

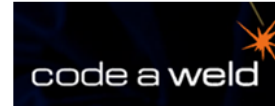
Worldskills UK Welding Competition (Skillweld) Technical handbook 2023

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Sponsors

Skillweld 23 is supported by



WorldSkills UK

WorldSkills UK is an independent charity and a partnership between employers, education and governments. Together, they are raising standards in apprenticeships and technical education to enable more young people get the best start in work and life. They are leading the charge to ensure that all young people have equal access to high quality apprenticeships and technical education, by:

- inspiring young people through their careers advice resources, to choose excellence through apprenticeships and technical education as a prestigious career route on their path to reaching their potential, whatever their background.
- developing excellence in young people by testing and assessing their skills and knowledge against their peers through their national and international competitions programmes, improving their confidence and potential.
- innovating to mainstream global excellence to help improve the standard of teaching, training and assessment through international benchmarking to help young people, employers and the UK economy succeed.

They are also part of WorldSkills, a global movement supported by over 80 member countries, which celebrates young people achieving world-class standards in the biennial 'skills Olympics.

[This link](#) can be used to access more information about WorldSkills UK and the work it undertakes:

Sector Overview

Career Pathway

Welder's are employed in many aspects of engineering, from Large infrastructure and construction projects, Power generation, Nuclear, Aerospace, to smaller engineering and fabrication workshops, Welding impacts on all our lives.

There are a number of routes into welding as a career

Apprentices Welder – either in employment or attending a full time course at a further education college

Welding Engineer which is a Degree Course and requires a good grades in Maths and Science

Welders can progress to become- Welding supervisors, Welding Inspectors, Technical sales and marketing,

Competition Cycle

Date	Stage
January – February	Pre Competition Activity
February - March	Registration
March - May	Entry Stage
May - June	National Qualifier
July	Announcement finalist
October	Bootcamp
November	National Finals

Competition Overview

About the Competition

This competition assesses the skills and abilities of competitors entering the field of Welding

This competition consists of:

- A Entry Level Stage 1, a remote assessment in which you must complete work in your own time and submit this for judging;
- A qualifying heat, which will be face to face which you must attend and complete a series of tasks on a specific day, or a set of tasks that you will be able to send and must be completed within a given timescale;
- A UK national final, taking place in November as part of WorldSkills National Finals.
- Possible selection for Squad UK if criteria is met.

Core competencies

Competitors taking part in this competition should be able to demonstrate the following competencies:

Competitors need to be competent in the following welding processes, materials and in all the welding positions

Manual Metal Arc (MMA)

Metal Active Gas (MAG)

Tungsten Inert Gas (TIG)

Flux Core Arc Welding (FCAW) (National Finals only)

Carbon Steel

Stainless Steel

Aluminium

Qualifications

This competition is mapped out to the following qualifications:

England, Wales, Northern Ireland - Scotland

Level 2 /Level 3 Advance Welding

This competition is mapped out to the following apprenticeship standards

Pipe Welder - ST0851

Plate Welder - ST0852

This competition is aligned to the following international Standards

BS EN ISO 5817:2014

Entry Criteria

Competitors can be of any age and must be on a recognised training course in Welding

Competition specific rules

None

Pre-competition Activity

Before registering to enter students and apprentices to take part in a WorldSkills UK Competition, it can be helpful to enable them to practice, test and challenge their technical and mental skills by getting involved in the [pre-competition Activity](#) available on the bottom of the webpage. As well, the following activities could be used to support prospective competitors to get a feel for what will be expected of them in a WorldSkills UK Competition, whilst still in an environment with which they are familiar:

- on and off the job training and work experience
- WorldSkills UK or other externally run competitions
- internal competitions e.g. internal to an employer, specially designed competitions - using WSUK competition briefs
- local competitions e.g. in colleges and training providers.

Digital Badges



As recognition of the participation and achievement of learners who take part in the competition you will be awarded a Digital Badge from WorldSkills UK. This credential has been awarded to those who have participated in our competition-based training programme. In taking part in this programme there has been a commitment to developing technical, employability and personal skills to a high standard using benchmarked assessments, leading to higher skills

development. At each stage of the competition activity there has been personal and professional growth as well as developing skills, knowledge and behaviours in vocational and technical education.

The digital badges are sent via Credly to your email and can be shared on social media platforms and in your email signature. For a short outline of the value of Digital Badges, look at our short video at <https://www.worldskillsuk.org/digital-credentials/> (45 secs).

Entry Level

The training provider can decide on the most appropriate method to deliver the competition to suit their local need's All competitors must complete the welding geometry listed below, these can either be completed as individual test coupons or as a single fabricated structure which ever is the most appropriate method of delivery that will challenge the competitor and bring more purpose to their learning experience.

Training providers should aim to hold their qualifier as a competition as this will be more challenging for the competitor when they are being judged against their peers

Single test coupons can be used as part of the competitor's assessment for external awarding bodies. The minimum length of competed weld must be 200mm and a minimum plate thickness of 6mm.

Test piece No	Welding process	Welding position	Description	Welding position
1	MMA	PF	Lap Joint	Vertical-UP
2	MMA	PF	Tee Fillet	Vertical
3	MAG	PF	Open Corner	Vertical
4	MAG	PB	Pipe to Plate	Horizontal/vertical

Welding test piece must be marked to the set criteria, this will sent to the Training provider on completion of registration

National Qualifiers

National Qualifiers are held between May and June. Competitors scoring 250 marks and above can elect to compete at a regional competition that meets their personal circumstance. The competition is held over 1 day. All competitors are allowed a familiarization session at the start of the day.

The competitors must complete the following test pieces in a 4hrs

Test piece No	Welding process	Welding position	Description	Material
1	MMA	HLO 45	Pipe Butt weld	Carbon Steel
2	TIG	PB	Pipe to plate fillet weld	Aluminium
3	TIG	PD	Tee Fillet weld	Stainless Steel
4	MAG	PF	Tee Fillet Weld	Carbon Steel

The welding test pieces will be marked by independent judges on the day; the marking is carried out by visual inspection and is based on BS EN ISO 5817:2014

The 1st three places will be announced on the day. Competitors will be given feedback by the judges to assist them in improving their welding skills

All competitors who meet the required standard in WTP No 4 Tee fillet will be given to opportunity to gain a Welder Qualification to BS EN ISO 9606-1: 2013. The test is carried out by a Recognised Third Party Organization (RTPO) Code A Weld, who offer this free of charge to the competitor

National Final

Stage 3 National Finals

The Skillweld National Final will be held in November. The top 10 competitors nationally will be invited to compete.

The competition is spread over 3 days and the competitors will have to complete the following WTP's over 19 hours

Test piece No	Welding process	Welding position	Description	Material
1	TIG root/MMA fill and cap	HLO 45	Pipe Butt weld	Carbon Steel
2	MAG root/MAG fill and cap	PB	Plate Butt weld	10mm carbon steel
3	MAG root/FCAW fill and cap	PB	Plate Butt weld	16mm Carbon Steel
4	All	All	Fabricated pressure vessel	Carbon Steel
5	TIG	All	Fabricated Structure	Aluminium
6	TIG	All	Fabricated Structure	Stainless Steel

The welding test pieces will be marked by a team of independent judges to strict criteria and involve NDT, pressure testing and visual inspection.

Judges Top Tips

Study the marking scheme and drawings, complete training on processes and materials not familiar to college/trainees, invest in equipment that will perform similar to that used in the competition, practice test modules prior to the competition.