Personnel

Line manager, supervisor, team leader etc.

Relevant Health and Safety and Environmental Requirements

Responsibilities in respect of health and safety and environmental requirements and legislation, regulations, safe working practices, local, national and organisational/site specific procedures, including CSCS (Construction Skills Certification Scheme) requirements when appropriate

Learning Outcome and Assessment Criteria

Learning outcomes The learner will:	Assessment criteria The learner can:
1. Know how to access and interpret the instructions for carrying out the installation operation	1.1. Explain how to establish requirements of the finished product from work instructions and other specifications 1.2. Identify the tolerances that are important 1.3. Identify the timescales for completing the installation
2. Know how to prepare to carry out installation operations	2.1. Identify the different types of installation equipment, tools, materials, personnel, methods and techniques and when to use them 2.2. Explain how to confirm that resources are available and suitable to assemble the product to the specified requirements
3. Know how to install commercial signs	3.1. Determine fastening and fixing methods appropriate to the sign product and how to carry them out 3.2. Identify the different types of positioning, securing devices and equipment and how they are used in installation 3.3. Explain how to ensure that equipment and components are brought up to operating levels in a sequence which is safe and optimises the integration of the installation 3.4. Explain how to erect sign supporting structures in accordance with work instructions 3.5. Identify when preliminary positioning may be required 3.6. Explain how to secure sign products
4. Know how to configure the installation	4.1. Explain how to configure the installed structure for use in accordance with work instructions 4.2. Explain how to achieve the required configuration within agreed timescales

5. Know how to maintain the quality of the installation	<p>5.1. Explain how to check that supporting structures forming part of the sign product are clean, free from marks, scratches, chips and dust, within specified tolerances</p> <p>5.2. Identify what causes damage to products and how to prevent this</p> <p>5.3. Identify how to rectify and repair sign products and structures</p>
6. Know how to deal with problems	<p>6.1. Identify the problems that may occur when carrying out the installation operation</p> <p>6.2. Explain what action to take if there are problems</p>
7. Know how to work safely	<p>7.1. Identify why risk assessments are important and why they are carried out</p> <p>7.2. Identify how to handle supporting structures and materials to be assembled safely to prevent damage and maintain the safety of the individual, colleagues and the public</p> <p>7.3. Identify what is regarded as waste and how to remove it safely</p> <p>7.4. Identify how to repackaged picked up signs</p>
8. Know how to complete the documentation	8.1. Identify the different paperwork relevant to the job
9. Be able to access and interpret the instructions for carrying out the installation operation	9.1. Check that the correct paper work accompanies the appropriate signs or components to be installed
10. Be able to prepare to carry out installation operations	10.1. Confirm that the equipment, tools, materials, techniques and methods are appropriate for the configuration that is being carried out
11. Be able to install commercial signs	<p>11.1. Ensure that dimensions and positioning of sign supporting structures are accurate, within specified tolerances</p> <p>11.2. Assemble and secure sign products without damage in accordance with the paperwork relevant to the job</p>
12. Be able to maintain the quality of the installation	12.1. Check that the signs or components are free from damage before and after transportation to site
13. Be able to deal with problems	13.1. Deal with problems in the implementation procedure and report those that cannot personally be solved
14. Be able to work safely	<p>14.1. Maintain personal safety and that of colleagues and the public when handling supporting structures, materials and components</p> <p>14.2. Ensure the work area is left clean, tidy and in accordance with health, safety and environmental policies and procedures</p> <p>14.3. Ensure that all waste is removed in line with company environmental policy</p>
15. Be able to complete the documentation	15.1. Complete job records legibly and in accordance with organisational requirements

UNIT 22	CARRY OUT BASIC INSTALLATION OPERATIONS FOR ROAD TRAFFIC SIGNAGE OPERATIONS
LEVEL	2
CREDIT VALUE	10
GUIDED LEARNING HOURS	60

Unit Overview

This unit addresses the skills and knowledge required to carry out the installation operation of non-illuminated road traffic sign products, in a signmaking environment.

Assessment Guidance and Evidence Requirements

The learner should provide evidence to meet the requirements of the Assessment Criteria, and those aspects of the Assessment Context (described below) that are relevant to their workplace and work role. In order to demonstrate consistent performance, evidence should be provided to show that learners carry out activity relevant to this unit on at least two separate occasions.

For the Assessment Criteria relating to the learner's knowledge, different types of evidence and assessment methods could be used, for example learner statements, questioning and professional discussion which should be recorded for verification.

Assessment Guidance

- The use of simulation is not acceptable in the assessment of this unit.
- Workplace performance evidence is mandatory.
- The assumption is made that the learner undertaking this unit will have a fundamental level of experience and induction of the sector and will be looking for recognition of their skills, understanding and knowledge.

Information on use of Assessment Context

The learner will work safely in accordance with organisational and operational procedures. Organisational and operational procedures relate to:

- legal requirements
- workplace policies
- manufacturers' instructions
- work instructions
- Health and Safety and environmental policies

The following terms have a specific meaning in this unit:

Types of Positioning and Securing Devices

Jigs, clamps, hoists, lifts, portable towers, ladders, access equipment

Types of Products and Materials

Metal, wood, composite boards, plastics, vinyl, glass, fabric

Types of Equipment

Manual, automated, electronic, pneumatic

Types of Tools

Cutting, boring, assembling, bending, heat generating, holding

Types of Assembly Equipment

Jigs, clamps

Types of Installation

Fixed vertical, non-illuminated, permanent road traffic signs

Types of structures

Post(s), cantilever, passive, no greater than 114mm outside diameter or similar

Types of foundation

Concrete no greater than 1m³, screw or driven depth no greater than 1000mm

Relevant Personnel

Line manager, supervisor, team leader etc.

Transportation Methods

Manual, automated

Relevant Health and Safety and Environmental Requirements

Responsibilities in respect of health and safety and environmental requirements and legislation, regulations, safe working practices, local, national and organisational/site specific procedures, including CSCS (Construction Skills Certification Scheme) requirements when appropriate

Learning Outcome and Assessment Criteria

Learning outcomes The learner will:	Assessment criteria The learner can:
1. Know how to access and interpret the instructions for carrying out the installation operation	1.1. State how to establish requirements of the finished product from work instructions and other specifications 1.2. Identify the tolerances that are important
2. Know how to prepare to carry out installation operations	2.1. Identify the different types of installation equipment, tools, materials, personnel, methods and techniques and when to use them 2.2. State how to confirm that resources are available and suitable to assemble the product to the specified requirements
3. Know how to install road traffic signs	3.1. Describe fastening and fixing methods appropriate to the sign product 3.2. Identify the different types of positioning, securing devices and equipment and how they are used in installation 3.3. Identify how to operate CAT and genny scanning devices and the significance of the readings 3.4. Outline how to ensure that equipment and components are brought up to operating levels in a sequence which is safe and optimises the integration of the installation 3.5. Identify when preliminary positioning may be required 3.6. State how to secure sign products to the approved position
4. Know how to configure the installation	4.1. Describe how to configure the installed structure for use in accordance with work instructions 4.2. Describe how to achieve the required configuration within agreed timescales
5. Know how to maintain the quality of the installation	5.1. Describe how to check that supporting structures forming part of the sign product are clean, free from marks, scratches, chips and dust, within specified tolerances 5.2. Identify what causes damage to products and how to prevent this from happening 5.3. Identify how to rectify and repair sign products and structures
6. Know how to deal with problems	6.1. Identify the problems that may occur when carrying out the installation operation 6.2. Outline what action to take if there are problems
7. Know how to work safely	7.1. Identify why risk assessments are important and why they are carried out 7.2. Identify how to handle supporting structures and materials to be assembled safely to prevent damage and maintain the safety of the individual, colleagues and the public 7.3. Identify how to ensure work area is safe from

	<p>overhead and underground obstructions and why this is important</p> <p>7.4. Identify the importance of ensuring that work is carried out without excavation to services</p> <p>7.5. Identify what is regarded as waste and how to remove it safely</p> <p>7.6. Identify how to repackage picked up signs</p>
8. Know how to complete the documentation	8.1. Identify the different paperwork relevant to the job and outline how to complete it correctly
9. Be able to access and interpret the instructions for carrying out the installation operation	9.1. Interpret work instructions to establish optimum configuration for the required operating parameters of the installed product
10. Be able to gather the resources needed to carry out installation operations	10.1. Confirm that the equipment, tools, materials, techniques and methods are appropriate for the configuration that is being carried out
11. Be able to install road traffic signs	<p>11.1. Ensure that dimensions and positioning of sign supporting structures are accurate, within specified tolerances</p> <p>11.2. Ensure the correct traffic management is in place for both vehicular and pedestrian traffic, and that the site area is properly signed, fenced/barriered and secure</p> <p>11.3. Ensure safe and correct installation of steel or passive support structures less than up to and including 114mm outside diameter</p> <p>11.4. Ensure safe and correct installation of signs manually not exceeding 2.5sq m in area mounted 2.1m above ground level on structures excluding gantries</p> <p>11.5. Assemble and secure sign products without damage in accordance with the paperwork relevant to the job</p>
12. Be able to maintain the quality of the installation	12.1. Check that the signs or components are free from damage before and after transportation to site
13. Be able to deal with problems	13.1. Deal with problems in the implementation procedure and report those that cannot be solved
14. Be able to work safely	<p>14.1. Ensure work is carried out according to all health and safety and legislative requirements</p> <p>14.2. Maintain personal safety and that of colleagues and the public when handling supporting structures, materials and components</p> <p>14.3. Carry out manual excavations with due care for services</p> <p>14.4. Ensure the work area is left clean, tidy and in accordance with health, safety and environmental policies and procedures</p> <p>14.5. Ensure that all waste is removed in line with company environmental policy</p>
15. Be able to complete the documentation	<p>15.1. Check that the correct paper work accompanies the appropriate signs or components to be installed</p> <p>15.2. Complete job records legibly and in accordance with organisational requirements</p>

UNIT 34 **SPECIFY AND PRODUCE GRAPHICAL IMAGES USING ICT (INFORMATION COMMUNICATION TECHNOLOGY) IN A SIGNMAKING ENVIRONMENT**

LEVEL	3
CREDIT VALUE	10
GUIDED LEARNING HOURS	40

Unit Overview

This unit addresses the skills and knowledge required to specify and produce graphical images using ICT.

Assessment Guidance and Evidence Requirements

The learner should provide evidence to meet the requirements of the Assessment Criteria, and those aspects of the Assessment Context (described below) that are relevant to their workplace and work role. In order to demonstrate consistent performance, evidence should be provided to show that learners carry out activity relevant to this unit on at least two separate occasions.

For the Assessment Criteria relating to the learner's knowledge, different types of evidence and assessment methods could be used, for example learner statements, questioning and professional discussion which should be recorded for verification.

Assessment Guidance

- The use of simulation is not acceptable in the assessment of this unit.
- Workplace performance evidence is mandatory.
- The assumption is made that the learner undertaking this unit will have essential and current organisational Health and Safety knowledge.

Information on use of Assessment Context

The learner will work safely in accordance with organisational and operational procedures. Organisational and operational procedures relate to:

- legal requirements
- workplace policies
- manufacturers' instructions
- work instructions
- Health, safety and environmental policies

The following terms have a specific meaning in this unit:

Requirements

Purpose/rationale, content, timescale

Client

Internal/external

Data

Graphic, picture

File

New, existing

Images

Bitmap, vector

Input Device

Keyboard, selection device, scanner, digitiser

Organisation's Standards

Naming convention, location, frequency

Facilities

Size, location, orientation, rotation, invert

Additional Elements

Line, shape, text

Attributes

Colour, grey scales, shade, patterns, size, shape

Destination Device

Hard copy, printer, production plotter, file storage device, file transmittal device

Materials

Paper, film

Output Parameters

CCT profile, page range, number of copies, definition, colour

Relevant Health and Safety and Environmental Requirements

Responsibilities in respect of Health and Safety and environmental requirements and legislation, regulations, safe working practices, local, national and organisational/site specific procedures

Learning Outcome and Assessment Criteria

Learning outcomes The learner will:	Assessment criteria The learner can:
1. Know how to access data	1.1. Explain the organisational standards applicable to accessing data 1.2. Identify the different sources of data
2. Know how to create and update required files	2.1. Explain the methods of producing bitmap and vector images 2.2. Explain the methods used for saving and locating design files 2.3. Compare the methods of using file operations 2.4. Explain the methods for using input devices 2.5. Explain the available procedures for automating data entering and checking 2.6. Explain which methods of recovering from file or data corruption should be used
3. Know how to produce the image by manipulating data	3.1. Compare the software available to produce images 3.2. Explain the standards used for producing images 3.3. Explain which software functions should be used for formatting images 3.4. Explain which software functions should be used for image layout 3.5. Explain which software functions should be used for manipulating images
4. Know how to ensure the completed output meets the requirements of clients	4.1. Identify the various potential clients 4.2. Explain own area of responsibility and relevant reporting authority 4.3. Explain the different problems that may occur 4.4. Explain the appropriate action to take if there are problems
5. Be able to understand the requirements of clients	5.1. Agree and record client's image requirements 5.2. Develop image options 5.3. Agree the preferred image option with the client
6. Be able to access data	6.1. Identify sources of required data 6.2. Obtain, when necessary, authority to access data
7. Be able to create and update required files	7.1. Identify and locate existing files and data to be updated 7.2. Take appropriate action to recover data in the event of file or data corruption 7.3. Save files which are created or updated according to organisational standards

<p>8. Be able to produce the image by manipulating data</p>	<p>8.1. Ensure that images are entered completely using the appropriate device correctly and within time constraints</p> <p>8.2. Use the correct available automated procedures for image entry or checking</p> <p>8.3. Use appropriate facilities to enter, select and combine stored images correctly to meet requirements</p> <p>8.4. Select and use facilities correctly to manipulate image</p>
<p>9. Be able to output graphical image to destination to meet client requirements</p>	<p>9.1. Select destination device and materials which are suitable for document purpose</p> <p>9.2. Check that the destination device is ready to receive output</p> <p>9.3. Within the limits of own authority take remedial action if an unready condition occurs</p> <p>9.4. Ensure that additional elements are added correctly to meet requirements</p> <p>9.5. Amend attributes correctly to meet requirements</p> <p>9.6. Check that the graphical image is complete and correct prior to output</p> <p>9.7. Ensure that output parameters are identified and set up correctly to meet output requirements</p> <p>9.8. Check that the graphical image is complete and to client requirements</p>

UNIT 35	CARRY OUT COMPLEX INSTALLATION OPERATIONS FOR ROAD TRAFFIC SIGNAGE OPERATIONS
LEVEL	3
CREDIT VALUE	12
GUIDED LEARNING HOURS	86

Unit Overview

This unit addresses the skills and knowledge required to carry out complex installation operations of road traffic sign products, in a signmaking environment.

Assessment Guidance and Evidence Requirements

The learner should provide evidence to meet the requirements of the Assessment Criteria, and those aspects of the Assessment Context (described below) that are relevant to their workplace and work role. In order to demonstrate consistent performance, evidence should be provided to show that learners carry out activity relevant to this unit on at least two separate occasions.

For the Assessment Criteria relating to the learner's knowledge, different types of evidence and assessment methods could be used, for example learner statements, questioning and professional discussion which should be recorded for verification.

Assessment Guidance

- The use of simulation is not acceptable in the assessment of this unit.
- Workplace performance evidence is mandatory.
- The assumption is made that the learner undertaking this unit will have experience in their industry and is developing their role to include additional knowledge and skill.

Information on use of Assessment Context

The learner will work safely in accordance with organisational and operational procedures. Organisational and operational procedures relate to:

- legal requirements
- workplace policies
- manufacturers' instructions
- work instructions
- Health, safety and environmental policies

The following terms have a specific meaning in this unit:

Types of Positioning and Securing Devices

Jigs, clamps, hoists, lifts, portable towers, ladders, access equipment

Types of Products and Materials

Metal, wood, composite boards, plastics, vinyl, glass, fabric

Types of Equipment

Manual, automated, electronic, pneumatic

Types of Tools

Cutting, boring, assembling, bending, heat generating, holding

Types of Assembly Equipment

Jigs, clamps

Types of Installation

Fixed vertical, non-illuminated, permanent road traffic signs

Types of structures

Post(s), cantilever, passive, gantry, building

Types of foundation

Concrete, structural, driven, screwed

Relevant Personnel

Line manager, supervisor, team leader etc.

Transportation Methods

Manual, automated

Relevant Health and Safety and Environmental Requirements

Responsibilities in respect of health and safety and environmental requirements and legislation, regulations, safe working practices, local, national and organisational/site specific procedures, including CSCS (Construction Skills Certification Scheme) requirements when appropriate

Learning Outcome and Assessment Criteria

Learning outcomes The learner will:	Assessment criteria The learner can:
1. Know how to access and interpret the instructions for carrying out the complex installation operation	1.1. Explain how to establish requirements of the finished product from work instructions and other specifications 1.2. Identify the tolerances that are important
2. Know how to prepare to carry out complex installation operations	2.1. Identify the different types of installation equipment, tools, materials, personnel, methods and techniques and when to use them 2.2. Explain how to confirm that resources are available and suitable to assemble the product to the specified requirements
3. Know how to install road traffic signs	3.1. Explain fastening and fixing methods appropriate to the sign product and how to carry them out 3.2. Identify the different types of positioning, securing devices and equipment and how they are used in installation 3.3. Identify how to operate CAT and genny scanning devices and the significance of the readings 3.4. Explain how to ensure that equipment and components are brought up to operating levels in a sequence which is safe and optimises the integration of the installation 3.5. Explain how to ensure that dimensions and positioning of sign supporting structures are accurate 3.6. Identify when preliminary positioning may be required 3.7. Explain how to secure sign products to the approved position
4. Know how to configure the complex installation	4.1. Explain how to configure the installed structure for use in accordance with work instructions 4.2. Explain how to achieve the required configuration within agreed timescales
5. Know how to maintain the quality of the complex installation	5.1. Explain how to check that supporting structures forming part of the sign product are clean, free from marks, scratches, chips and dust, within specified tolerances 5.2. Identify what causes damage to products and how to prevent this from happening 5.3. Identify how to rectify and repair sign products and structures
6. Know how to deal with problems	6.1. Identify the problems that may occur when carrying out the installation operation 6.2. Explain what action to take if there are problems
7. Know how to work safely	7.1. Identify why risk assessments are important and why they are carried out 7.2. Identify how to handle supporting structures and materials to be assembled safely to prevent damage and maintain the safety of the individual, colleagues and the public

	<p>7.3. Explain why it is important and how to ensure that the correct traffic management is in place for both vehicular and pedestrian traffic</p> <p>7.4. Identify how to ensure work area is safe from overhead and underground obstructions and why this is important</p> <p>7.5. Identify the importance of ensuring that work is carried out without excavation to services</p> <p>7.6. Identify what is regarded as waste and how to remove it safely</p> <p>7.7. Identify how to repackaged picked up signs</p>
8. Know how to complete the documentation	8.1. Identify the different paperwork relevant to the job
9. Be able to gather the resources needed to carry out complex installation operations	9.1. Confirm resources are available and suitable to assemble the product to the specified requirements
10. Be able to install road traffic signs	<p>10.1. Carry out excavations over 1m³ in flat or undulating terrain (embankments) using mechanical equipment with due care for overhead or underground services</p> <p>10.2. Ensure safe installation of pre-formed, driven, or screwed foundations using mechanical equipment</p> <p>10.3. Ensure safe installation of structural steelwork for foundations using mechanical equipment</p> <p>10.4. Ensure safe installation of steel and/or passive support structures greater than 114mm outside diameter or similar using mechanical equipment</p> <p>10.5. Ensure safe installation of signs exceeding 2.5sq m in area, mounted 2.1m above ground level on structures including gantries using mechanical equipment</p> <p>10.6. Assemble and secure sign products without damage in accordance with the paperwork relevant to the job</p>
11. Be able to maintain the quality of the complex installation	11.1. Check that the signs or components are free from damage before and after transportation to site
12. Be able to deal with problems	12.1. Deal with problems in the implementation procedure and report those that cannot be solved
13. Be able to work safely	<p>13.1. Ensure that the correct traffic management is in place for both vehicular and pedestrian traffic, and that the site area is properly signed, fenced/barriered and secure</p> <p>13.2. Maintain personal safety and that of colleagues and the public when handling supporting structures, materials and components</p> <p>13.3. Carry out manual excavations with due care for services</p> <p>13.4. Ensure the work area is left clean, tidy and in accordance with health, safety and environmental policies and procedures</p>
14. Be able to complete the documentation	<p>14.1. Check that the correct paper work accompanies the appropriate signs or components to be installed</p> <p>14.2. Complete job records legibly and in accordance with organisational requirements</p>