

# Qualification Manual

EAL Level 1 Award in Introductory Welding Skills –  
600/1903/7

EAL Level 1 Award in Introductory Tungsten Inert Gas  
Welding Skills – 600/2170/6

EAL Level 1 Award in Introductory Metal Inert Gas Welding  
Skills – 600/2171/8

EAL Level 1 Award in Introductory Manual Metal Arc Welding  
Skills – 600/2172/X

EAL Level 1 Award in Introductory Oxy – Acetylene  
Welding Skills – 600/2173/1

EAL Level 1 Award in Introductory Brazing and Soldering  
Skills – 600/6003/7

EAL Level 1 Award in Introductory Thermal and Plasma  
Cutting Skills – 600/5801/8

ISSUE: 4

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# 1.0 About EAL

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Since 1964, **EAL (Excellence Achievement and Learning)** has been awarding superior vocational qualifications and apprenticeship components for engineering, building services and related sectors.

Developed to the highest technical standard, our qualifications are regularly updated to reflect regulatory and technical changes. We support the providers of our qualifications with an unparalleled level of service to ensure that learners are well prepared for the roles they plan to take on.

EAL recognise the value of skills in the work environment as one of the 5 key drivers of productivity; essential for economic growth and bringing a number of wider social benefits. 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 Centres to enable individuals to have equal access to training and assessment for qualifications irrespective of their sex, marital status, age, religion, colour, race, nationality, ethnic origin or disability. In essence Centres must deliver our qualifications and units in accordance with relevant equalities legislation.

Centres are required to have in place a policy to ensure that such discrimination does not occur either directly, indirectly or as a result of pressure from other bodies. This policy should apply to all satellites Centres and there should be arrangements in place to monitor its application and effectiveness.

Where complaints relating to issues of inequality cannot be satisfactorily resolved by the Centre, learners must be made aware of their right to appeal to EAL via the arrangements outlined in our Enquiries and Appeals Policy.

## 1.2 Complaints

Customer service is a fundamental part of EAL's commitment to industry. Our long-term partnership with industry and recognised Centres – which is underpinned by our unique External Quality Assurance Service and world class customer service – means our support is based on unrivalled understanding of our customers' needs.

EAL aims to ensure that all customers receive a high quality and efficient service and we continually monitor the levels of service provided. There may be times, however, when you may feel that we have not provided an adequate service.

In these situations, please contact our customer services team:

EAL Customer Services:  
Tel: +44 (0)1923 652 400  
Email: [customer care@eal.org.uk](mailto:customer care@eal.org.uk)

## 2.0 Introduction to the Qualification

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### What is this qualification?

These qualifications were developed to fill an identified gap in the market for introductory level welding qualifications. The Level 1 VRQs are designed to have a 'hands on' practical approach to introductory welding training and as such to support improved retention and attainment at Level 1. To support this hands on approach the knowledge aspects of the qualifications are covered by a self study pack that with support allows learners to learn at their own pace and retain the pack for support after the qualification is completed.

The content and structure of the qualifications have been developed to provide a broad based introduction to the practices and processes within welding and developing the personal skills and attributes that learners need in order to develop confidence in their ability to work, learn and achieve their full potential at Level 1. Learners can, if they wish progress to EAL's level 2 welding VRQ qualifications to further develop the skills they have learned at level 1.

These qualifications have been developed in close consultation with colleges, training associations and industry to ensure that the qualification meets the needs of the engineering and education sectors. In addition, EAL has consulted throughout the development of the qualifications to ensure that the structure and content meet industries and the candidate needs.

### Who are these qualifications for?

- Wish to enter Further Education but do not have the necessary GCSE grades
- Wish to start a career in welding engineering
- Are thinking about welding as a career but who would like some experience of the job role first
- Are new to welding
- Work in another aspect of welding engineering and require some practical training

There are no pre-entry requirements for learners choosing this qualification.

### What do these qualifications cover?

These qualifications cover the Level one knowledge and practical skills required by someone preparing to work in the welding industry. These qualifications cover the four main welding processes [See section 3.0 for further details.](#)

## 2.1 Accreditation & Industry Support for this Qualification

This qualification:

- Is regulated by Ofqual at level one.

## **2.2 Achievement of the Qualification & ‘Standalone Units’**

These qualifications are gained when all the necessary units have been achieved. The centre will then be able to apply for the learner’s Certificate. The learner will also receive a Certificate of Unit Credit, listing all the units they have achieved.

However if they don’t manage to complete the full qualification learners can still claim a Certificate of Unit Credit for the units achieved therefore, they still have proof of their ability and could complete the qualification at a later date.

Units can also be taken individually (standalone). This manual must be used in conjunction with the delivery and assessment of any individual units to ensure that assessment requirements and methodologies are consistently applied.

## 2.3 Relation to Other Qualifications

This qualification relates to:

- EAL Qualifications in Key Skills, Functional Skills and Essential Skills Wales, EAL L1 Certificate in Performing Engineering Operations
- EAL L2 Certificate in Positional Welding EAL L3 Award in Pipe Welding
- EAL L2 Diploma in Performing Engineering Operations
- EAL L2 & L3 NVQ in Fabrication And Welding Engineering
- EAL L2 Diploma in Fabrication and Welding Engineering Technology
- EAL L3 Diploma in Fabrication and Welding Engineering Technology

Details on these can be obtained from the EAL Website or alternatively contact:

- EAL Customer Services  
Tel: +44 (0)870 240 6889  
Email: [customercare@eal.org.uk](mailto:customercare@eal.org.uk)

## 2.4 Qualification Support Materials

The following materials are available for this qualification:

- **Tutor packs:**

These documents contain the knowledge and the practical assessment criteria. They also contain the answers to the questions in the unit. The units also clearly identify the:

- [level & Credit value](#)
- Guided learning hours (GLH)
- Title, Unit purpose/aims
- Summary of learning outcomes
- Details of assessments (WPS)

- **Learner packs:**

These are the same as the tutor packs but without the answers and are intended to be given to learners as a resource

EAL have also provided for centres:

- EAL Centre Operations Manuals - This sets out the requirements for EAL Centres, contains all necessary documentation and also contains helpful teaching and delivery advice. The EAL Centre Operations Manual **must** be adhered to in the delivery of this qualification.

All these materials can be accessed from the EAL Website [www.eal.org.uk](http://www.eal.org.uk). Note: Further delivery support materials will be available in the future for this qualification.

## 2.5 Funding for this Qualification

The following bodies will be able to assist you with your funding queries.

### For England:

- Skills Funding Agency.  
<http://skillsfundingagency.bis.gov.uk/>  
Cheylesmore House  
Quinton Road Coventry  
CV1 2WT
- Also, search the Learning Aims Database (LAD) for the qualification code given on the front page of this Manual; this will give an indication of the funding status.

### For Wales:

- Contact the Welsh  
Assembly Government  
<http://wales.gov.uk/topics/educationandskills/?lang=en>  
Cathays Park  
Cardiff  
CF10 3NQ

### For Northern Ireland:

- Contact the  
Department for Employment and Learning  
<http://www.delni.gov.uk/>  
Adelaide House  
39-49 Adelaide  
Street Belfast  
BT2 8FD

### For all Nations and further guidance:

- Contact Semta  
14 Upton Road  
Watford  
WD18 0JT  
Tel: 01923 238441

## 2.6 Employer Training Resource for this Qualification

If you are an employer and you require details of training for this qualification contact the National Skills Academy for Manufacturing, which exists to provide the sector with the training it needs to stay world-class.

The Skills Academy has approved a range of high quality training products and services designed to deliver bottom line business benefits to employers. These are delivered via a network of providers who have themselves been approved, undergoing rigorous ongoing checks and continued professional development against the Skills Academy standard. Learn more about the Skills Academy's training products and services by clicking onto: [http://www.nsa-m.co.uk/products\\_and\\_services.aspx](http://www.nsa-m.co.uk/products_and_services.aspx)

## 3.0 Rules of Combination (Qualification Structures)

These qualifications have 60 Guided Learning Hours (GLH), and 7 Credits. They have a Total Qualification Time (TQT) of 70 hours which is the notional time required by the learner to complete their selected qualification.

These qualifications will be achieved when the learner has successfully completed all units detailed below.

### EAL Level 1 Award in Introductory Welding Skills– 600/1903/7

#### Optional Units: Any one unit must be completed:

EAL Code	Unit Title	Level	Credit	G L H	Ofqual Code
QIWS/001	Tungsten Inert Gas Welding	1	7	60	<a href="#">M/501/9419</a>
QIWS/002	Metal Inert Gas Welding	1	7	60	<a href="#">H/501/9420</a>
QIWS/003	Manual Metal Arc Welding	1	7	60	<a href="#">H/501/9417</a>
QIWS/004	Oxy-Acetylene Welding	1	7	60	<a href="#">K/501/9418</a>

### EAL Level 1 Award in Introductory Tungsten Inert Gas Welding Skills) – 600/2170/6

#### Mandatory Unit: Single unit must be completed:

EAL Code	Unit Title	Level	Credit	G L H	Ofqual Code
QIWS/001	Tungsten Inert Gas Welding	1	7	60	<a href="#">M/501/9419</a>

### EAL Level 1 Award in Introductory Metal Inert Gas Welding Skills – 600/2171/8

#### Mandatory Unit: Single unit must be completed:

EAL Code	Unit Title	Level	Credit	G L H	Ofqual Code
QIWS/002	Metal Inert Gas Welding	1	7	60	<a href="#">H/501/9420</a>

### EAL Level 1 Award in Introductory Manual Metal Arc Welding Skills – 600/2172/X

#### Mandatory Unit: Single unit must be completed:

EAL Code	Unit Title	Level	Credit	G L H	Ofqual Code
QIWS/003	Manual Metal Arc Welding	1	7	60	<a href="#">H/501/9417</a>

### EAL Level 1 Award in Introductory Oxy – Acetylene Welding Skills – 600/2173/1

#### Mandatory Unit: Single unit must be completed:

EAL Code	Unit Title	Level	Credit	G L H	Ofqual Code
QIWS/004	Oxy-Acetylene Welding	1	7	60	<a href="#">K/501/9418</a>

Continued on next page

**EAL Level 1 Award in Introductory Brazing and Soldering Skills – 600/6003/7**

**Mandatory Unit: Single unit must be completed:**

EAL Code	Unit Title	Level	Credit	G L H	Ofqual Code
QIWS/005	Brazing and Soldering	1	7	60	<a href="#">L/504/0696</a>

**EAL Level 1 Award in Introductory Thermal and Plasma Cutting Skills – 600/5801/8**

**Mandatory Unit: Single unit must be completed:**

EAL Code	Unit Title	Level	Credit	G L H	Ofqual Code
QIWS/006	Thermal Cutting Techniques	1	7	60	<a href="#">D/504/0699</a>

## 4.0 Centre & Qualification Approval

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Centres wishing to run the qualification will need to comply with this Qualification Manual and EAL's centre approval criteria for this qualification. Centres must also put in place the appropriate physical and human resources and administration systems to effectively run the qualification.

Note: For centres that already have the NQF qualification on their centre remit they will automatically have approval to run this qualification.

### **For *existing* EAL Centres to put the qualification on your centre remit:**

- The approval form can be downloaded from the centre area of the EAL Website or alternatively obtained from the EAL Centre Operations Manual. Please contact your EQA or EAL Customer Services (see below) if you need any assistance.

### **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)870 240 6889  
Fax: +44 (0)870 240 6890  
Email: [customercare@eal.org.uk](mailto:customercare@eal.org.uk)

## 5.0 Profiles & Requirements

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The EAL Centre Operations Manual **must** be followed along with this section.

### 5.1 Teaching Staff

**Teaching staff must:**

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

Must also have:

- Knowledge and understanding of the occupation covered by this qualification
- Knowledge and understanding of the structure and content of this qualification.

### 5.2 Assessors

**Assessors must:**

- Have 2 years experience in assessment (e.g. within an N/SVQ or teaching/training environment)  
**or**  
be working towards an appropriate assessment qualification (e.g. A1/A2)  
**or**  
hold an appropriate assessment qualification (e.g. A1/A2)
- Have knowledge and understanding of the occupation covered by the VRQ
- Have knowledge and understanding of the VRQ's structure and content.

### 5.3 Quality Assurance Staff

**Quality assurance staff must:**

- Have experience in quality management/internal verification  
**or**  
hold an appropriate qualification (e.g. V1)
- Have familiarity of the occupation covered by the qualification
- Have knowledge and understanding of the qualification's structure and content.

## 5.4 Personnel Conducting the External Assessment

### These personnel must:

- Have experience in conducting and controlling exam sessions  
*or*  
be supervised, conducting this function, by an individual experienced in conducting and controlling exam sessions
- Have knowledge, understanding and compliance to EAL examination procedures (see the EAL Centre Operations Manual)

## 5.5 Learners

There are no formal entry requirements for this qualification; although Centres should ensure that the learners have the potential to achieve the units selected within this qualification. Learners must have the minimum levels of literacy and numeracy to comply with the health and safety aspects of the scheme, the completion of the learning outcomes and the external assessment.

Centres should make learners with particular requirements aware of the practical and theory content of the qualification and they should be given every opportunity to complete all or some of the units. 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.

### Age Restrictions

There are no age restrictions.

## 5.6 Physical Resources

The centre must have adequate welding and related equipment for the scope of training offered. It must be fit for purpose, safe, calibrated (welding parameters) and correctly maintained.

Practical training must be carried out in appropriate premises with good standards of illumination and welding operations must be correctly screened. Work equipment such as benches, vices, hand tools and power/air tools must be provided. A room for lectures providing a suitable environment for information transfer should be available.

There must be adequate arrangements for changing and storing clothes, safe keeping of valuables and provision of simple refreshments and toilet/washroom facilities.

Safe working is a key issue and all practical activities must be subject to up to date risk assessments. All trainees must be properly supervised and wear the correct personal protective equipment. Adequate general ventilation and local fume extraction must be in place. The guideline for safe working is 'Health and Safety in Welding and Allied Processes. Arrangements for first aid and emergency action in case of accident must be in place.

## 6.0 Assessment

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Due to the level of this qualification and the profile of the likely learners it has been decided that a formal multi choice examination is not suitable for assessing the learning undertaken by the learners.

The emphasis of the assessment of this qualification is in a 'hands on' approach and the final assessment of the units will take the form of practical tasks in the form of welding procedure specifications (WPS) and internally assessed knowledge tests that reflect the learning outcome titles of the units. The EAL Centre Operations Manual **must** be followed along with this section.

### 6.1 Internal (Centre Marked) Assessment

The practical tasks/WPS within the tutor packs are also accompanied by marking criteria to ensure that the delivery is consistent amongst learners within the welding assessments. The assessments and the accompanying marking/assessment criteria can be found in the tutor packs. They are clearly identified against the WPS that they relate to.

The actual assessment decisions and completion of the EAL provided documentation will be independently completed by the centre and is subject to sampling during external quality assurance by EAL's External Quality Assurer (EQA).

Internal assessments test the practical skills and knowledge of the learners within the units. They are centre marked by members of the delivery team. Internal assessment involves collecting and evaluating evidence that demonstrates achievement of the learning outcomes. This will be subject to external quality assurance. Centres are responsible for ensuring that assessment decisions are valid and reliable.

Where the assessment take the form of written/short answer type questions learners can be supported and can answer from an open book type approach. The delivery team should allow any question the learner has gotten wrong to be discussed verbally until they are happy the learning is embedded.

It is advised that the Learner pack is used as a logbook/portfolio and kept safe to show the learners achievements against the learning outcomes.

All learning outcomes of the qualification must be assessed. In order to meet this requirement centres must complete an assessment and feedback record on each assessment recording sheet. This will detail the evidence evaluated against the learning outcome and the feedback given to the learner. These records along with the learner logbooks must be available to the EAL EQA.

Assessment guidance is provided within each unit.

# Appendix 1: Functional Skills & Essential Skills Wales

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## Essential Skills Wales (ESW)

Essential skills Wales are a suite of qualifications to replace Key Skills in Wales. There are currently three ESW qualifications:

- Application of number (Aon),
- Communication,
- Information communication technology (ICT).

EAL offer these qualifications at levels one to three. These qualifications are 'standalone' and are portfolio based; however these can be embedded into other qualifications but must remain a transferable skill.

DCELLS are currently reviewing Working with Others; Improving Ones own Learning and Problem Solving which will become part of a suite of six qualifications along with Application of Number, Communication and Information Communication Technology. These qualifications will available from September 2010. Currently the wider Key Skills are available until September 2012.

For further information essential skills Wales please visit the EAL website

## Functional skills

If individuals don't achieve a level two functionality while at school; they will have other opportunities to do so at college, within an apprenticeship, or in an adult course on day release from work, whatever their age.

Functional Skills qualifications will replace existing Key Skills qualifications.

Functional Skills qualifications will be:

- a constituent of new Diplomas at every level,
- a replacement for Communication, AoN and ICT Key Skills qualifications part of Apprenticeship Frameworks
- part of Foundation Learning.

Each qualification is separate and assessed independently. The qualifications have been designed so that, at level two, learners are able to apply their skills confidently in a range of different contexts.

Functional Skills have been allocated a credit value of five at the two Levels.

They will be accredited onto the National Qualifications Framework (NQF) for full rollout from September 2010.

For further information on functional skills and essential skills Wales and please visit the EAL website at [www.eal.org.uk/](http://www.eal.org.uk/)

## Appendix 2: Potential Sources of Teaching Information

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There are a number of books CD ROMs, videos and web sites, which provide useful sources of teaching information to support this qualification. If you wish to suggest a publication, please contact:

[Customercare@eal.org.uk](mailto:Customercare@eal.org.uk)

Welders Handbook  
(Available free)

Air Products PLC  
2 Millennium Gate  
Westmere Drive  
Crewe  
Cheshire  
CW1 6AP  
(Tel: 0800 389 0202)

Welding Practice

Brian D Smith

Elsevier Science 0340614064  
(Tel: 01865 – 474000)  
To obtain permission to use material from  
this work or any other Elsevier  
text please contact the Rights and  
Permission department at  
[permissions@elsevier.com](mailto:permissions@elsevier.com)

The 'Job Knowledge for Welders' section on the TWI website is an excellent way of obtaining free and up to date information about arc welding and related activities. Look on [www.twi.co.uk](http://www.twi.co.uk) and search for 'Job Knowledge'.

## Appendix 3: Relation to National Occupational Standards

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EAL's QIWS Units are mapped to national occupational standards as shown:

<b>EAL Code</b>	<b>Details of the relationship between the unit and relevant national occupational standards or other professional standards or curricula</b>
QIWS/001	<a href="#">O45NPEO1-16.pdf</a>
QIWS/002	<a href="#">O45NPEO1-17.pdf</a>
QIWS/003	<a href="#">O45NPEO1-15.pdf</a>
QIWS/004	<a href="#">O45NPEO1-18.pdf</a>
QIWS/005	<a href="#">O45NPEO1-19.pdf</a>
QIWS/006	<a href="#">O45NPEO1-14.pdf</a>

## Appendix 4: Learner Registration & Certification

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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](http://www.eal.org.uk) . For paper based registration and certification use forms LRF1, and CRF1A. These are located in the centre operations manual.

### To Register the Learner on the Chosen Qualification/Pathway Code:

Qualification Title	Code
EAL Level 1 Award in Introductory Welding Skills	600/1903/7
EAL Level 1 Award in Introductory Tungsten Inert Gas Welding Skills	600/2170/6
EAL Level 1 Award in Introductory Metal Inert Gas Welding Skills	600/2171/8
EAL Level 1 Award in Introductory Manual Metal Arc Welding Skills	600/2172/X
EAL Level 1 Award in Introductory Oxy – Acetylene Welding Skills	600/2173/1
EAL Level 1 Award in Introductory Brazing and Soldering Skills	600/6003/7
EAL Level 1 Award in Introductory Thermal and Plasma Cutting Skills	600/5801/8

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