



Qualification Structure

Qualification title: EAL Level 3 NVQ Extended
Diploma in Metal Processing
and Allied Operations

Qualification code: 600/8238/0

Issue A

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Structure of the EAL Level 3 NVQ Extended Diploma

The Extended Diploma is comprised of a Level 3 Engineering Qualification **extended** by inclusion of technically specific PEO Units as follows:-

Mandatory Units – A combination of Level 2 & 3

Group A – Level 2 PEO Units x 3 (Engineering Practices pathway)

OR

Group B – Level 2 PEO Units x 5 (Technical Support pathway)

And

Group C - Engineering Pathway – Level 3 optional Units

Delivery requirements

In the context of the Apprenticeship Framework, the technically specific level 2 PEO units **must** be delivered and assessed in a sheltered work environment **before** starting delivery and assessment of the level 3 components in the working environment.

PEO:

To support these basic engineering skills and techniques, the learner must be trained in, and continuously practice the relevant Health and Safety, engineering communication requirements along with all the other Mandatory Unit(s) listed within that qualification. The Learner cannot be signed off as being competent for these units in this period.

Level 3:

On completion of the PEO2 Units, the Learner moves on to the Units from the Level 3 qualification which can only be assessed within a workplace environment

EAL Level 3 NVQ Extended Diploma in Metal Processing and Allied Operations

This qualification will be achieved when the learner has successfully completed the common mandatory Assessment route followed by the required number of optional Assessment route.

Mandatory assessment routes: All three assessment routes must be completed:

EAL code	Assessment route title	Level	Credit value	GLH	Ofqual code
QMPAO2/001N	Complying with Statutory Regulations and Organisational Safety Requirements	2	5	35	A/601/5013
QMPAO2/002N	Using and Interpreting Engineering Data and Documentation	2	5	25	Y/601/5102
QMPAO3/003N	Working Efficiently and Effectively in Engineering	3	5	25	K/601/5055

Group A: Engineering practices

Optional Units: Learners must complete **three** more units from the following

Notes:

Only one unit from **4, 32** and **61** may be included in the learner's choice of three units.

If unit **65** is selected units **5, 6, 8, 11, 12, 15, 16, 17** cannot be included in the learner's choice of three units.

If unit **66** is selected units **10, 22, 23, 25, 26, 27, 28, 29, 30, 34** cannot be included in the learner's choice of three units.

If unit **67** is selected units **33, 35, 36, 40** cannot be included in the learner's choice of three units.

If unit **68** is selected units **19, 21, 37, 38, 39, 40, 58, 59** cannot be included in the learner's choice of three units

EAL code	Assessment route title	Level	Credit value	GLH	Ofqual code
QPEO2/004N	Producing Mechanical Engineering Drawings using a CAD System	2	11	61	F/504/6348
QPEO2/005N	Producing Components using Hand Fitting Techniques	2	14	64	J/504/6349
QPEO2/006N	Producing Mechanical Assemblies	2	15	68	F/504/6351
QPEO2/007N	Forming and Assembling Pipework Systems	2	14	64	L/504/6353
QPEO2/008N	Carrying Out Aircraft Detail Fitting Activities	2	14	64	R/504/6354
QPEO2/009N	Installing Aircraft Mechanical Fasteners	2	11	61	L/504/6367
QPEO2/010N	Producing Aircraft Detail Assemblies	2	14	65	L/504/6370
QPEO2/011N	Preparing and Using Lathes for Turning Operations	2	15	68	Y/504/6372
QPEO2/012N	Preparing and Using Milling Machines	2	15	68	K/504/6375
QPEO2/013N	Preparing and Using Grinding Machines	2	15	68	T/504/6377
QPEO2/014N	Preparing and Proving CNC Machine Tool Programs	2	14	64	F/504/6379
QPEO2/015N	Preparing and Using CNC Turning Machines	2	14	64	F/504/6382
QPEO2/016N	Preparing and Using CNC Milling Machines	2	14	64	L/504/6384
QPEO2/017N	Preparing and Using CNC Machining Centres	2	14	64	D/504/6387

QPEO2/018N	Preparing and Using Industrial Robots	2	14	64	D/504/6390
QPEO2/019N	Maintaining Mechanical Devices and Equipment	2	14	64	T/504/6394
QPEO2/020N	Assembling and Testing Fluid Power Systems	2	14	64	J/504/6397
QPEO2/021N	Maintaining Fluid Power Equipment	2	14	64	F/504/6401
QPEO2/022N	Producing Sheet Metal Components and Assemblies	2	14	64	J/504/6402
QPEO2/023N	Producing Platework Components and Assemblies	2	14	64	L/504/6403
QPEO2/024N	Cutting and Shaping Materials using Thermal Cutting Equipment	2	14	64	R/504/6404
QPEO2/025N	Preparing and Proving CNC Fabrication Machine Tool Programs	2	14	64	Y/504/6405
QPEO2/026N	Preparing and Using CNC Fabrication Machinery	2	14	64	D/504/6406
QPEO2/027N	Preparing and Using Manual Metal Arc Welding Equipment	2	15	68	K/504/6408
QPEO2/028N	Preparing and Using Manual TIG or Plasma-arc Welding Equipment	2	15	68	M/504/6409
QPEO2/029N	Preparing and Using Semi-automatic MIG, MAG and Flux cored arc Welding equipment	2	15	68	H/504/6410
QPEO2/030N	Preparing and Using Manual Oxy/fuel Gas Welding Equipment	2	14	64	Y/504/6419
QPEO2/031N	Preparing and Using Manual Flame Brazing and Braze Welding Equipment	2	11	61	L/504/6420
QPEO2/032N	Producing Electrical or Electronic Engineering Drawings using a CAD System	2	11	61	R/504/6421
QPEO2/033N	Wiring and Testing Electrical Equipment and Circuits	2	14	64	Y/504/6422
QPEO2/034N	Forming and Assembling Electrical Cable Enclosure and Support Systems	2	13	65	D/504/6423
QPEO2/035N	Assembling, Wiring and Testing Electrical Panels/Components Mounted in enclosures	2	14	64	H/504/6424
QPEO2/036N	Assembling and Testing Electronic Circuits	2	14	64	K/504/6425
QPEO2/037N	Maintaining Electrical Equipment/Systems	2	15	68	M/504/6426
QPEO2/038N	Maintaining Electronic Equipment/Systems	2	15	68	T/504/6427

QPEO2/039N	Maintaining and Testing Process Instrumentation and Control Devices	2	15	68	A/504/6428
QPEO2/040N	Wiring and Testing Programmable Controller Based Systems	2	15	68	F/504/6429
QPEO2/041N	Using Wood for Pattern, Modelmaking and Other Engineering Applications	2	15	68	T/504/6430
QPEO2/042N	Assembling Pattern, Model and Engineering Woodwork Components	2	14	64	A/504/6431
QPEO2/043N	Producing Composite Mouldings using Wet Lay-up Techniques	2	14	64	F/504/6432
QPEO2/044N	Producing Composite Mouldings using Pre-Preg Laminating Techniques	2	14	64	L/504/6434
QPEO2/045N	Producing Composite Mouldings using Resin Flow Infusion Techniques	2	14	64	R/504/6435
QPEO2/046N	Producing Composite Assemblies	2	14	64	Y/504/6436
QPEO2/047N	Producing Components by Rapid Prototyping Techniques	2	11	61	D/504/6437
QPEO2/048N	Producing and Preparing Sand Moulds and Cores for Casting	2	14	64	H/504/6438
QPEO2/049N	Producing and Preparing Molten Materials for Casting	2	14	64	K/504/6439
QPEO2/050N	Producing Cast Components by Manual Means	2	13	65	D/504/6440
QPEO2/051N	Fettling, Finishing and Checking Cast Components	2	11	61	H/504/6441
QPEO2/052N	Finishing Surfaces by Applying Coatings or Coverings	2	9	41	M/504/6443
QPEO2/053N	Finishing Surfaces by Applying Treatments	2	9	41	T/504/6444
QPEO2/054N	Carrying Out Heat Treatment of Engineering Materials	2	9	41	A/504/6445
QPEO2/055N	Carrying Out Hand Forging of Engineering Materials	2	9	41	F/504/6446
QPEO2/056N	Stripping and Rebuilding Motorsport Vehicles (Pre-Competition)	2	14	64	J/504/6447
QPEO2/057N	Inspecting a Motorsport Vehicle During Competition	2	14	64	L/504/6448
QPEO2/058N	Diagnosing and Rectifying Faults on Motorsport Vehicle Systems (During a Competition)	2	15	68	R/504/6449
QPEO2/059N	Carrying Out Maintenance Activities on Motor Vehicle Electrical Equipment	2	15	68	J/504/6450
QPEO2/060N	Stripping and Rebuilding Motorsport Engines (Pre – Competition)	2	14	64	L/504/6451

QPEO2/061N	Producing CAD Models (Drawings) using a CAD System	2	11	61	R/504/6452
QPEO2/065N	General Machining, Fitting and Assembly Applications	2	12	55	K/504/6456
QPEO2/066N	General Fabrication and Welding Applications	2	12	55	M/504/6457
QPEO2/067N	General Electrical and Electronic Engineering Applications	2	12	55	T/504/6458
QPEO2/068N	General Maintenance Engineering Applications	2	12	55	A/504/6459
QPEO2/069N	Joining Public Service Vehicle Components by Mechanical Processes	2	11	61	L/503/4056
QPEO2/070N	Assembling Structural Sub Assemblies to Produce a Public Service Vehicle	2	14	64	R/503/4057
QPEO2/071N	Fitting Sub Assemblies and Components to Public Service Vehicles	2	14	64	Y/503/4058
QPEO2/072N	Preparing and Manoeuvring Armoured Fighting Vehicles AFVs for Maintenance and Transportation	2	14	64	R/503/7198
QPEO2/073N	Producing Composite Mouldings using Resin Film Infusion Techniques	2	14	64	J/504/3404

Group B: Technical Support

Learners must complete one of the following PEO Level 2 assessment routes

EAL code	Assessment route title	Level	Credit value	GLH	Ofqual code
QPEO2/004N	Producing Mechanical Engineering Drawings using a CAD System	2	11	61	F/504/6348
QPEO2/032N	Producing Electrical or Electronic Engineering Drawings using a CAD System	2	11	61	R/504/6421
QPEO2/061N	Producing CAD Models (Drawings) using a CAD System	2	11	61	R/504/6452

Plus two from the following PEO Level 2 assessment routes:

EAL code	Assessment route title	Level	Credit value	GLH	Ofqual code
QPEO2/062N	Producing Engineering Project Plans	2	8	37	Y/504/6453
QPEO2/063N	Using Computer Software Packages to Assist with Engineering Activities	2	8	37	D/504/6454
QPEO2/064N	Conducting Business Improvement Activities	2	8	41	H/504/6455

Plus two more from the following PEO Level 2 assessment routes:

EAL code	Assessment route title	Level	Credit value	GLH	Ofqual code
QPEO2/065N	General Machining, Fitting and Assembly Applications	2	12	55	K/504/6456
QPEO2/066N	General Fabrication and Welding Applications	2	12	55	M/504/6457
QPEO2/067N	General Electrical and Electronic Engineering Applications	2	12	55	T/504/6458
QPEO2/068N	General Maintenance Engineering Applications	2	12	55	A/504/6459

In addition to the PEO Level 2 unit requirement in Group A or B, learners must complete the unit requirements for one of the following Level 3 Metal Processing and Allied Operations groups

Group C

Optional assessment routes: Two from Group 1 and one from Group 2

Group 1:

Optional assessment routes: Two of the following assessment routes must be taken:

EAL code	Assessment route title	Level	Credit value	GLH	Ofqual code
QMPAO3/004N	Lead effective metal processing teams	3	35	80	L/504/6496
QMPAO3/005N	Resolve metal processing problems	3	40	90	Y/504/6498
QMPAO3/006N	Schedule and progress customer orders for metal products	3	30	75	D/504/6499
QMPAO3/007N	Analyse the results of testing and confirm the quality of metal processing production	3	35	80	J/504/6500
QMPAO3/008N	Carry out condition monitoring of metal processing plant and equipment	3	40	90	L/504/6501
QMPAO3/009N	Carry out testing operations on metal products	3	30	75	R/504/6502

Group 2:

Optional assessment routes: One of the following assessment routes must be taken:

EAL code	Assessment route title	Level	Credit value	GLH	Ofqual code
QMPAO3/010N	Control and monitor primary metal production	3	40	90	Y/504/6503
QMPAO3/011N	Control and monitor secondary metal production	3	40	90	D/504/6504
QMPAO3/012N	Melt metal for casting semi-finished products	3	30	75	K/504/6506
QMPAO3/013N	Cast semi-finished metal products by manual means	3	30	75	M/504/6507
QMPAO3/014N	Cast semi-finished metal products using continuous means	3	30	75	T/504/6508
QMPAO3/015N	Produce formed metal products	3	30	75	A/504/6509
QMPAO3/016N	Produce metal products by processing	3	30	75	M/504/6510
QMPAO3/017N	Produce metal wire and wire products	3	30	75	Y/504/6534
QMPAO3/018N	Produce metal products using computer controlled equipment	3	30	75	D/504/6535
QMPAO3/019N	Prepare for and carry out heat treatment of metal products	3	30	75	H/504/6536