

Qualification Manual

Level 2 Diploma in **Fabrication and Welding Engineering Technology**

ENGINEERING

Qualification Code: 501/1058/5



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1.0 About EAL

Since 1964 EAL (Excellence Achievement and Learning) has been the specialist awarding organisation for the industry and related sectors. Our commitment to partnering industry together with the focus on our core sectors gives us an unrivalled understanding of the skills employers need. This results in qualifications that carry weight and respect with employers which deliver real career benefits for learners.

We support the delivery network with an unparalleled level of service to ensure that learners are well prepared for the roles they plan to take on. Through its programme of continuous improvement, EAL strives to meet the demand from employers for high performing, high quality products.

1.1 Equal opportunities and diversity

EAL expects its centres to enable Learner's to have equal access to training and assessment for qualifications in line with the Equality Act 2010 and protected characteristics. Further details can be located in the EAL Equal Opportunities and Diversity Policy:

<http://www.eal.org.uk/centre-support/centre-support/policies-and-important-documents>

1.2 Customer service and feedback

Customer service is a fundamental part of EAL's commitment to you. EAL aims to ensure that all customers receive a high quality efficient service. We are always interested in feedback and if you have any comments or feedback on our qualifications, products or services, please contact the customer services team:

EAL Customer Services

Tel: +44 (0)1923 652 400

Email: customercare@eal.org.uk

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2.0 Introduction to the Qualification

What is this qualification?

This qualification gives learners knowledge and understanding of a broad range of fabrication and welding engineering competencies. It covers the intermediate knowledge, understanding and skills that are required by someone working in the engineering industry. It takes a hands-on approach to intermediate engineering training by providing learners with:

- Knowledge and understanding of a range of engineering competencies.
- Information that will help them make more informed decisions about their career options.
- Personal skills to help them work effectively and achieve their potential.

Who is this qualification for?

This qualification is predominantly for learners completing an intermediate level Apprenticeship or in full time education who are interested in fabrication and welding engineering and would like to gain an intermediate level of knowledge and understanding about the engineering sector. The qualification may also be suitable for learners who are interested in engineering technology and/or are considering a career change.

This qualification has been specifically designed to offer progression into a higher level of study or a Level 3 Apprenticeship.

What does this qualifications cover?

This qualification comprises three core mandatory units, which provides learners with knowledge and understanding of the engineering environment, engineering techniques and mathematics and science principles. The learner also must complete a pathway mandatory unit covering fabrication and welding principles and select 2 from the 6 optional units.

The optional units cover a wide range of fabrication and welding topics.

2.1 Accreditation & Industry Support for this Qualification

The EAL Level 2 Diploma in Fabrication and Welding Engineering and Technology qualification has been developed in consultation with colleges, training associations and industry to ensure that it meets the needs of learners and the engineering sector.

This qualification is:

- Regulated by Ofqual at Level 2
- Endorse by a number of post-16 providers as facilitating progression to a range of Engineering Apprenticeships or a range of post-16 learning programmes at level 2 and 3

2.2 Achievement of the Qualification

The EAL Level 2 Diploma in Fabrication and Welding Engineering Technology will be awarded when the learner has successfully completed:

- Three core mandatory units, comprising an on-screen multiple-choice examination
- Two of the optional units, comprising Centre marked practical/theory assessments.
- The pathway mandatory unit, comprising Centre marked practical/theory assessments.

2.3 What are the Progression Opportunities?

The EAL Level 2 Diploma in Fabrication and Welding Engineering Technology qualification provides direct progression to the EAL Level 3 Certificate, Sub Diploma, Diploma and Extended Diploma in Engineering Technologies.

The qualification also provides progression into the following engineering based qualifications such as:

- EAL Level 2 NVQ Diploma in Performing Engineering Operations
- EAL Level 3 Certificates and Diplomas in Engineering and Technology subjects, such as mechanical, electrical, welding, maintenance, and plumbing
- Further EAL level 2 NVQ engineering and manufacturing competence qualifications.

Further information can be obtained from the EAL Website or alternatively contact:

EAL Customer Services
Tel: +44 (0)1923 652400
Email: customer care@eal.org.uk

2.4 Qualification Support Materials

The following materials are available for this qualification:

- **Delivery packs:** which contain the qualification units, all relevant tutor guidance relating to the delivery and assessment and marking schemes for internally assessed practical and theory assessments
- **Learner assessment packs:** which contain the qualification units, the internally assessed practical and theory assessments, assessment checklists and all associated guidance for learners
- ***Practice question paper/s:** for the externally set and marked on-screen test, with feedback to learners on their performance.

*The practice papers are available to schedule online as per externally set and marked examinations.

All other materials can be accessed by EAL registered Centres from the EAL Website www.eal.org.uk

3.0 Rule of Combination (Qualification Structure)

EAL Level 2 Diploma in Fabrication and Welding Engineering and Technology

This qualification will be obtained by the learner once they have successfully completed the **three mandatory units** and the **pathway mandatory unit** followed by **two optional units** from the units listed below. The qualification has 39 credits, 330 Guided Learning Hours (GLH) and 390 hours Total Qualification Time (TQT).

Mandatory units:

Unit	Unit title	Credit	GLH	Ofqual Code
QETI/001	Engineering environment awareness	6	60	D/600/1847
QETI/002	Engineering techniques	6	60	H/600/1848
QETI/003	Engineering principles	6	60	K/600/1852

Pathway mandatory unit - must be completed:

Unit	Unit title	Credit	GLH	Ofqual Code
QETI/007	Fabrication and welding principles	7	50	D/600/1864

Optional units - select two of the following units:

Unit	Unit title	Credit	GLH	Ofqual Code
QETI/008	Manual welding techniques	7	50	H/600/1865
QETI/009	Producing components from metal plate	7	50	K/600/1866
QETI/010	Producing components from sheet metal	7	50	M/600/1867
QETI/010A	Sheet metalwork technology	7	50	K/506/7419
QETI/011	Non-fusion thermal joining methods	7	50	T/600/1868
QETI/012	Thermal cutting techniques	7	50	A/600/1869
QETI/034	Understanding Computer Aided Drawing (CAD)	7	50	A/600/2374

4.0 Centre and Qualification Approval

Centres wishing to run the qualification will need to comply with the Qualification Manual and EAL's centre recognition criteria for this qualification upon accreditation and launch. Centres must also put in place the appropriate physical and human resources and administration systems to effectively run the qualification. Please refer to Section 5 for the requirements of centre staff involved in the delivery of this qualification.

For existing EAL centres to put the qualification on your centre remit:

- To add this qualification to your Centre qualification remit, create and complete a qualification approval application form in Smarter Touch and submit to EAL.

For non EAL centres to gain centre approval to run the qualification:

- Please contact the EAL Customer Services Department who will be delighted to hear from you:
Tel: +44 (0)1923 652400
Email: customercare@eal.org.uk

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5.0 Profiles and Requirements

The staff involved in the delivery of this qualification at the Centre must meet ALL of the requirements in this section.

5.1 Staff responsible for registering and certifying learners

Centres are required to appoint a suitable member of staff who can take responsibility for registering learners onto the qualification, submitting entries for externally set assessments to EAL, and taking receipt of external assessment procedures. They may also be responsible for applying to EAL for learner certificates.

The role may be undertaken by the same person who undertakes quality assurance (see Section 5.4).

5.2 Teaching staff

Teaching staff must have knowledge and understanding of:

- The qualification structure and content.
- The learning outcomes and assessment criteria they are delivering.

It is a recommendation that teaching staff will:

- Have 2 years' experience in teaching/training
or
- Be working towards an appropriate teaching/training qualification
or
- Hold an appropriate teaching/training qualification (e.g. Cert Ed or Learning and Development trainer units).

5.3 Assessors

The Centre MUST provide EAL with the names of any teachers, trainers or other individuals who will undertake internal assessment, so that these can be approved prior to them carrying out an assessment role.

Internal assessors must:

- Have knowledge and understanding of the assessment criteria they are assessing.
- Have knowledge and understanding of the qualification structure, content and assessment components.
- Understand the assessment process.

It is a recommendation that teaching staff will:

- Have 2 years' experience in assessment (e.g. within an N/SVQ or teaching/training environment)
or
- Be working towards an appropriate assessment qualification, such as the 'Level 3 Award in Assessing Vocationally Related Achievement'
or
- Hold an appropriate assessment qualification (as above).

Assessor continuing professional development

It is the responsibility of each assessor to identify and make use of opportunities for Continuing Professional Development (CPD), such as industry conferences, access to trade journals, and Professional Body/Trade Association events, at least on an annual basis to enhance and upgrade their professional development and technical knowledge.

It is imperative that records are kept of all such CPD opportunities/occasions and that they provide evidence of cascading such technical knowledge and industry intelligence to all relevant colleagues.

5.4 Quality assurance staff

This relates to staff undertaking internal verification/moderation of assessment. The Centre MUST provide EAL with the names of any teachers, trainers or other individuals who will undertake internal quality assurance, so that these can be approved prior to them carrying out this role.

The main focus of internal quality assurance for these qualifications are:

- The quality assurance of assessment procedures, including standardisation of assessment practice across different assessors within the Centre.
- Internal standardisation of marking and moderation of learner marks awarded.

Internal quality assurance staff must:

- Be familiar with the occupation(s) covered by the qualification.
- Have knowledge and understanding of the qualification structure and content.
- Understand the assessment process and the role of quality assurance.

It is a recommendation that the quality assurance staff will:

- Have experience in quality management/internal verification
- or**
- Hold an appropriate qualification, such as the 'Level 4 Award in the Internal Quality Assurance of Assessment Processes and Practice, or the 'Level 4 Certificate in Leading the Internal Quality Assurance of Assessment Processes and Practice'

Continuing professional development of internal quality assurance staff

It is the responsibility of each internal quality assurance staff member to identify and make use of opportunities for CPD, such as industry conferences, access to trade journals, and SSC and Professional Body/Trade Association events, at least on an annual basis to enhance and upgrade their professional development and technical knowledge. It is imperative that records are kept of all such CPD opportunities/occasions and that they provide evidence of cascading such technical knowledge and industry intelligence to all relevant colleagues.

5.5 Learners with particular requirements

There are no formal entry requirements for this qualification. Centres should ensure that learners have the potential to achieve the qualification undertaken.

Centres should make learners with particular requirements aware of the content of this qualification and they should be given every opportunity to successfully complete it. EAL will consider any reasonable suggestions for, and from, those with disabilities that would help them to achieve the learning outcomes without compromising the standards required.

5.6 Age restrictions

Learners must be at least 16 years old.

6.0 Assessment

The following table indicates the assessment components that are included in the qualification and for each component:

- Who is responsible for setting and marking the component
- How the component is quality assured.

Assessment component	Set by	Marked by	Method of quality assurance	
			Internal	External
Centre marked practical/ theory assessments ¹	EAL	Centre	On-going standardisation within the Centre	Verification and continuous monitoring via EQA visits

1. Refer to Section 6.1 Internal (EAL Set and Centre Marked) Assessments.

The learner must pass **ALL** assessments to achieve the qualification.

A breakdown showing the assessment requirements for each unit is shown in the table below:

EAL Code	Unit Title	On-screen exam	Centre marked practical/theory assessment
QETI/001	Engineering environment awareness	YES	YES
QETI/002	Engineering techniques	YES	YES
QETI/003	Engineering principles	YES	YES
QETI/007	Fabrication and welding principles	NO	YES
QETI/008	Manual welding techniques	NO	YES
QETI/009	Producing components from metal plate	NO	YES
QETI/010	Producing components from sheet metal	NO	YES
QETI/010A	Sheet metalwork technology	NO	YES
QETI/011	Non-fusion thermal joining methods	NO	YES
QETI/012	Thermal cutting techniques	NO	YES
QETI/034	Understanding Computer Aided Drawing (CAD)	NO	YES

6.1 Internal Assessment

Internal assessment includes practical and/or theory assessments, which have been designed to assess the knowledge, understanding and skills of learners for individual units. The internal assessment for each unit is set by EAL and marked by members of the delivery team at the Centre. All assessment decisions are then subject to internal standardisation and external quality assurance.

Internal assessments involve collecting and evaluating evidence that demonstrates achievement of the learning outcomes in each unit. The internal assessments are accompanied by marking criteria, checklists and other materials to ensure that the delivery team is consistent in their approach to internal assessments across learners. The internal assessments and the accompanying marking/assessment criteria can be found in the individual units within the Delivery and Learner Assessment Packs.

Centres are responsible for ensuring that internal assessment is suitably controlled to ensure that assessment decisions are valid and reliable, and that work submitted for assessment by learners is prepared and produced by them independently, without assistance from others, and free of plagiarism.

Where the assessment takes the form of written/short answer or multiple choice question papers, these should be treated as controlled assessments therefore imposing the necessary restrictions on the learner, as necessary. Guidance sheets have also been created to hand out to the learners, to ensure they are aware how to complete the multiple choice and short answer questions papers.

All learning outcomes of the qualification must be assessed. In order to help meet this requirement it is advised that learners should produce a logbook/portfolio where they can file and make reference to evidence that shows their achievements against the learning outcomes. Centres should also maintain an assessment and feedback record for each learner, which details the evidence evaluated against the learning outcome and the feedback given to the learner. These records must be available to the External Quality Assurer.

Further guidance on assessment is provided within each unit Delivery Pack.

Re-taking internal assessments

Learners who fail to achieve a pass in the internally marked controlled assessments will be permitted to re-take after feedback and appropriate tuition has taken place.

Standardisation of internal assessments

Members of the internal quality assurance team at the Centre have an important role to play in ensuring that internal assessment is standardised. In particular, they should work with tutor/assessors to ensure that the correct procedures are being followed at all times, and to ensure that assessment decisions taken by different assessors are consistent, fair and reliable. Key activities will include:

- Meeting with tutor/assessors (individually and collectively) throughout the course to discuss quality assurance and standardisation issues and provide support and guidance where needed.
- Observing tutor/assessors and giving them feedback to help improve their assessment technique.
- Sampling learner evidence across different learner cohorts to ensure that appropriate standards have been met.
- Arranging cross-marking of learner work to compare results and agree benchmarks.

7.0 External Quality Control of Assessment

There are two major activities in which EAL interacts with the Centre in relation to the External Quality Control of Assessment for the qualification and these are:

- **Recognition:** When a Centre decides to offer the qualification, the EAL External Quality Assurer (EQA) ensures that the Centre is suitably equipped and prepared for delivery and assessment.
- **Engagement:** Throughout the ongoing delivery of the qualification EAL, through EQA monitoring and other mechanisms will review the quality and consistency of assessment and internal quality assurance and recommend actions to address issues of concern.

Recognition

In granting approval, EAL, normally through its EQAs, will ensure that the prospective Centre:

- Meets any procedural requirements specified by EAL.
- Has sufficient and appropriate physical and staff resources.
- Meets relevant health and safety and/or equality and access requirements.
- Has a robust plan for the delivery, assessment and QA for the qualifications (including, where appropriate, scope for involving employers).

EAL may decide to visit the Centre to view the evidence provided.

Engagement

EAL, through EQA Engagement and other mechanisms will ensure that:

- A strategy is developed and deployed for the on-going monitoring of the centre – this will be based on an active risk assessment of the Centre, and will include details of the learner, assessor and internal quality assurer's sampling strategy and the rationale behind this.
- The Centre's internal quality assurance processes are effective in learner assessment.
- Outcomes of internal assessment are verified, through sampling, to ensure standards are being maintained.
- Sanctions are applied to a Centre where necessary and that corrective actions are taken by the Centre and monitored by the EQA.
- Reviews of EAL's external auditing arrangements are undertaken.

Appendix 1: Learner Registration and Certification

Learners must be registered with EAL on a code which relates to the qualification. This must be completed prior to assessment. Both learner registration and certification can be completed on-line at the EAL Website www.eal.org.uk. For paper based registration and certification, please use the appropriate forms. For guidance on registration and certification, please refer to the Registration and Certification User Guide.

To register the learner on the qualification code:

Qualification Title

Qualification Title	Code
EAL Level 2 Diploma in Fabrication and Welding Engineering and Technology	501/1058/5

For further information please contact EAL Customer Services +44 (0)1923 652 400.

