

What can I do to advance my career?

With the ever-changing legislation regarding compliance, it is becoming more and more a requirement for companies to prove competences, knowledge and experience of their workforce.

I often get asked by welders “what can I do to advance my career?”

The answer is not straight forward as there are several career paths that you can follow:

Welders with an aptitude for organisation or management can be promoted to foreman/supervisor, there are also opportunities in training as instructors, welding plant/consumables sales personnel and last but not least welding inspectors.



All these roles require additional competences and the internationally recognised CSWIP (Certification Scheme for Personnel) scheme will help you achieve these

There is a shortage of skilled welders in the UK (yes, I have said what most people are thinking and industry is doing little to encourage the next generation of welders). The average age of the welder creeps up each year and it is of no surprise that some of the older welders (and even the younger ones) when you get to a point during your working life when you wonder how can I advance my career. You may want to leave your daily routine for roles which are less physically demanding (let's face it being a contortionist should be part of the job description), or you may want more money, and of course with that comes more responsibilities.

The life of a welding inspector may seem a fast fix to your career but will it be the right choice. Yes, CSWIP Welding Inspectors, when compared to the wage paid to welders, will in most industries be a more lucrative proposition-. Manufacturers see welding inspection as a much needed skill for which they are willing to pay. There seems to be plenty of opportunities for those interested in becoming a CSWIP approved Welding Inspector to gain employment. This trend has seen a steady increase every year since the scheme inception some forty years ago and shows no signs of slowing down. It is expected to continue for the foreseeable future. That, however, doesn't mean that you may be ready for the transition or that you would find the job as rewarding both financially or from a job satisfactory point of view.

Make no mistake this is not an easy transition, the courses are designed to top up your existing knowledge to a satisfactory level to satisfy industry expectations. I often said to course candidates this is not like a driving school offering a one week *crash* course for beginners with a test on the Friday (excuse the pun) but is an extension of your existing experience and knowledge and the expectations of industry fine tuned through training and the competency assessment on the Friday.

It is expected that you will have done sufficient home study to refresh your knowledge and there is plenty of advice on what subject matter is covered and what knowledge level you are expected to achieve.

You may have only worked in one or two industries your whole life dealing with a limited number of processes, a pipe welder may never have picked up a MIG/MAG or flux-core welding torch or a structural welder may never have manipulated a TIG torch. Welders often never pick up a drawing and may be unfamiliar with the array of symbols displayed etc. The CSWIP Welding Inspection course and exam bridges the gaps so that, outside your individual industrial experience you do not feel like a fish out of water but you gain the industry specified skills and knowledge.

Being a welder turned inspector is a bit like the poacher turned game keeper, you know all the “dare I say it” short cuts.

So what is a good weld? Well this all depends on the applicable standard or acceptance level. It is comparable to pulling a touring caravan with a Rolls Royce, yes it has the power, looks and stability but is it really necessary to go to this level? Horses for courses is what my old lecturer used to preach, above or over specification costs time and time is money.

The weld must be fit for purpose and meet the acceptance criteria to be acceptable. This may seem unnerving to you when you see a weld that in your opinion looks poor or is not of the same standard as you are used to producing. Welds in nuclear power plants need to be of the highest standards whereas the local fabrication shop manufacturing gates etc... may be more forgiving of imperfections and appearance

The welding industry is a very diverse business with products ranging from the basic fabrications in mild steel to very complex products manufactured from exotic materials.

To be a Welding Inspector you need to be capable of reviewing and understanding the standards and acceptance criteria prior to carrying out visual inspections of completed welds. You will need to know exactly what is stated in the code and how to find the relevant applicable sections of the code quickly. You also need to know about welding processes, terminology, and symbols and how different materials react during the welding process. You will need to learn about non-destructive testing and understanding visual clues that suggest a weld is acceptable or not, i.e. spatter is not classed as a serious defect and is usually removed by the use of a scraper etc. However to the trained eye this is a sign that excessive welding current has been used which may have a detrimental effect on the heat input resulting in possible issues with the materials low temperature service capabilities.

In addition, you the welding inspector need to know about weld quality, type of joints, welding codes, and testing methods etc..., you also need to be able to communicate information to the relevant section or department in a clear and accurate manner that leaves out the vague language and sticks to the basic facts. When dealing with codes or standards, opinion engineering plays no part in the acceptance or rejection but decisions should be based on the factual information provided and assessed in accordance with the code requirements.

Let us concentrate on the route for you to obtain a certificate in welding inspection

What are the steps to becoming a CSWIP Welding Inspector?

Requirements for the Certification of Visual Welding Inspectors, Welding Inspectors and Senior Welding Inspectors (fusion welding)

You may apply for one of the 3 following certification categories:

- 3.0 Visual Welding Inspector
- 3.1 Welding Inspector
- 3.2 Senior Welding Inspector

CSWIP 3.0 Visual Welding Inspector:

Candidates are expected to have an engineering background and to have Successfully completed an approved course of training on visual inspection of Welds, Mature candidates who satisfy certain criteria may also be accepted.

CSWIP 3.1 Welding Inspector:

Welding Inspector for a minimum of 3 years.

or

Certificated CSWIP 3.0 Visual Welding Inspector for a minimum of 2 years.

or

Welding Instructor/Welding Foreman/Supervisor for a minimum of 5 years.

Candidates will need to demonstrate their knowledge of:

- Codes and Standards.
- Terminology: Welds, joints, leg length, etc.
- Material Inspection points: thickness, type: grade, etc.
- Heat treatment condition
- Distortion control.
- Welding processes: Basic features of manual and mechanised flux shielded and gas shielded arc processes.
- The identification of weld defects due to misuse of the processes.
- Consumables: The identification of consumables to British, European, ISO and American standards.
- Coating types and fluxes. Shielding gas compositions.
- Electrode and filler wire compositions, storage and drying of electrodes and fluxes.
- Visual examination, checking preparation and fit-up before welding,
- Identification of pre-heat requirements
- Application and control
- Dimensions and shape of finished weld.
- Defects. Code requirements.
- Safety
- Health and safety requirements and practices.

CSWIP 3.2 Senior Welding Inspector: (3.2.1 without Radiographic Interpretation 3.2.2 with Radiographic Interpretation)

Certificated CSWIP 3.1 Welding Inspector for a minimum of 2 years or 5 years' authenticated experience

Candidates must hold a current CSWIP 3.1 Welding Inspection certificate

In addition to the above knowledge of requirements:

Candidates also need to demonstrate their knowledge of the following:

Welding is a noble profession often under rated but the skill and dexterity required day in and day out to produce good quality welds is a credit to the industry and the constant advances in technology which require a greater effort and skill from the welder .

Think of a typical day in the life of Joe Public and see how many times they touch, see, sit in or on objects that have been welded in one form or another.

Rest assured that the majority of welds carried out today are being done by professionals and being inspected by professionals.

If you do decide to advance your career from welder to inspector/supervisor or meet the education and experience requirement to become an International Welding Specialist, Technologist or Engineer then TWI can assist you in your journey.

More information on CSWIP Welding Inspection http://www.cswip.com/categories/awelding_inspection.jsp and Supervisor link to http://www.cswip.com/categories/cwelding_supervisors.jsp

For worldwide availability of all other training courses including International Welding Specialist, Technologist or Engineer please visit www.twitraining.com