

Fabrication & Welding Engineering Level 3

NVQ 100/2949/7

SVQ G75023

The candidate is required to complete the three mandatory assessment routes, plus the required number of assessment routes from their choice of pathway.

Mandatory Assessment Routes

EAL Assessment Route Code		QCA Code
FWE3/001	■ Complying with Statutory Regulations and Organisational Safety Requirements	T/101/3242
FWE3/002	■ Using and Interpreting Engineering Drawings and Documents	L/101/7250
FWE3/003	■ Working Efficiently and Effectively in Engineering	R/101/7251

Pathway choices overleaf.



Pathway FWA: Manual Welding

Scheme Number/Pathway: NVQ: 100/2949/7FWA SVQ: G75023FWA

All three mandatory assessment routes plus one assessment route from the choice below:

EAL Assessment Route Code		QCA Code
FWE3/004	■ Welding Materials by the Manual Metal-Arc Process	Y/101/7252
FWE3/005	■ Welding Materials by the Manual MIG/MAG and the other Continuous Wire Processes	D/101/7253
FWE3/006	■ Welding Materials by the Manual TIG and Plasma-Arc Welding Process	H/101/7254
FWE3/007	■ Welding Materials by the Manual Gas Welding Process	K/101/7255
FWE3/008	■ Welding Pipe/Tube Using Multiple Manual Arc Welding Processes	M/101/7256
FWE3/009	■ Welding Plate Using Multiple Manual Arc Welding Processes	T/101/7257

Pathway FWB: Welding Machine Setting & Operating

Scheme Number/Pathway: NVQ: 100/2949/7FWB SVQ: G75023FWB

All three mandatory assessment routes plus one assessment route from Group A, plus one assessment route from Group B:

Group A

EAL Assessment Route Code		QCA Code
FWE3/010	■ Preparing Mechanised Arc Welding Equipment for Production	A/101/7258
FWE3/011	■ Preparing Resistance Spot, Seam and Projection Welding Machines for Production	F/101/7259
FWE3/012	■ Preparing Laser Welding Machines for Production	T/101/7260
FWE3/013	■ Preparing Electron Beam Welding Machines for Production	A/101/7261
FWE3/014	■ Preparing Friction Welding Machines for Production	F/101/7262
FWE3/015	■ Preparing Brazing Machines for Production	J/101/7263

Plus one assessment route from Group B:

Group B

EAL Assessment Route Code		QCA Code
FWE3/016	■ Welding Materials with Mechanised Arc Welding Equipment	L/101/7264
FWE3/017	■ Welding Materials Using Resistance Spot, Seam and Projection Welding Machines	R/101/7265
FWE3/018	■ Welding Materials using Laser Welding Machines	Y/101/7266
FWE3/019	■ Welding Materials Using Electron Beam Machines	D/101/7267
FWE3/020	■ Welding Materials Using Friction Welding Machines	H/101/7268
FWE3/021	■ Joining Materials Using Brazing Machines	K/101/7269

Pathway FWC: Sheet Metalworking (3mm or less)

Scheme Number/Pathway: NVQ: 100/2949/7FWC SVQ: G75023FWC

All three mandatory assessment routes plus all the assessment routes in Group A, plus two assessment routes from Group B, plus one assessment route from Group C:

Group A

EAL Assessment Route Code		QCA Code
FWE3/022	■ Marking Out Components for Metalwork	D/101/7270
FWE3/023	■ Cutting Sheetmetal to Shape Using Hand and Machine Tools	H/101/7271
FWE3/024	■ Forming Sheetmetal Using Hand and Machine Tools	K/101/7272

Plus two assessment routes from Group B.

Group B

EAL Assessment Route Code		QCA Code
FWE3/025	■ Producing Sheetmetal Assemblies	M/101/7273
FWE3/026	■ Heat Treating Materials for Fabrication Activities	T/101/7274
FWE3/027	■ Developing and Marking Out Templates for Metalwork	A/101/7275

Plus one assessment route from Group C.

Group C

EAL Assessment Route Code		QCA Code
FWE3/028	■ Joining Fabricated Components Using Mechanical Fasteners	F/101/7276
FWE3/029	■ Bonding Engineering Materials Using Adhesives	J/101/7277
FWE3/030	■ Joining Materials by Resistance Spot Welding	L/101/7278
FWE3/031	■ Producing Fillet Welded Joints Using a Manual Welding Process	R/101/7279

Pathway FWD: Plateworking (3mm upwards)

Scheme Number/Pathway: NVQ: 100/2949/7FWD SVQ: G75023FWD

All three mandatory assessment routes plus one assessment route from Group A, plus one assessment route from Group B, plus two assessment routes from Group C, plus two assessment routes from Group D:

Group A

EAL Assessment Route Code		QCA Code
FWE3/022	■ Marking Out Components for Metalwork	D/101/7270
FWE3/027	■ Developing and Marking Out Templates for Metalwork	A/101/7275

Plus one assessment route from Group B.

Group B

EAL Assessment Route Code		QCA Code
FWE3/032	■ Cutting Plate and Sections Using Shearing Machines	J/101/7280
FWE3/033	■ Cutting and Shaping Materials Using Portable Thermal Cutting Equipment	L/101/7281
FWE3/034	■ Cutting Materials Using Saws and Abrasive Discs	R/101/7282

Plus two assessment routes from Group C.

Group C

EAL Assessment Route Code		QCA Code
FWE3/035	■ Bending and Forming Plate Using Press Brakes or Bending Machines	Y/101/7283
FWE3/036	■ Forming Plate Work Using Power Rolling Machines	D/101/7284
FWE3/037	■ Producing and Finishing Holes Using Drilling Machines	H/101/7285
FWE3/038	■ Producing Plate Work Assemblies	K/101/7286

Plus two assessment routes from Group D.

Group D

EAL Assessment Route Code		QCA Code
FWE3/028	■ Joining Fabricated Components Using Mechanical Fasteners	F/101/7276
FWE3/031	■ Producing Fillet Welded Joints Using a Manual Welding Process	R/101/7279
FWE3/039	■ Slinging, Lifting and Moving Materials and Components	M/101/7287

Pathway FWE: Structural Steelwork

Scheme Number/Pathway: NVQ: 100/2949/7FWE SVQ: G75023FWE

All three mandatory assessment routes plus one assessment route from Group A, plus one assessment route from Group B, plus two assessment routes from Group C, plus two assessment routes from Group D:

Group A

EAL Assessment Route Code		QCA Code
FWE3/022	■ Marking Out Components for Metalwork	D/101/7270
FWE3/027	■ Developing and Marking Out Templates for Metalwork	A/101/7275

Plus one assessment route from Group B.

Group B

EAL Assessment Route Code		QCA Code
FWE3/032	■ Cutting Plate and Sections Using Shearing Machines	J/101/7280
FWE3/033	■ Cutting and Shaping Materials Using Portable Thermal Cutting Equipment	L/101/7281
FWE3/034	■ Cutting Materials Using Saws and Abrasive Discs	R/101/7282

Plus two assessment routes from Group C.

Group C

EAL Assessment Route Code		QCA Code
FWE3/037	■ Producing and Finishing Holes Using Drilling Machines	H/101/7285
FWE3/040	■ Forming Structural Sections Using Machines	T/101/7288
FWE3/041	■ Producing Structural Steel Ancillary Components	A/101/7289
FWE3/042	■ Producing Major Structural Components/Sub-assemblies	M/101/7290

Plus two assessment routes from Group D.

Group D

EAL Assessment Route Code		QCA Code
FWE3/028	■ Joining Fabricated Components Using Mechanical Fasteners	F/101/7276
FWE3/031	■ Producing Fillet Welded Joints Using a Manual Welding Process	R/101/7279
FWE3/039	■ Slinging, Lifting and Moving Materials and Components	M/101/7287
FWE3/043	■ Erecting Structural Steelwork	T/101/7291

Pathway FWF: Pipe and Tube Fabrication

Scheme Number/Pathway: NVQ: 100/2949/7FWF SVQ: G75023FWF

All three mandatory assessment routes plus one assessment route from Group A, plus one assessment route from Group B, plus two assessment routes from Group C, plus one assessment route from Group D:

Group A

EAL Assessment Route Code		QCA Code
FWE3/022	■ Marking Out Components for Metalwork	D/101/7270
FWE3/027	■ Developing and Marking Out Templates for Metalwork	A/101/7275

Plus one assessment route from Group B.

Group B

EAL Assessment Route Code		QCA Code
FWE3/033	■ Cutting and Shaping Materials Using Portable Thermal Cutting Equipment	L/101/7281
FWE3/034	■ Cutting Materials Using Saws and Abrasive Discs	R/101/7282

Plus two assessment routes from Group C.

Group C

EAL Assessment Route Code		QCA Code
FWE3/037	■ Producing and Finishing Holes Using Drilling Machines	H/101/7285
FWE3/044	■ Forming Pipework by Machine Bending	A/101/7292
FWE3/045	■ Producing Pipe Fabrications	F/101/7293

Plus one assessment route from Group D.

Group D

EAL Assessment Route Code		QCA Code
FWE3/028	■ Joining Fabricated Components Using Mechanical Fasteners	F/101/7276
FWE3/029	■ Bonding Engineering Materials Using Adhesives	J/101/7277
FWE3/046	■ Producing Socket and Flange Fillet Welded Joints in Pipe Using a Manual Welding Process	J/101/7294

Pathway FWG: Composite Fabrication

Scheme Number/Pathway: NVQ: 100/2949/7FWG SVQ: G75023FWG

All three mandatory assessment routes plus two assessment routes from the choice below:

EAL Assessment Route Code		QCA Code
FWE3/047	■ Producing Components by Fibre Reinforced Plastic (FRP) Moulding	L/101/7295
FWE3/048	■ Producing Components by Acrylic Moulding	R/101/7296
FWE3/049	■ Producing Components from Carbon Fibre	Y/101/7297
FWE3/050	■ Producing Components from Glass Fibre	D/101/7298
FWE3/051	■ Producing Composite Assemblies	H/101/7299
FWE3/052	■ Producing Components by Vacuum Forming	L/101/7300
FWE3/053	■ Trimming Composite Mouldings Using Hand Tools	R/101/7301
FWE3/054	■ Joining Plastics Using Manual Welding Processes	Y/101/7302
FWE3/055	■ Bonding Composite Mouldings	D/101/7303

Pathway FWH: Rail Welding

Scheme Number/Pathway: NVQ: 100/2949/7FWH SVQ: G75023FWH

All three mandatory assessment routes plus one of the following pairs of assessment routes from the choice below:

EAL Assessment Route Code		QCA Code
FWE3/056	■ Welding Rails Using the Aluminothermic Welding Process	T/102/2041
FWE3/057	■ Restore Rails to Operational Condition Using on Arc Welding Process	A/102/2042
FWE3/058	■ Preparing Flash Welding Machines for Operation	F/102/2043
FWE3/059	■ Joining Rails Using Flash Welding Equipment	J/102/2044