



Qualification Handbook

Level 3 NVQ Diploma in Thermal Insulation (Construction) GJ1779/ Fabrication route

October 2016

Subject area	Construction
SQA reference number	GJ1779
Entry requirements	L2 Functional skills or equivalent
Assessment	Portfolio of evidence
Support materials	Candidate Logbook

Introduction

This document tells you what you need to know about the qualification:

Who is the qualification for?

This qualification is ideal for individuals working in the construction and built environment sector that are required to Apply or Fabricate Insulation and finishes to complex surfaces. It provides an opportunity for them to demonstrate their competence in this area and gain the Level 3 NVQ Diploma in Thermal Insulation and to gain a Gold CSCS Card

What does the qualification cover?

It covers a variety of skills required to Apply and Fabricate in the construction sector, including Work activities and resources, good working relationships, Methods of work, Quality of work, resolving indeterminate situations, Applying and Fabricating Insulation and finishes to complex surfaces

To achieve the **Level 3 NVQ Diploma in Thermal Insulation (Construction) GJ1779** learners must achieve **79** credits:

The L3 qualification comprises 5 Mandatory units and 2 optional units.

Level 3 NVQ Mandatory Units:

FX6T79 Confirming work activities and resources for an occupational work area in the workplace.

FX7583 Developing and maintaining good working relationships in the workplace

FX6R79 Confirming the occupational method of work in the workplace

FX8H79 Confirming work meets quality standards in the workplace

H50280 Resolving indeterminate situations in the workplace

FX7481 Conforming to general workplace health, safety and welfare in the workplace

PLUS **ONE** OF THE 2 FOLLOWING OPTIONAL ROUTES:

1 Fabricate Protection Option Route (Total 8 units)

Mandatory units:

H50379 Fabricating joints in thermal insulation protection using sheet metal in the workplace

Plus optional (one from the following)

H50068 Fabricating sheet metal insulation protection from existing templates in the workplace

H50168 Fitting sheet metal insulation protection in the workplace

2 Fit Insulation Option Route (Total 8 units)

Mandatory units:

H504795 Applying insulation and finishes to complicated surfaces in the workplace

Plus optional (one from the following)

H4YY68 Applying insulation and finishes to cylindrical and flat surfaces

H50567 Removing and replacing thermal insulation for maintenance or inspection in the workplace

Learner entry requirements

Candidates must have achieved Functional Skills Level 2 in maths and English, or equivalent. Certificates must be presented by the candidate for verification. Assessors will ensure that candidates have the potential and opportunity to gain the qualifications successfully.

Initial assessment and induction

An initial assessment of each learner will be made before the start of their programme to identify:

- if the learner has any specific training needs,
- support and guidance they may need when working towards their qualifications
- any units they have already completed, or credit they have accumulated which is relevant to the qualifications
- the appropriate type and level of qualification.

Assessors will carry out an Induction session to ensure that the learner fully understands the requirements of the qualification, their responsibilities as a learner, the responsibilities of TICA and their employer's responsibilities.

Employer Responsibilities

Employers will sign an IETTL approved Service Level Agreement, ensuring that the appropriate work experience and support is provided to the candidate.

Assessment of the qualification

Candidates must have a completed portfolio of evidence for each unit.

Aspects to be assessed through performance in the workplace

Direct evidence produced through normal performance in the workplace is the primary source for meeting the requirements of the qualification. This includes naturally occurring documentary evidence (hard copy and electronic), direct observation of activities and witness testimony as relevant.

Workplace evidence must be supported by the required evidence of knowledge and understanding. This evidence may be identified by:

- questioning the candidate
- recognized industry education and training programme assessment or professional interview assessment that has been matched to NOS requirements
- Performance evidence.

A holistic approach towards the collection of evidence is encouraged. The focus should be on assessing activities generated by the whole work experience rather than focusing on specific tasks. This will show how evidence requirements can be met across the qualification to make the most efficient use of evidence.

Unit FX6T79 Confirming work activities and resources for an occupational work area in the workplace

Level:	3
Credit value:	10
GLH:	33

Aim: The aim of the unit is to give the learner the skills and knowledge required to identify work activities, resources and identify any changes in circumstances. Identify methods in place to accommodate those changes.

Learning outcome
The learner will: Identify work activities, assess required resources and plan the sequence of work.
Assessment criteria
The learner can: Identify work activities, assess required resources and plan the sequence of work Identify work activities and formulate a plan for their own sequence of work Explain the types of work relative to the occupational area and how to identify different work activities Explain methods of assessing the resources needed from a range of available information Explain the required information and the different methods used to prepare a work programme relative to the occupational area.

Learning outcome
The learner will: Obtain clarification and advice where the resources required are not available.
Assessment criteria
The learner can: Seek advice and clarity from appropriate sources on resources available and the alternatives that can be used for the work when required resources are not available Explain the different sources and methods that can be used to obtain clarification and advice when the required resources are not available.

Learning outcome
The learner will: Evaluate the work activities and the requirements of any significant external factors against the project requirements.
Assessment criteria
The learner can: Assess progress of work against project requirements, taking into account external factors relating to: other occupations and /or customers resources weather conditions health and safety requirements. Explain different methods of evaluating work activities against the following project requirements: contract conditions contract programme health and safety requirements of operatives. Evaluate the requirements of significant external factors that could affect the progress of work, in relation to: other related programmes special working conditions weather conditions other occupations/people resources health and safety requirements.

Learning outcome
The learner will: Identify work activities which influence each other and make the best use of the resources available
Assessment criteria
The learner can: Determine work activities that have an influence on each other. Evaluate which work activities make the best use of available resources in relation to: occupations and/or customers associated with the work tools, plant and/or ancillary equipment materials and components. Explain different methods and sources that can identify which work activities influence each other Describe how to determine the sequence of work activities and how long each work activity will take Describe what zero and low carbon requirements are Explain how work activities and different ways of using resources can impact on zero and low carbon requirements, and make a positive contribution to the environment.

Learning outcome
The learner will: Identify changed circumstances that require alterations to the work programme and justify them to decision makers
Assessment criteria
The learner can: Evaluate project progress against the work programme to identify any changed circumstances Inform line management and/or customers on the type and extent of any required changes to the work programme Explain how to identify possible alterations to the work programme to meet changed circumstances relating to action lists, method statements, duration, schedules and/or occupation specific requirements Explain how to assess contractual/work effects resulting from alterations to the work programme Explain the methods used to justify to decision makers on the effects resulting from alterations to the work programme.

Learning outcome
The learner will: Inform relevant people about work activities in an appropriate level of detail, with the appropriate level of urgency.
Assessment criteria
The learner can: Communicate on the following work activity information to relevant people following organisational procedures: <ul style="list-style-type: none"> appropriate timescales health and safety requirements co-ordination of work procedures. Explain the different methods and techniques used to inform relevant people about work activities Explain the effects of not informing relevant people with the expected level of urgency Explain the different types of work activity related information and to what level of detail the following people would expect to receive: <ul style="list-style-type: none"> colleagues employers customers contractors suppliers of products and services other people affected by the work/project

Learning outcome
The learner will: Offer advice and help to relevant people about work activities and encourage questions/requests for clarification and comments.
Assessment criteria
The learner can: Give appropriate advice and information to relevant people about the different methods of carrying out occupational work activities to achieve the required outcome Explain the techniques of encouraging questions and/or requests for clarification and comments Explain the different ways of offering advice and help to different people about work activities, in relation to: <ul style="list-style-type: none"> progress results achievements occupational problems occupational opportunities health and safety requirements

Learning outcome
The learner will: Clarify proposals with relevant people and discuss alternative suggestions.
Assessment criteria
The learner can: Engage regular discussions with relevant people about the occupational work activity and/or other occupations involved Explain the methods of clarifying alternative proposals with relevant people Explain the methods of suggesting alternative proposals.

Learning outcome
The learner will: Resolve differences of opinion in ways that minimize offence and maintain goodwill, trust and respect
Assessment criteria
The learner can: Examine and agree the work activities that satisfy all people involved and will meet the required outcome of the proposed method of work Explain the methods and techniques used to resolve differences of opinion in ways which minimize offence and maintain goodwill, trust and respect.

Unit FX6R79 Confirming the occupational method of work in the workplace

Level:	3
Credit value:	11
GLH:	37

Aim: The aim of this unit is to provide the learner with the skills and knowledge required to confirm occupational methods of work within the workplace. To identify work methods to make best use of resources available and communicate to relevant people.

Learning outcome
The learner will: Assess available project data accurately to determine the occupational method of work.
Assessment criteria
The learner can: Interpret and extract information from drawings, specifications, schedules, manufacturer's information, and methods of work, risk assessments and programmes of work. Explain how to summarise the following project data: required quantities specifications detailed drawings health and safety requirements timescales scope of works. Explain the different methods of assessing available project data. Explain how to use project data to interpret the work method, in relation to: standard work procedures sequence of work organisation of resources (people, equipment, materials) work techniques working conditions (health, safety and welfare) risk assessment.

<p>Learning outcome</p> <p>The learner will:</p> <p>Obtain additional information from alternative sources in cases where the available project data is insufficient.</p>
<p>Assessment criteria</p> <p>The learner can:</p> <p>Collect and collate additional information from alternative sources to clarify the work to be carried out.</p> <p>Explain different methods and techniques of obtaining additional information from the following alternative sources when available project data is insufficient:</p> <ul style="list-style-type: none"> customers or representatives suppliers regulatory authorities

<p>Learning outcome</p> <p>The learner will:</p> <p>Identify work methods that will make best use of resources and meet project, statutory and contractual requirements</p>
<p>Assessment criteria</p> <p>The learner can:</p> <p>Examine potential work methods to carry out the occupational work activity.</p> <p>Determine which work methods will make best use of relevant resources and meet health and safety requirements relating to technical and/or project criteria.</p> <p>Explain how to identify work methods that make best use of resources and meet project, statutory and contractual requirements against technical criteria, in relation to:</p> <ul style="list-style-type: none"> health and safety welfare (principles of protection) fire protection access and egress equipment availability availability of competent workforce pollution risk waste and disposal zero and low carbon outcomes weather conditions. <p>Explain how to identify work methods that make best use of resources and meet project, statutory and contractual requirements against project criteria, in relation to:</p> <ul style="list-style-type: none"> conforming to statutory requirements customer and user needs contract requirements in terms of time, quantity and quality environmental considerations. <p>Explain how different methods of work can achieve zero/low carbon outcomes.</p>

Learning outcome
The learner will: Confirm and communicate the selected work method to relevant personnel.
Assessment criteria
The learner can: Confirm the selected occupational work method that meets project, statutory and contractual requirements. Communicate appropriately to relevant people on the selected occupational work method. Describe the different techniques and methods of confirming and communicating work methods to relevant people. Explain the principles of equality and diversity and how to apply them when working and communicating with others.

Unit FX8H79

Confirming work meets quality standards in the workplace

Level:	3
Credit value:	9
GLH:	30

Aim: The aim of this unit is to provide the learner with the skills and knowledge required to confirm quality standards in the workplace and how to check design requirements against project data and implement corrective action.

Learning outcome
The learner will: Identify quality standards from available information and clearly specify to the people responsible for their implementation.
Assessment criteria
The learner can: Source and establish quality standards relevant to project requirements Inform those implementing the standards of the level of quality needed Explain the various types and source of quality standards applicable to the occupational work environment Describe the various methods for passing quality standards onto those responsible for their implementation.

Learning outcome
The learner will: Regularly check that work conforms to the design requirements and the specified quality standards.
Assessment criteria
The learner can: Locate and inspect work done within the occupational work environment on a regular basis. Compare inspection results against the design requirements to establish conformity with the specified quality standards. Explain the methods available to check that the work and resources conforms to the design requirements and specified quality standards.

Learning outcome
The learner will: Identify work that fails to meet the requirements and quality standards, and implement corrective action
Assessment criteria
The learner can: Identify work which fails to meet required quality standards. Plan and implement the required action needed to correct work not meeting specified quality standards Explain the techniques and methods used to identify work that has failed to meet quality standards Describe the various methods for implementing corrective actions to work which does not meet quality standards.

Learning outcome
The learner will: Regularly inform decision makers about significant variations in quality standards.
Assessment criteria
The learner can: Advise decision makers on corrections undertaken using suitable formats that comply with organisational procedures Describe the methods used to inform decision makers about significant variations in quality standards Explain when action should be taken on typical variations in quality standards relative to the occupational work environment.

Learning outcome
The learner will: Organise and control the work and resources in order to keep the workplace
Assessment criteria
The learner can: Implement systems to control resources, maintain site tidiness and dispose of waste in accordance statutory requirements Explain different ways of controlling the workplace and resources to create and maintain safe conditions and a tidy workplace Explain how a safe and tidy workplace creates a favourable image of the organisation, its products and services, and the project.

Unit H50280 Resolving indeterminate situations in the workplace.

Level:	4
Credit value:	19
GLH:	63

Aim: The aim of this unit is to provide the learner with the skills and knowledge to resolve indeterminate situations in the workplace and estimate their effects. Consult with specialists on situations and identify probable factors affecting indeterminate situations.

Learning outcome
The learner will: Identify where indeterminate situations exist and estimate their effects.
Assessment criteria
The learner can: Identify where indeterminate situation exist, assess the situation to estimate their realistic effects and summarise the issue for the people affected. Describe how to identify where indeterminate situations exist and explain how to estimate their realistic effect. Describe how to summarise the issues caused by the indeterminate situations for those affected.

Learning outcome
The learner will: Obtain and assess information and identify and cover any significant gaps.
Assessment criteria
The learner can: Assess the accuracy and completeness of available information and identify any significant gaps Obtain additional information to cover any gaps and to provide a valid starting point for the analysis of the situation Explain how to assess the accuracy and completeness of available information and identify any significant gaps relating to: experience practice experts manual and electronic information systems colleagues and specialists. Describe how to obtain additional information to cover any gaps and to provide a valid starting point for the analysis of the situation.

Learning outcome
The learner will: Select, analyse and implement common tests relevant to the work to obtain information which cannot be obtained directly.
Assessment criteria
The learner can: Select and implement appropriate tests to obtain information that cannot be obtained directly. Analyse the test results by using a valid and reliable method to draw conclusions which are justified by the data and reliability of the analysis method. Describe how to select and implement appropriate tests to obtain information which cannot be obtained directly, in relation to: site investigation physical surveys materials and system tests laboratory analysis examination of compliance with statutory regulations examination of compliance with health, safety and welfare, environmental and other ruling constraints. Explain how to analyse and interpret the test results using a valid and reliable method. Describe how to draw justified conclusions from the results of the tests.

Learning outcome
The learner will: Consult with specialists on indeterminate situations
Assessment criteria
The learner can: Carry out consultations with relevant specialists from different technical disciplines on indeterminate situations Provide specialists with the relevant clear and accurate information Describe how to consult on indeterminate situations with specialists from different technical disciplines and provide them with clear and accurate information.

Learning outcome
The learner will: Identify and record the probable factors affecting indeterminate situations.
Assessment criteria
The learner can: Identify and provide a clear and coherent description of the probable factors that could affect the indeterminate situations Record for analysis the probable factors that could affect the indeterminate situations Explain how to identify and describe the probable factors that cause indeterminate situations Describe how to record the probable factors that cause indeterminate situations.

Learning outcome
<p>The learner will:</p> <p>Analyse different perceptions of indeterminate situations to resolve indeterminate situations.</p>
Assessment criteria
<p>The learner can:</p> <p>Analyse and interpret different perceptions of indeterminate situations into detailed issues to identify known opportunities and solutions, and a resolution to the situation. Apply appropriate aids and techniques to increase the reliability of the decisions and judgements made to resolve indeterminate situations.</p> <p>Explain how to analyse and interpret different perceptions of situations, in relation to:</p> <ul style="list-style-type: none"> information and conclusions from previous cases similarities between previous cases and the current situation the required outcome– known and anticipated limitations and opportunities. <p>Explain how to apply the following aids and techniques to increase the reliability of the decisions and judgements made to resolve indeterminate situations:</p> <ul style="list-style-type: none"> identified options relationships between factors weighted priorities value utilities expert systems.

Learning outcome
The learner will: Identify and justify ethical judgements which may resolve indeterminate situations.
Assessment criteria
The learner can: Evaluate and use clear criteria and reasoned arguments to identify and justify the ethical judgements that are likely to resolve the situation with the least risk and disruption to the work. Explain how to identify and justify ethical judgements which are likely to resolve the situation with the least risk and disruption to work, in relation to: justifying opinions and conclusions decisions on validity, viability and action to be taken identifying opportunities and solutions– best practice and knowledge of own craft. Describe how to use clear criteria solutions and procedures to identify and justify ethical judgements, in relation to: predicted opportunity, risk and disruption added value conforming with recognised good practice up-to-date information cost effectiveness resources safety returning to operational state.

Learning outcome
The learner will: Recommend and record ethical judgements.
Assessment criteria
The learner can: Recommend and record ethical judgements, within the limits of their own knowledge and experience that offer the least risk and disruption to the work Collect valid and reliable data and suggest appropriate controls Describe how to recommend and record solutions which offer the least risk and disruption to the work Explain how to identify the limits of their own knowledge and experience, and where to seek advice when required.

Unit FX7481 Conforming to general health, safety and welfare in the workplace

Level:	1
Credit value:	2
GLH:	7

Aim: To provide the learner with the skills and knowledge required to conform to general health and safety and welfare in workplace. Recognize hazards associated with the workplace and comply with organizational policies and procedures.

Learning outcome
The learner will: Comply with all workplace health, safety and welfare legislation requirements
Assessment criteria
The learner can: Comply with information from workplace inductions and any health, safety and welfare briefings attended relevant to the occupational area Use health and safety control equipment safely to carry out the activity in accordance with legislation and organisational requirements Comply with statutory requirements, safety notices and warning notices displayed within the workplace and/or on equipment State why and when health and safety control equipment, identified by the principles of protection, should be used relating to types, purpose and limitations of each type, the work situation, occupational use and the general work environment, in relation to: collective protective measures personal protective equipment (PPE) respiratory protective equipment (RPE) local exhaust ventilation (LEV). State how the health and safety control equipment relevant to the work should be used in accordance with the given instructions State which types of health, safety and welfare legislation, notices and warning signs are relevant to the occupational area and associated equipment State why health, safety and welfare legislation, notices and warning signs are relevant to the occupational area State how to comply with control measures that have been identified by risk assessments and safe systems.

Learning outcome
The learner will: Recognise hazards associated with the workplace that have not been previously controlled and report them in accordance with organisational procedures
Assessment criteria
The learner can: Report any hazards created by changing circumstances within the workplace in accordance with organisational procedures List typical hazards associated with the work environment and occupational area in relation to resources, substances, asbestos, equipment, obstructions, storage, services and work activities List the current Health and Safety Executive top ten safety risks List the current Health and Safety Executive top five health risks State how changing circumstances within the workplace could cause hazards State the methods used for reporting changed circumstances, hazards and incidents in the workplace.

Learning outcome
<p>The learner will:</p> <ul style="list-style-type: none"> Comply with organisational policies and procedures to contribute to health, safety and welfare
Assessment criteria
<p>The learner can:</p> <ul style="list-style-type: none"> Interpret and comply with given instructions to maintain safe systems of work and quality working practices Contribute to discussions by offering/providing feedback relating to health, safety and welfare Contribute to the maintenance of workplace welfare facilities in accordance with workplace welfare procedures Safely store health and safety control equipment in accordance with given instructions Dispose of waste and/or consumable items in accordance with legislation. State the organisational policies and procedures for health, safety and welfare, in relation to: <ul style="list-style-type: none"> dealing with accidents and emergencies associated with the work and environment methods of receiving or sourcing information reporting stopping work evacuation fire risks and safe exit procedures consultation and feedback. State the appropriate types of fire extinguishers relevant to the work State how and when the different types of fire extinguishers are used in accordance with legislation and official guidance.

Learning outcome
The learner will: Work responsibly to contribute to workplace health, safety and welfare whilst carrying out work in the relevant occupational area
Assessment criteria
The learner can: Demonstrate behaviour which shows personal responsibility for general workplace health, safety and welfare State how personal behaviour demonstrates responsibility for general workplace health, safety and welfare, in relation to: recognising when to stop work in the face of serious and imminent danger to self and/or others contributing to discussions and providing feedback reporting changed circumstances and incidents in the workplace complying with the environmental requirements of the workplace. Give examples of how the behaviour and actions of individuals could affect others within the workplace.

Learning outcome
The learner will: Comply with and support all organisational security arrangements and approved procedures
Assessment criteria
The learner can: Provide appropriate support for security arrangements in accordance with approved procedures: during the working day on completion of the day's work for unauthorised personnel (other operatives and the general public) for theft. State how security arrangements are implemented in relation to the workplace, the general public, site personnel and resources.

Unit H50379 Fabricating joints in thermal insulation protection using sheet metal in the workplace

Level:	3
Credit value:	45
GLH:	150

Aim:	To provide the learner with the skills and knowledge required to fabricate joints in thermal insulation protection using sheet metal. How to comply with relevant legislation and guidance when fabricating and maintain safe working practices. Select the correct resources for the methods of work.
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Learning outcome
The learner will: Interpret the given information relating to the work and resources when fitting sheet metal insulation protection
Assessment criteria
The learner can: Interpret and extract relevant information from drawings, specifications, schedules, method statements, risk assessments and manufacturers' information Comply with information and/or instructions derived from risk assessments and method statements Describe the organisational procedures developed to report and rectify inappropriate information and unsuitable resources and how they are implemented Describe different types of information, their source and how they are interpreted in relation to: drawings, specifications, schedules, method statements, risk assessments, manufacturers' information current regulations associated with thermal insulation.

Learning outcome
The learner will: Know how to comply with relevant legislation and official guidance when fabricating joints in thermal insulation protection using sheet metal.
Assessment criteria
The learner can: Describe their responsibilities regarding potential accidents and health hazards, whilst working: – in the workplace, at height, with tools and equipment, with materials and substances, with movement/storage of materials and by manual handling and mechanical lifting Describe the organisational security procedures for tools, equipment and personal belongings in relation to site, workplace, company and operative. Explain what the accident reporting procedures are and who is responsible for making reports.

Learning outcome
The learner will: Maintain safe and healthy working practices when fabricating joints in thermal insulation protection using sheet metal.
Assessment criteria
The learner can: Use health and safety control equipment and access equipment (if applicable) safely to carry out the activity in accordance with current legislation and organisational requirements when fabricating joints in thermal insulation protection using sheet metal Comply with information relating to specific risks to health when fabricating joints in thermal insulation protection using sheet metal Explain why and when health and safety control equipment, identified by the principles of protection, should be used, relating to fabricating joints in thermal insulation protection using sheet metal, and the types, purpose and limitations of each type, the work situation and general work environment, in relation to: collective protective measures personal protective equipment (PPE) respiratory protective equipment (RPE) local exhaust ventilation (LEV). Describe how the relevant health and safety control equipment should be used in accordance with the given instructions Describe how emergencies should be responded to in accordance with organisational authorisation and personal skills when involved with fires, spillages, injuries and other task-related hazards

Learning outcome
The learner will: Select the required quantity and quality of resources for the methods of work to fabricate joints in thermal insulation protection using sheet metal.
Assessment criteria
The learner can: Select resources associated with own work in relation to materials, components, fixings, tools and equipment. Describe the characteristics, quality, uses, sustainability, limitations and defects associated with the resources in relation to: sheet metals joining materials– hand and/or portable powered tools and equipment. Describe how the resources should be used correctly and how problems associated with the resources are reported. Explain why the organisational procedures have been developed and how they are used for the selection of required resources. Describe any potential hazards associated with the resources and methods of work. Describe how to calculate quantity, length, area and wastage associated with the method/procedure to fabricate joints in thermal insulation protection using sheet metal.

Learning outcome
The learner will: Minimise the risk of damage to the work and surrounding area when fabricating joints in thermal insulation protection using sheet metal.
Assessment criteria
Protect the work and its surrounding area from damage in accordance with safe working practices and organisational procedures. Minimise damage and maintain a clean work space. Dispose of waste in accordance with current legislation. Describe how to protect work from damage and the purpose of protection in relation to general workplace activities, other occupations and adverse Explain why the disposal of waste should be carried out safely in accordance with environmental responsibilities, organisational procedures, manufacturers' information, statutory regulations and official guidance.

Learning outcome
The learner will: Complete the work within the allocated time when fabricating joints in thermal insulation protection using sheet metal.
Assessment criteria
Demonstrate completion of the work within the allocated time Describe the purpose of the work programme and explain why deadlines should be kept in relation to: <ul style="list-style-type: none">types of progress chartstimetables and estimated timesorganisational procedures for reporting circumstances which will affect the work programme.

<p>Learning outcome</p> <p>The learner will:</p> <p>Comply with the given contract information to fabricate joints in thermal insulation protection using sheet metal to the required specification.</p>
<p>Assessment criteria</p> <p>Demonstrate the following work skills when fabricating joints in thermal insulation protection using sheet metal: – measuring, marking out, forming, shaping, fixing and finishing</p> <p>Fabricate six joints in sheet metal to given working instructions for insulation protection:</p> <ul style="list-style-type: none"> dome end oblique unequal tee branch eccentric reducer bend trunnion recess around obstacles eccentric triangulation flat back bend (space saver) breach piece two or more square to round duct work transformation pieces. <p>Safely use materials, hand tools, portable power tools and ancillary equipment.</p> <p>Safely store the materials, tools and equipment used when fabricating joints in thermal insulation protection using sheet metal</p> <p>Describe how to apply safe and healthy work practices, follow procedures, report problems and establish the authority needed to rectify them, to:</p> <ul style="list-style-type: none"> fabricate joints in sheet metal insulation protection, dome end, oblique unequal tee branch, eccentric reducer, bend trunnion, flat back bend (space saver), breach piece, two or more square to round, duct work transformation pieces fabricate joints to recess around obstacles apply eccentric triangulation calculate surface area apply trigonometry and geometry develop templates by drawing development identify allowances for bends, folds and forms <p>Describe how to apply safe and healthy work practices, follow procedures, report problems and establish the authority needed to rectify them, to:</p> <ul style="list-style-type: none"> join sheet metals, including screws, folds, rivets and stud welding incorporate joint methods that will reduce corrosion identify the characteristics of sheet metals use hand tools, portable power tools and equipment work at height use access equipment <p>Describe the needs of other occupations and how to effectively communicate within a team when fabricating joints in thermal insulation protection using sheet metal.</p> <p>Describe how to maintain the tools and equipment used when fabricating joints in thermal insulation protection using sheet metal.</p>

Unit H50068 Fabricating sheet metal insulation protection from existing templates in the workplace

Level:	2
Credit value:	39
GLH:	130
Aim:	To provide the learner with the skills and knowledge required to fabricate sheet metal protection from existing templates in the workplace. Select the required resources for the methods of work minimize the risk of damage to work and complete the work on the allocated time.

Learning outcome
The learner will: Interpret the given information relating to the work and resources when fabricating sheet metal insulation protection from existing templates
Assessment criteria
Interpret and extract information from method statements, drawings, specifications, schedules and manufacturers' information Comply with information and/or instructions derived from risk assessments and/or method statement State the organisational procedures developed to report and rectify inappropriate information and unsuitable resources and how they are implemented Describe different types of information, their source and how they are interpreted in relation to: <ul style="list-style-type: none"> drawings specifications schedules method statements manufacturers' information and approved Codes of Practice.

Learning outcome
The learner will: Know how to comply with relevant legislation and official guidance when fabricating sheet metal insulation protection from existing templates.
Assessment criteria
Describe their responsibilities under current legislation and official guidance whilst working: in the workplace, below ground level, at height, in confined spaces, with tools and equipment, with materials and substances, with movement/storage of materials and by manual handling and mechanical lifting. Describe the organisational security procedures for tools, equipment and personal belongings in relation to site, workplace, company and operative State what the accident reporting procedures are and who is responsible for making reports.

Learning outcome
The learner will: Maintain safe working practices when fabricating sheet metal insulation protection from existing templates.
Assessment criteria
Use PPE and access equipment safely to carry out the activity in accordance with legislation and organisational requirements when fabricating sheet metal insulation protection from existing templates Explain why and when PPE should be used, relating to fabricating sheet metal insulation protection from existing templates, and the types, purpose and limitations of each type State how emergencies should be responded to in accordance with organisational authorisation and personal skills when involved with fires, spillages, injuries and other task-related hazards.

Learning outcome
The learner will: Select the required quantity and quality of resources for the methods of work to fabricate sheet metal insulation protection from existing templates.
Assessment criteria
Describe the characteristics, quality, uses, limitations and defects associated with the resources in relation to: sheet metals joining materials hand and/or powered tools and equipment. Select resources associated with own work in relation to materials, components, fixings, tools and equipment. State how the resources should be used correctly, how problems associated with the resources are reported and how the organisational procedures are used. Outline potential hazards associated with the resources and method of work. Describe how to calculate quantity, length, area and wastage associated with the method/procedure to fabricate sheet metal insulation protection from existing templates.

Learning outcome
The learner will: Minimise the risk of damage to the work and surrounding area when fabricating sheet metal insulation protection from existing templates.
Assessment criteria
Protect the work and its surrounding area from damage Minimise damage and maintain a clean work space. Describe how to protect work from damage and the purpose of protection in relation to general workplace activities, other occupations and adverse weather conditions. Dispose of waste in accordance with legislation. State why the disposal of waste should be carried out in relation to the work.

Learning outcome
The learner will: Complete the work within the allocated time when fabricating sheet metal insulation protection from existing templates.
Assessment criteria
Demonstrate completion of the work within the allocated time State the purpose of the work programme and explain why deadlines should be kept in relation to: types of progress charts, timetables and estimated times organisational procedures for reporting circumstances which will affect the work programme.

Learning outcome
The learner will: Comply with the given contract information to fabricate sheet metal insulation protection from existing templates to the required specification.
Assessment criteria
Demonstrate the following work skills when fabricating sheet metal insulation protection from existing templates: drawing, measuring, marking out, forming, shaping, fixing and finishing. Fabricate sheet metal protection components to working instructions for: pipes ducts vessels fittings. Describe how to apply safe work practices, follow procedures, report problems and establish the authority needed to rectify them to: select templates or patterns economically transfer patterns or templates onto sheet metal identify allowances for bends, folds and forms cut and trim geometrical shapes form protection for pipes, ducts, vessels and fittings join sheet metal, including: screws, folds, rivets, stud welding use hand tools, power tools and equipment work at height use access equipment Safely use and store hand tools, portable power tools and ancillary equipment State the needs of other occupations and how to communicate within a team when fabricating sheet metal insulation protection from existing templates Describe how to maintain the tools and equipment used when fabricating sheet metal insulation protection from existing templates.