

# TECHNICAL TRAINING SOLUTIONS



ELECTRICAL COURSES

INSTRUMENTATION COURSES

MECHANICAL COURSES

## TIG or STICK WELDING

COURSE 790: 5 DAYS: Max 4 Candidates

The Welding course is focused on individual company's requirements. This course is provided on-site and is designed to provide candidates with the ability to produce welds safely and to industry standards.

### PARTICIPANTS

The course is aimed at supervisors, technicians, maintenance engineers and any personnel involved in equipment maintenance. The course is designed for candidates with some welding experience, although it can be customised to suit all skill levels.

### COURSE PRESENTATION

Classroom-based training is provided so that candidates understand the type of welding applications required by their employer. The course advocates the industrial health and safety best practices. The course incorporates an intensive practical section on welding. Candidates are provided with comprehensive course notes, describing welding best practices and other essential information.

### COURSE OBJECTIVES

On completion of the course, participants will be able to:

- describe the dangers of fumes, gases and radiation when welding
- understand the mechanical hazards and dangers of over-exposure to noise
- correctly use appropriate PPE for welding
- use welding equipment safely, in compliance with Safe Operating Procedures (SOP)
- describe the various commonly-used welding joints
- set up an arc welding machine correctly
- weld lap, fillet and multipass joints
- employ the appropriate welding process for TIG or Stick, as appropriate to employer's needs
- weld to an acceptable standard in line with the company's requirements
- recognise common welding faults
- understand how safety can be compromised by poor weld quality
- test completed welds.

**Successful completion of the course leads to the award of the Technical Training Solutions Certificate of Competence 790: Arc Welding.**



# What do candidates on the Welding course actually do?

Safety is our first consideration on the Welding course. We look at the required PPE, how eye and face protection should be achieved and how cylinders should be looked after. We ensure that the candidates have understood these very important H&S issues by administering a practical assessment, where they have to describe the various PPE that would be required in various situations.



Page 7 of the course notes, describing the required PPE



Page 11 of the course notes, describing how eye and face protection should be achieved



Page 27 of the course notes, describing how cylinders should be looked after

We then introduce the candidates to our arc welding sets, familiarizing them with the various parts.



One of the welding sets used

Our course notes have introductory information and descriptions on the various types of welded joints and once the candidates have understood the key issues we start welding. The practical side of the course is where our emphasis lies and of course where the candidates will really begin to learn. The following are some examples of the practice welds that candidates make on the course:



**A Lap weld made on the course**



**A Fillet weld made on the course**



**A Multipass Fillet weld made on the course**

During the course candidates gradually become more proficient with our welding sets. We teach how the sets should be set up, what all the controls do and can even offer help and advice on how their own welding sets should be set up and used.

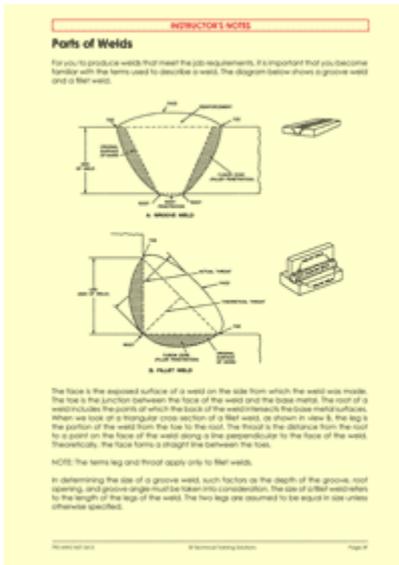


**One of the TIG Torches used on the course**

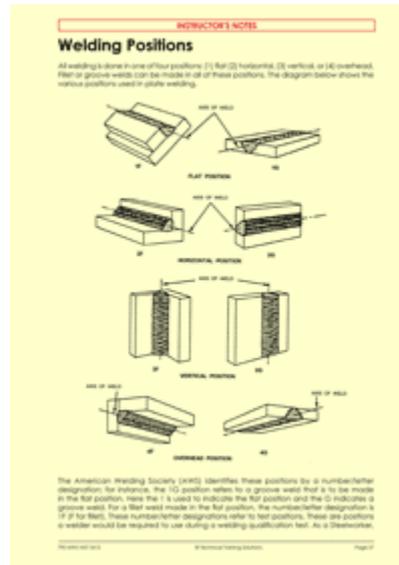


**One of the Inverter Units used on the course**

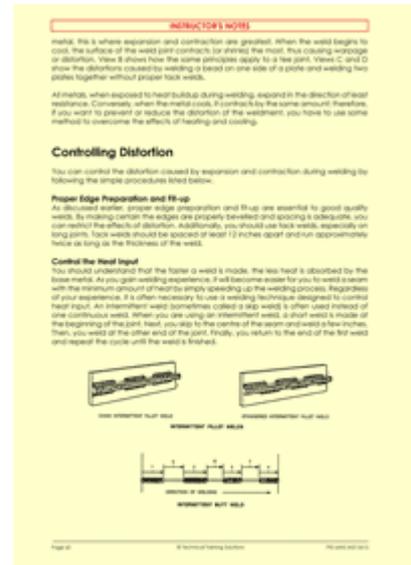
Once the candidates have acquired the basic skills we can then introduce more complex issues like weld penetration, welding positions and controlling distortion.



**Page 49 of the course notes, describing various parts of a welded joint**



**Page 57 of the course notes, describing the various welding positions**



**Page 60 of the course notes, describing the issue of distortion and how it should be controlled**

There is no substitute for practicing welding, so our course continues with **more and more welding**. We revisit the H&S and PPE issues on an on-going basis. We don't expect the candidates to become fully-fledged welders on such a short course, but we do expect them to be able to lay a proper bead whilst taking all the appropriate safety measures, so that they can do small jobs like fix broken parts of machinery, adapt a chain guard, etc.

We also expect the candidates to be able to recognise a good weld from a bad one. We **test** some of their own welds to demonstrate weld penetration and we emphasise the very important health and safety issues associated with welded parts like ladders, railings etc.

**If you would like to see some of the equipment used on the Welding course for yourself, then please call us to arrange a visit to our offices in Kent.**

**CONTACT US**

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