ETCAL Level 2 NVQ Diploma in Fabrication and Welding Engineering 601/1820/9

Structure

Qualification aim

This qualification is designed to support those learners training in Fabrication and Welding, however, it is also available for individuals who are not following an apprenticeship. It provides a structured individualised route with knowledge and skills for those who wish to achieve a qualification in Fabrication and Welding Engineering.

Qualification introduction

This qualification is made up of 3 mandatory units that will help learners to develop an understanding of the knowledge and skills required as relevant to their capabilities and aspirations. Its mandatory units form a foundation to extend the understanding and skills in specific areas through the optional routes, in addition to these learners are required to achieve additional units selected from a suite of 10 Pathways and in accordance with the achievement definition. Learners who complete the qualification will be equipped with the knowledge and skills to underpin career development within the industry.

Assessment

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

Achievement

Learners must achieve a minimum of 47 credits to gain the qualification. 15 credits must be achieved by completing the 3 mandatory units and the remaining credits achieved by completing the required optional units from the suite of Pathways.

Qualification Number		601/1820/9
Qualification Framework		RQF
Title		ETCAL Level 2 NVQ Diploma in Fabrication and Welding Engineering
Qualification Level		Level 2
Total Qualification Time		470 TQT
Guided Learning Hours		214 GLH
Qualification Credit Value		47 Credits
Qualification Grading Structure		Pass / Fail

Unit Title	Mandatory/Optional	GLH	TQT	Credit Value	Grading
Mandatory Group – all units must be completed					
Complying with Statutory Regulations and Organisational Safety Requirements	M	35		5	Pass/Fail
Using and Interpreting Engineering Data and Documentation	M	25		5	Pass/Fail
Carrying Out Engineering Activities Efficiently and Effectively	M	25		5	Pass/Fail
Manual Welding - Must complete one of the following units:					
Joining Materials by the Manual Metal Arc Welding Process	O	196		54	Pass/Fail
Joining Materials by Manual MIG/MAG and other Continuous Wire Welding Processes	O	196		54	Pass/Fail
Joining Materials by Manual TIG and Plasma-arc Welding Processes	O	196		54	Pass/Fail
Joining Materials by the Manual Gas Welding Process	O	175		50	Pass/Fail
Producing Fillet Welded Joints using a Manual Welding Process	O	169		44	Pass/Fail

Welding Machine Operating - Must complete any one of the following units:					
Welding Materials with Mechanised Arc Welding Equipment	O	140		37	Pass/Fail
Welding Materials using Resistance Spot, Seam and Projection Welding Machines	O	129		35	Pass/Fail
Welding Materials using Laser Welding Machines	O	140		37	Pass/Fail
Welding Materials using Electron Beam Welding Machines	O	140		37	Pass/Fail
Welding Materials using Friction Welding Machines	O	129		35	Pass/Fail
Rail Welding - Must complete any one of the following units:					
Joining Rails using the Aluminothermic Welding Process	O	153		52	Pass/Fail
Restore Rails to Operational Condition using an Arc Welding Process	O	132		44	Pass/Fail
Welding Rails using Flash Welding Equipment	O	132		40	Pass/Fail
Brazing and Soldering - Must complete any one of the following units:					
Joining Materials by Manual Torch Brazing and Soldering	O	129		35	Pass/Fail
Operating Brazing Machines	O	129		35	Pass/Fail
Plastic Welding - Must complete any one of the following units:					
Joining Plastics by Manual Welding Processes	O	147		44	Pass/Fail
Joining Materials using Plastics Welding Machines	O	129		35	Pass/Fail
Sheet Metalwork (3mm or less) - Must complete two of the following units:					
Marking Out Components for Fabrication	O	63		15	Pass/Fail
Cutting Sheet Metal to Shape using Hand and Machine Tools	O	133		28	Pass/Fail
Forming Sheet Metal using Hand and Machine Tools	O	133		28	Pass/Fail
Producing Sheet Metal Assemblies	O	119		35	Pass/Fail
Heat Treating Materials for Fabrication Activities	O	56		10	Pass/Fail
Cutting and Shaping Materials using CNC Laser Profiling Machines	O	154		37	Pass/Fail
Cutting and Shaping using CNC Plasma or Gas Cutting Machines	O	154		37	Pass/Fail
Cutting Materials using Hand Operated Thermal Cutting Equipment	O	133		28	Pass/Fail
Cutting and Shaping Materials using CNC Water Jet Cutting Machines					
Plus one more from the following:					
Assembling Components using Mechanical Fasteners	O	70		18	Pass/Fail
Bonding Engineering Materials using Adhesives	O	56		14	Pass/Fail
Joining Materials by Resistance Spot Welding	O	37		7	Pass/Fail
Joining Materials by Manual MIG/MAG and other Continuous Wire Processes	O	196		54	Pass/Fail
Joining Materials by Manual TIG and Plasma-arc Welding Processes	O	196		54	Pass/Fail
Joining Materials by the Manual Gas Welding Process	O	175		50	Pass/Fail
Slinging, Lifting and Moving Materials and Components	O	56		14	Pass/Fail

Plateworker (3mm upwards) - Must complete the following unit:					
Marking Out Components for Fabrication	O	63		15	Pass/Fail
Plus one more from the following:					
Cutting Plate and Sections using Shearing Machines	O	98		21	Pass/Fail
Cutting Materials using Hand Operated Thermal Cutting Equipment	O	133		28	Pass/Fail
Cutting and Shaping Materials using Gas Cutting Machines	O	133		28	Pass/Fail
Cutting Materials using Saws and Abrasive Discs	O	42		13	Pass/Fail
Cutting and Shaping Materials using CNC Laser Profiling Machines	O	154		37	Pass/Fail
Cutting and Shaping using CNC Plasma or Gas Cutting Machines	O	154		37	Pass/Fail
Cutting and Shaping Materials using CNC Water Jet Cutting Machines	O	133		28	Pass/Fail
Plus one more unit from the following:					
Bending and Forming Plate using Power Operated Machines	O	133		28	Pass/Fail
Forming Platework using Power Rolling Machines	O	133		28	Pass/Fail
Producing Platework Assemblies	O	133		30	Pass/Fail
Producing Holes using Drilling Machines	O	49		10	Pass/Fail
Plus one more unit from the following:					
Assembling Components using Mechanical Fasteners	O	70		18	Pass/Fail
Producing Fillet Welded Joints using a Manual Welding Process	O	169		44	Pass/Fail
Welding Materials with Mechanised Arc Welding Equipment	O	140		37	Pass/Fail
Slinging, Lifting and Moving Materials and Components	O	56		14	Pass/Fail
Structural Steelwork - Must complete the following unit:					
Marking Out Components for Fabrication	O	63		15	Pass/Fail
Plus one more unit from:					
Cutting Plate and Sections using Shearing Machines	O	98		21	Pass/Fail
Cutting Materials using Hand Operated Thermal Cutting Equipment	O	133		28	Pass/Fail
Cutting and Shaping Materials using Gas Cutting Machines	O	133		28	Pass/Fail
Cutting Materials using Saws and Abrasive Discs	O	42		13	Pass/Fail
Plus two more units from the following:					
Forming of Structural Sections using Machines	O	119		35	Pass/Fail
Producing Structural Steel Ancillary Components	O	111		24	Pass/Fail
Producing Holes using Drilling Machines	O	49		10	Pass/Fail
Assembling Components using Mechanical Fasteners	O	70		18	Pass/Fail
Producing Fillet Welded Joints using a Manual Welding Process	O	169		44	Pass/Fail
Welding Materials with Mechanised Arc Welding Equipment	O	140		37	Pass/Fail
Assembling Structural Steelwork	O	119		35	Pass/Fail
Slinging, Lifting and Moving Materials and Components	O	56		14	Pass/Fail

Pipework Fabrication - Must complete the following unit:					
Marking Out Components for Fabrication	O	63		15	Pass/Fail
Plus one unit from:					
Cutting Materials using Hand Operated Thermal Cutting Equipment	O	133		28	Pass/Fail
Cutting and Shaping Materials using Gas Cutting Machines	O	133		28	Pass/Fail
Cutting Materials using Saws and Abrasive Discs	O	42		13	Pass/Fail
Plus two more units from the following:					
Producing Holes using Drilling Machines	O	49		10	Pass/Fail
Forming Pipework by Machine Bending	O	126		35	Pass/Fail
Assembling Components using Mechanical Fasteners	O	70		18	Pass/Fail
Bonding Engineering Materials using Adhesives	O	56		14	Pass/Fail
Produce Socket and Flange Fillet Welded Joints in Pipe using a Manual Welding Process	O	175		50	Pass/Fail
Thermal Cutting - Must complete any two units from the following:					
Cutting Materials using Hand Operated Thermal Cutting Equipment	O	133		28	Pass/Fail
Cutting and Shaping Materials using Gas Cutting Machines	O	133		28	Pass/Fail
Cutting and Shaping Materials using CNC Laser Profiling Machines	O	154		37	Pass/Fail
Cutting and Shaping using CNC Plasma or Gas Cutting Machines	O	154		37	Pass/Fail