

# QUALIFICATION SPECIFICATION

ECITB Level 2 Diploma in Erecting Steelwork Components (RQF) 603/4031/9

# **QUALIFICATION SPECIFICATION**

# **ECITB Level 2 Diploma in Erecting Steelwork Components (RQF) Contents**

Cont	ents	2
1.	Introduction	3
1.1	Dbjective and overview	3
1.2	2 Steelwork Operatives	3
1.3	B Entry requirements	3
1.4	4 Achievement	4
1.5	5 Assessment	4
1.6	Total Qualification Time (TQT), level & duration	4
1.7	7 Equal opportunities, reasonable adjustments and special considerations	4
1.8	B Career development within the Engineering Construction Industry	4
2.	Qualification units	6
2.1	Schematic overview of this qualification	6
2.2	2 Underpinning knowledge, skills and behaviours	6
2.3	B Employer-desirable behaviours and attitudes	7
2.4	1 Specific knowledge and skills	7
2.5	5 Further information	8
2.6	5 Units	9
	Unit SE01 Work safely, effectively, ethically and sustainably, managing risk and hazards	9
	Unit SE02 Interpret and follow documentation and procedures including prepare a reinstate the work area	
	Unit SE03 Principles of moving loads	.15
	Unit SE04 Move steelwork components	.16
	Unit SE05 Install steelwork components	.17
	Unit SE06 Assemble steelwork components using bolted joints	.18
	Unit SE07 Work safely at height on structures	.19
	Unit SE08 Dismantle steelwork components	.20

# **ECITB Level 2 Diploma in Erecting Steelwork Components (RQF)**

#### 1. Introduction

#### 1.1 Objective and overview

The objective of this vocational competence qualification is to provide recognition that a candidate has demonstrated the required level of technical competence in installing and dismantling steelwork components for architectural steelwork such as staircases, handrails, balustrades and metal decking.

This qualification does not provide the skills and knowledge required to perform steel erecting on engineering construction structures, plant and equipment.

Successful completion of the qualification pathway will lead to the candidate being awarded an:

ECITB Level 2 Diploma in Erecting Steelwork Components (RQF)

This qualification is based on National Occupational Standards (NOS) and has been designed following consultation with industry employers and stakeholders on a qualifications strategy which allows for a wider use of off the job assessment and to further sector needs to improve transferability of skills across the different sectors that comprise the industry. The detail and scope of the assessment criteria within this qualification has been developed by the Engineering Construction Industry Training Board (ECITB) Standards Setting Organisation in conjunction with employers, trainers, and assessors through workshops and consultations.

#### 1.2 Steelwork Operatives

Steelwork operatives work to move, lift and position a wide range of steelwork components and materials over approved routes. They are able to follow lifting plans, utilise defined methods and techniques to secure, protect, lift, move, position and release loads safely. They understand the on-site hazards and health, safety and environmental requirements of plant and systems.

Steelwork operatives are responsible for the quality of their own work and ensure their work is completed safely and follows the plan whilst increasing their own skills and capabilities. They are based on-site or in workshops/fabrication facilities. Their work must be overseen by a qualified crafts person, charge hand or supervisor; however they may not be directly supervised.

#### 1.3 Entry requirements

There are no mandatory entry requirements. However, due to the level and complexity of the subject, it is recommended that candidates should have attained GCSE grade "G/1" or above or RQF Functional Skills Level 1 or above in English (Language) and Mathematics or are able to demonstrate evidence of other suitable attainment or experience. A candidate's individual circumstances will determine if this qualification is appropriate and the Approved Centre will work with the prospective candidate and, where appropriate, employer to determine the candidate's suitability for the qualification.

#### 1.4 Achievement

This qualification consists of 8 mandatory units and a candidate must successfully meet the requirements of all 8 units in order to attain this qualification. This specification details the learning outcomes and assessment criteria that a candidate must meet in order to demonstrate the acquisition of the knowledge, skills and behaviours (KSBs) to be awarded a vocational ECITB Level 2 Diploma in Erecting Steelwork Components (RQF). Mandatory observation of the candidate by an Awarding Organisation (AO) assessor is required to achieve this qualification.

The contents of each unit interrelate and the AO does not issue credit certificates for completion of standalone units.

#### 1.5 Assessment

Assessment is through a combination of ECITB AO online knowledge tests, observed skills assessment in the 'live' workplace or under simulated workplace conditions; portfolio of evidence and; a final recorded technical discussion.

#### 1.6 Total Qualification Time (TQT), level & duration

The TQT for this qualification is 860 hours. The guided learning and TQT for each unit is in the table below. The amount of time taken to achieve this Level 2 Diploma is typically 6-9 months.

Unit	Guided Learning (hours)	Total Qualification Time (hours)
Unit SE01 Work safely, effectively, ethically and sustainably, managing risk and hazards	175	200
Unit SE02 Interpret and follow documentation and procedures including prepare and reinstate the work area	120	140
Unit SE03 Principles of moving loads	35	80
Unit SE04 Move steelwork components	80	100
Unit SE05 Install steelwork components	80	100
Unit SE06 Assemble steelwork components using bolted joints	40	60
Unit SE07 Working safely at height on structures	80	100
Unit SE08 Dismantle steelwork components	60	80

There are no optional units contained in this qualification.

#### 1.7 Equal opportunities, reasonable adjustments and special considerations

For information about fair assessment, equal opportunities, reasonable adjustments and special considerations please refer to the ECITB AO Policies and Procedures published on the ECITB website.

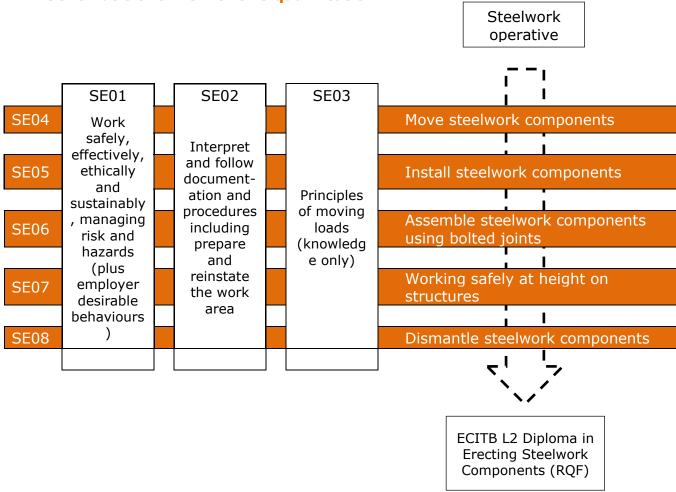
#### 1.8 Career development within the Engineering Construction Industry

Completing this qualification can lead to a range of further career options. Those who wish to stay in their chosen sector can develop their skills further, through additional qualifications and apprenticeships in craft disciplines, selecting a craft pathway at Level 3. This in turn if successfully completed, may lead to supervisory positions or into supporting functions such as procurement, project management or project controls.



## 2. Qualification units

#### 2.1 Schematic overview of this qualification



This qualification consists of 8 mandatory units.

The underpinning knowledge, skills and behaviours (KSBs) within units SE01, SE02 and SE03 are demonstrated by candidates when they undertake the observed skills assessments to demonstrate the application of the KSBs detailed in Units SE04 to SE08.

This vocational qualification contains the following elements:

#### 2.2 Underpinning knowledge, skills and behaviours

Units SE01, SE02 and SE03 detail the factual, procedural and theoretical knowledge that the candidate must acquire and also demonstrate whilst erecting steelwork components:

- Relevant national and industry health, safety and environmental standards and legislation.
- Site safety responsibilities, own and others including: first aid procedures, evacuation procedures, challenging unsafe practices and reporting.
- Awareness of types and effects of hazards, safety assessment methods and techniques to minimise associated risk.
- Relationships: importance of and understanding of work relationship problems, within the limits of the role.
- Lines of communication, reporting lines and levels of responsibility in the workplace.
- Quality management procedures and the importance of following them.
- The importance of ethical working and the sustainable use of resources including: codes of conduct and minimising the impact of work on the environment.

- The importance of questioning.
- Procedures and related documentation and responsibility for reporting and following procedures.
- Preparation and reinstatement of the work area including: preparing, checking and handling material; types of equipment and the related care and control procedures; storing and disposing of equipment and material.

#### 2.3 Employer-desirable behaviours and attitudes

The candidate must demonstrate the application of the following employer desirable behaviours during the observed skills assessments:

- Safety conscious works safely at all times.
- Risk aware identifies hazards and minimises risk.
- Effective communicator works effectively with others including keeping others informed.
- Quality focus ensures own work is completed to an appropriate level of quality.
- Conscientious follows procedures and completes reporting documentation accurately and correctly.
- Initiative deals with routine problems effectively and highlights those that cannot be solved.
- Ethical and sustainability behaviours such as:
  - Understands and conforms to environmental expectations.
  - Uses resources efficiently and effectively.
  - Treats all people fairly and with respect.

#### 2.4 Specific knowledge and skills

The candidate is required to effectively demonstrate theoretical, factual and procedural knowledge and practical skills of the following units that comprise the qualification in accordance with the stated assessment criteria and scope of assessment provided in this document:

SE01	Work safely, effectively,	, ethically and	sustainably,	managing	risks and
	hazards.				

- SE02 Interpret and follow documentation and procedures including prepare and reinstate the work area.
- SE03 Principles of moving loads.
- SE04 Move steelwork components.
- SE05 Install steelwork components.
- SE06 Assemble steelwork components using bolted joints.
- SE07 Working safely at height on structures.
- SE08 Dismantle steelwork components.

#### 2.5 Further information

For further information either visit the ECITB website or contact ECITB Awarding Organisation:

ECITB AO Office F15, Kings House Business Centre, Home Park Estate, Station Road, Kings Langley, WD4 8LZ

Tel: 01923 260000

Email: Qualifications@ecitb.org.uk

Website: www.ecitb.org.uk

# Unit SE01 Work safely, effectively, ethically and sustainably, managing risk and hazards

#### Learning outcomes for this unit:

- **1.** The candidate can describe health and safety legislation, regulations, safe working practices, personal site safety responsibilities and demonstrate what 'work safely' at all times means when working with steelwork components.
- **2.** The candidate can describe risk and hazard management and demonstrate the ability to identify and take action to deal with potential hazards.
- **3.** The candidate can establish and maintain productive working relationships.
- **4.** The candidate understands lines of communication, responsibilities; can describe quality management systems and can demonstrate effective communication in the context of working with steelwork components.
- **5.** The candidate understands codes of conduct, the importance of ethical working and the need to undertake activities in a way that contributes to environmental sustainability.
- **6.** The candidate is able to work effectively with steelwork components by demonstrating all employer desirable behaviours.

#### Knowledge assessment criteria:

The candidate must demonstrate an understanding of the following in order to satisfy the skills assessment criteria:

#### **HEALTH AND SAFETY LEGISLATION AND REGULATIONS**

- K1.1 The requirements of the main health and safety legislation relevant to the role.
- K1.2 The purpose and nature of risk assessments, method statements, and permit to work systems, and the relevance of local procedures and guidance notes.
- K1.3 The consequences for employers and employees of not fulfilling their legal health and safety responsibilities.
- K1.4 The importance of personal behaviour in maintaining workplace standards.

#### PERSONAL SITE SAFETY RESPONSIBILITIES

- K1.5 The need for health and safety training for themselves and others in a workplace, the procedures for requesting training and who to ask for help in understanding the work.
- K1.6 Where to get information relating to the safe use of equipment and how to ensure the equipment is used safely.
- K1.7 When personal protective equipment should be used and how to select and use the correct equipment for the work to be undertaken.
- K1.8 The potential for different types of injury, including slower developing injuries and how they can be prevented.
- K1.9 The checks which are needed to make sure that portable electrical appliances are safe to use.
- K1.10 What a safe system for plant isolation should include including electrical isolation and why low voltage is generally safer in relation to health and safety.
- K1.11 The risks from overhead cables and how to control them.

#### FIRST AID

- K1.12 First aid procedures as used in a typical company and where information about them can be obtained.
- K1.13 Which first aid procedures typically apply in a workplace including:
  - a) The sources of competent assistance.
  - b) How to find local first aid facilities.
  - c) How to alert or summon professional authorities.

#### **EMERGENCY AND EVACUATION PROCEDURES**

- K1.14 Emergency procedures and evacuation procedures as used in a typical company and where information about them can be obtained from including the different alarms.
- K1.15 Reporting documentation and systems including: emergencies, accidents and potential incidents.
- K1.16 How to call for expert help in the event of an emergency or an unplanned event occurring, following relevant procedures.
- K1.17 How to follow shutdown, evacuation and rescue procedures promptly and correctly.

#### HAZARDS AND HAZARD SPOTTING

- K1.18 What is a hazard and the common types of hazard associated with processes, tools, equipment and materials.
- K1.19 Where information on hazard spotting and safety assessment techniques can be found.
- K1.20 Hazard spotting and safety assessment techniques, which apply in a typical work location.
- K1.21 The effects of hazards on persons, property and the environment.
- K1.22 Who to call for appropriate help using warning systems as appropriate in relation to hazards.
- K1.23 What must be done when transporting hazardous substances around a site.

#### MANAGING HAZARDS AND THE ASSOCIATED RISK

- K1.24 What the individual's responsibilities are in terms of dealing with and notifying others of hazards including what should be reported, how, and the related documentation.
- K1.25 The types of actions that are required to deal with and minimise the risks from different hazards.
- K1.26 What risk is in relation to health and safety, its importance and the consequences of poor risk management.

#### MAINTAINING WORKING RELATIONSHIPS

- K1.27 Why it is important to create and maintain working relationships.
- K1.28 The different problems that can affect working relationships and the actions that can be taken to deal with specific difficulties.

#### REPORTING LINES, COMMUNICATION AND QUALITY MANAGEMENT

- K1.29 The responsibilities of a steelwork operative in a typical workplace and the responsibilities of others within a typical work location.
- K1.30 The importance of reporting lines, procedures, systems and documentation and the consequences of failing to follow them.
- K1.31 The limits of own responsibility and the limits of responsibility of craftspersons and supervisors for clarification on issues.
- K1.32 Quality management procedures and the importance of following them.
- K1.33 The importance of dealing promptly and effectively with routine problems and reporting those which cannot be solved.

#### **ETHICS AND ENVIRONMENTAL SUSTAINABILITY**

K1.34 The purpose of ethics and environmental sustainability in a typical workplace.

- K1.35 Codes of conduct, including relevant professional codes of conduct relevant to the role.
- K1.36 The importance of using resources efficiently and effectively.
- K1.37 What working ethically means in terms of treating all people fairly and with respect and displaying honesty, integrity, accuracy and rigour.
- K1.38 How the role impacts on the environment and how this impact can be reduced.

#### Skills assessment criteria:

The candidate must demonstrate the following on loads to include: steelwork structures, plant and equipment during the observed skills assessment of units SE04 to SE08, specifically the ability to:

#### SKILLS FOR WORKING SAFELY

- S1.1 Work safely at all times complying with health and safety and other relevant guidelines and procedures.
- S1.2 Deal safely with dangers that can be contained using appropriate equipment and materials, in accordance with procedures.
- S1.3 Select the correct personal protective equipment for the work to be undertaken.

#### SKILLS FOR MANAGING HAZARDS AND MINIMISING RISK

- S1.4 Identify potential hazards in the workplace including hazardous processes, tools, equipment and materials.
- S1.5 Safely check for potential hazards in accordance with agreed and approved procedures.
- S1.6 Take appropriate action upon identification of a hazard or emergency to minimise the risk from it.
- S1.7 Report in accordance with procedures/risk control strategy.

#### **SKILLS FOR WORKING RELATIONSHIPS**

- S1.8 Develop working relationships with a range of people.
- S1.9 Deal with disagreements in a professional and constructive manner so that effective relationships are maintained.

#### SKILLS FOR REPORTING LINES, COMMUNICATION AND QUALITY PROCEDURES

- S1.10 Keep others informed about work plans and activities which affect them either formal/informal, written or verbal.
- S1.11 If needed, seek assistance in relation to work related activities from others in a polite and courteous way without causing undue disruption to normal working activities.
- S1.12 Respond in a timely and positive way when others ask for help or information e.g. clarify exactly what is required.
- S1.13 Follow quality requirements.
- S1.14 Deal with routine problems appropriately if and when they arise.

#### SKILLS FOR SUSTAINABILITY AND ETHICS

- S1.15 Treat everyone fairly and with respect.
- S1.16 Demonstrate accuracy and rigour when undertaking practical procedures.
- S1.17 Deal effectively with resources taking environmental considerations into account.

#### Behaviours assessment criteria:

The candidate must demonstrate the following as part of the observed skills assessment of units SE04 to SE08 or provide additional evidence as part of their qualification portfolio of evidence, specifically:

#### **EMPLOYER DESIRABLE BEHAVIOURS**

- B1.1 Safety conscious works safely at all times.
- B1.2 Risk aware identifies hazards and minimises risk.
- B1.3 Effective communicator works effectively with others including keeping others informed.
- B1.4 Quality focus ensures own work is completed to an appropriate level of quality.
- B1.5 Conscientious follows procedures and completes documentation accurately and correctly.
- B1.6 Initiative deals with routine problems effectively and highlights those that cannot be solved.
- B1.7 Ethical and sustainability behaviours such as:
  - a. Understands and conforms to environmental expectations.
  - b. Uses resources efficiently and effectively.
  - c. Treats all people fairly and with respect.

# Unit SE02 Interpret and follow documentation and procedures including prepare and reinstate the work area

#### Learning outcomes:

- 1. The candidate must demonstrate that they can interpret and follow specifications, plans and schedules so that they are able to carry out the role effectively.
- **2.** The candidate must demonstrate that they can follow reporting procedures and documentation completion requirements as required to carry out the role effectively.
- **3.** The candidate can describe and demonstrate how to prepare and reinstate the work area, material and equipment safely and correctly before and after erecting steelwork activities under direct supervision take place.

#### Knowledge assessment criteria:

The candidate must demonstrate an understanding of the following in order to satisfy the skills assessment criteria:

#### **DOCUMENTATION**

- K2.1 The principles, uses and conventions of:
  - a) Method statements.
  - b) Risk assessments.
  - c) Lift plans.
  - d) Technical drawings.
  - e) Related specifications.
  - f) Crane specifications.
- K2.2 The information detailed in the diagrams in engineering drawings and related specifications and how it relates to the physical component(s) and activities.
- K2.3 The diagrams and key information found in:
  - a) Manufacturers' specifications.
  - b) Handbooks.
  - c) Trade association codes of practice.
- K2.4 Where to find information that may be necessary in order to undertake erecting steelwork activities.
- K2.5 Plans and schedules and their use.
- K2.6 The importance of version control and ensuring documentation is current and valid.

#### **PROCEDURES**

- K2.7 Typical authorisation procedures.
- K2.8 The procedures used to report on activities and the related reporting documentation. In other words who to report to, what to report and when

#### Skills assessment criteria:

The candidate must demonstrate the ability

#### **DOCUMENTATION**

- S2.1 Check the validity of the documentation being used.
- S2.2 Interpret and follow specifications, engineering drawings and work instructions including:
  - a) Method statements.
  - b) Risk assessments.
  - c) Lift plans.
  - d) Technical drawings.
  - e) Related specifications.
  - f) Crane specifications.
- S2.3 Interpret and follow equipment manuals.
- S2.4 Interpret and follow plans and schedules.

#### **PROCEDURES**

- S2.5 Follow authorisation procedures.
- S2.6 Follow procedures and report on the completion of activities in accordance with procedures.
- S2.7 Complete all relevant documentation correctly and accurately at all stages.
- S2.8 Report any instance where the activities cannot be fully met or where there are identified defects or variations from the specification or outside the planned schedule.
- S2.9 Check required reporting documentation is completed

to report.

K2.9 The importance of checking and confirming procedures have been followed and documentation correctly completed.

# PREPARE AND REINSTATE THE WORK AREA

- K2.10 The consequences/hazards of incorrectly preparing or reinstating the work areas, material and equipment.
- K2.11 The procedures for the connection and operation of applicable services and equipment including but not limited to pneumatic, electric, gas and hydraulic.
- K2.12 The types of equipment used and explain the care and control procedures.
- K2.13 How to check materials for correct specification, quantity and quality.
- K2.14 Material handling techniques and preparation methods.
- K2.15 Storage methods and procedures.
- K2.16 Typical waste minimisation and disposal procedures.

correctly once the activity is completed.

# PREPARE AND REINSTATE THE WORK AREA

- S2.10 Follow safety procedures, risk assessment and methods of work when preparing and reinstating the work area, materials, tools and equipment.
- S2.11 Obtain, check against relevant specification and prepare the appropriate tools, materials and equipment and check:
  - o Quantities.
  - That they are in a safe and usable condition.
- S2.12 Ensure that all necessary service supplies are connected correctly and ready for use.
- S2.13 Ensure that any stored energy or substances are released correctly and safely, where appropriate.
- S2.14 Ensure all isolations and disconnections to the equipment are completed in line with the approved procedures (stored energy, substances, air, fluids, gas, mechanical, electrical).
- S2.15 Provide and maintain safe access to the work area.
- S2.16 Check the workplace is as expected.
- S2.17 Confirm plant and/or equipment is in the expected configuration.
- S2.18 Ensure that arrangements are made to protect other workers from activities likely to disrupt normal working.

#### SKILLS FOR REINSTATEMENT ONLY

Reinstate the work area to a safe condition taking safety and environmental considerations into account by:

- S2.19 Correctly disposing of waste materials.
- S2.20 Storing re-usable materials and equipment in accordance with procedures.
- S2.21 Ensuring any necessary connections to equipment are established and complete.
- S2.22 Minimising waste wherever possible.

## **Unit SE03 Principles of moving loads**

#### **Learning outcome:**

The candidate understands the principles of moving loads.

#### Knowledge assessment criteria:

The candidate must demonstrate an understanding of the following in order to satisfy the skills assessment criteria:

- K3.1 Roles and responsibilities relevant to the development of lift plans/categorisation and route plans.
- K3.2 The reasons for lift (including route) planning.
- K3.3 Lift/route planning methods and techniques.
- K3.4 The types of obstacles that may be present.
- K3.5 Principles of safe systems of work (SSoW).
- K3.6 Regulations applicable to moving loads.
- K3.7 Lift categories.
- K3.8 Basic reasons to categorise a lift.
- K3.9 Information contained in a lift plan.
- K3.10 The lifting of personnel.
- K3.11 Safety factors specific to lifting/positioning of loads and erecting steelwork.
- K3.12 Working at height and over water.
- K3.13 Sling angles.
- K3.14 Centre of gravity (CofG).
- K3.15 Methods and techniques for moving loads.
- K3.16 Aspects that can change during load movement operations.
- K3.17 Rigging and lifting points.
- K3.18 Load handling and setting down methods.
- K3.19 Roles and responsibilities required in the movement of loads.
- K3.20 The different types of communication that can be used during the movement of loads.
- K3.21 Lifting, positioning and handing equipment; operating, care and control procedures.
- K3.22 Lifting, positioning and handing accessories; operating, care and control procedures.
- K3.23 The methods of controlling lifting equipment.
- K3.24 Reporting documentation and control procedures.
- K3.25 Load assessment methods and techniques.
- K3.26 How to protect loads and equipment before moving operations begin.

## **Unit SE04 Move steelwork components**

#### Learning outcome:

The candidate understands how and is able to move steelwork components.

#### Knowledge assessment criteria:

The candidate must demonstrate an understanding of the following in order to satisfy the skills assessment criteria:

- K4.1 How to interpret the instructions for the movement of structural steel sections.
- K4.2 Typical load characteristics.
- K4.3 Methods for slinging in relation to safe working loads and angles of lift.
- K4.4 Procedures and practices for slinging and signalling for the movement of structural steel sections.

#### Skills assessment criteria:

- S4.1 Select the appropriate slinging technique suitable for the characteristics of the loads, the intended lift and approved procedures and practices under supervision.
- S4.2 Identify and clarify difficulties in carrying out the slinging and movement of loads with the appropriate person.
- S4.3 Position the moving equipment so that the weight of the load is evenly distributed.
- S4.4 Attach the appropriate lifting, moving and handling equipment securely to the load, using approved methods to eliminate slippage.
- S4.5 Confirm the load is secure before moving.
- S4.6 Use agreed communication systems to accurately direct movement of load to the destination under supervision.
- S4.7 Move the load over the selected route.
- S4.8 Monitor the stability of the load throughout movement.
- S4.9 Position and release the load safely in its intended final destination on appropriate packing materials.

### **Unit SE05 Install steelwork components**

#### Learning outcome:

The candidate understands how and is able to support the installation of steelwork components.

#### Knowledge assessment criteria:

The candidate must demonstrate an understanding of the following in order to satisfy the skills assessment criteria:

- K5.1 The types and application of construction sections.
- K5.2 The methods of construction element identification and orientation before assembly.
- K5.3 Approved installation methods and techniques used to align and connect construction elements & assemblies.
- K5.4 The tools and methods used for checking structural steelwork components.
- K5.5 Types of equipment used for holding loads in the required positions.
- K5.6 Methods of providing temporary support during installation.

#### Skills assessment criteria:

- S5.1 Interpret and follow relevant drawings and specifications in relation to:
  - Technical implications.
  - Work circumstances.
- S5.2 Conduct pre-use checks on the tools and equipment for the installation operation(s).
- S5.3 Attach the appropriate handling equipment securely to the load, using approved methods to allow for easy alignment and connection.
- S5.4 Confirm with the supervisor that the load is secure before moving.
- S5.5 Use a variety of installation methods and techniques as directed.
- S5.6 Position the moving equipment so that the construction element is appropriately aligned and supported.
- S5.7 Install, position and secure the construction elements/assemblies and components as specified.
- S5.8 Securely fix any necessary temporary support facilities.
- S5.9 Release the load safely in its intended final location.
- S5.10 Ensure all the necessary connections are complete.
- S5.11 Check that the installation is complete and that all components are free from damage.
- S5.12 Take appropriate measures to protect the finished construction/assembly.

# **Unit SE06 Assemble steelwork components using bolted joints**

#### **Learning outcome:**

The candidate understands how to and can assemble steelwork components using bolted joints.

#### Knowledge assessment criteria:

The candidate must demonstrate an understanding of the following in order to satisfy the skills assessment criteria:

- K6.1 The principles, uses and conventions of engineering drawings, and related specifications.
- K6.2 Assembly methods and techniques.
- K6.3 How to identify defects in products and assets.
- K6.4 Compliance checking methods and techniques.
- K6.5 Quality control procedures and recognition of assembly defects.

#### Skills assessment criteria:

- S6.1 Follow the relevant instructions, assembly drawings and specifications.
- S6.2 Assemble components in the correct positions in line with appropriate methods and techniques.
- S6.3 Secure the components using the specified connectors and securing devices.
- S6.4 Check the completed assembly with the supervisor to ensure all operations are completed and the finished assembly meets the specification.

## Unit SE07 Work safely at height on structures

#### **Learning outcome:**

The candidate understands how and is able to work safely at height on structures.

#### **Knowledge assessment criteria:**

The candidate must demonstrate an understanding of the following in order to satisfy the skills assessment criteria:

- K7.1 Access and egress requirements for working at height.
- K7.2 How to select and use types of fall arrest equipment and techniques.

#### Skills assessment criteria:

- S7.1 Ensure that access is gained in accordance with laid down procedures.
- S7.2 Monitor the site to ensure the access method continues to allow you to work safely.
- S7.3 Implement appropriate safety systems and procedures to minimise the risk of injury to personnel or assets should the lifting or support fail.
- S7.4 Ensure lifting and working at height is only carried out when environmental and weather conditions are suitable.
- S7.5 Take appropriate action where deployment of access equipment cannot be executed safely.

## **Unit SE08 Dismantle steelwork components**

#### **Learning outcome:**

The candidate understands how and is able to support the dismantling of steelwork components

#### Knowledge assessment criteria:

The candidate must demonstrate an understanding of the following in order to satisfy the skills assessment criteria:

- K8.1 The types and application of construction elements and assemblies.
- K8.2 Methods and techniques for dismantling construction elements and assemblies.
- K8.3 Methods of providing temporary support during dismantling.
- K8.4 The implications on workplace infrastructure of dismantling activities and operations on live plant, including service supplies.

#### Skills assessment criteria:

- S8.1 Establish and where necessary support components before removal of securing devices.
- S8.2 Dismantle in accordance with instructions & specifications.
- S8.3 Confirm the construction elements to be removed and the most appropriate method of dismantling with the supervisor.
- S8.4 Remove components in the correct sequence using approved equipment, methods and techniques.
- S8.5 Attend to damage and defects in any re-usable elements and store them for re-use in an appropriate location.
- S8.6 Dispose of unwanted elements in line with agreed and approved procedures.