

JOINING INNOVATION AND EXPERTISE Plastic Welder Training and Certification

TWI's purpose-built Plastic Welder Training Centre, Middlesbrough, UK

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All TWI's plastic welder training courses involve hands-on, practical workshops

Introduction to Plastic Welder Training and Certification

TWI is the world's largest provider of welding technology and inspection related training, for individuals and companies alike. Every year, around 20,000 people benefit from TWI's comprehensive range of industrial training programmes. Whether you are a company looking to train personnel or an individual wishing to improve your skill set, we can help.

TWI has a team of plastic welding experts, who have delivered courses for over 20 years both in-house at TWI's bespoke, purpose-built plastic welder training facility in Middlesbrough, as well as on-site at customer's premises around the world. We provide courses in pipe welding, fabrication, lining membrane welding, plastic pipe weld inspection and courses for landfill construction quality assurance (CQA) engineers.

In addition, we can provide specialist courses, including a general introduction to plastics welding, adhesive bonding of plastics and ultrasonic welding. Our training leads to internationally-recognised qualifications that deliver real benefits to industry through the acquisition of new competencies. Training with us can improve your skills and career progression, and the certification provides verification of your competence to a recognised standard.

TWI Ltd

TWI is a world leading research and technology organisation. Based in the UK, North America, South East Asia, China, Australia, Central Asia, India and the Middle East, some 800 staff provide technical support in joining and technologies such as material science, structural integrity, NDT, surfacing, electronic packaging and cutting.

Services include generic research, contract R&D, technical information, consultancy, standards drafting, training and qualification.

TWI offers a single, impartial source of service for joining engineering materials. TWI is internationally renowned for its multidisciplinary teams that implement established or advanced joining technology solving problems at any stage – from initial design, materials selection, production and quality assurance, through service performance and repair.

Visual plastic welding inspection

Inspection Courses Visual Plastic Welding Inspector: CSWIP 3.0P Pipes

Background

TWI is offering a new three-day visual plastic pipe welding inspector training and certification course designed specifically for anyone wishing to carry out inspections of plastic pipe systems. Following the course the attendee will be able to understand, identify and report on the visual inspection of welded plastic pipes. The course also provides the attendee with an understanding of the thermoplastic pipe materials and the welding techniques used to join them.

Course content

- Practical demonstrations with hands-on tuition involving butt fusion, electrofusion and socket fusion welding of polyethylene and polypropylene pipe
- Welding imperfections
- Visual inspection
- Materials quality assurance (QA)
- Duties and responsibilities of a visual plastic welding inspector
- Terms and definitions
- Health and safety

Benefits

- Confidence in contractors and installation teams
- Improvement in systems
- Reduction in downtime due to failure and re-working
- Decline in maintenance costs
- Enhancement in working practices
- Decrease in insurance costs
- Production of inspection reports
- CSWIP certification is recognised worldwide

What will I leave with?

- A fundamental understanding of the plastic welding techniques and the procedures used for the welding of thermoplastic pipes
- An appreciation of the factors that influence the quality of the welding techniques used for plastic pipes
- Hands-on experience in the current welding techniques for plastic pipes
- A capability to report on the inspection of welds and mechanical tests
- An ability to demonstrate best practice
- A competency in confirming whether incoming materials meet the stipulated requirements and recognising the effects that departure from specification has on weld quality
- CSWIP certification in visual plastic welding inspection

Suitable for

Individuals who work in the plastics industry wishing to undertake visual inspections of plastic pipe systems.

Minimum experience requirements

Although there is no specific experience requirement it is recommended that candidates possess a minimum of six months plastic welding related engineering experience and two years industrial experience.

Venue

All training courses and examinations can be carried out at either TWI's Plastic Welding Training Centre in Middlesbrough or at customers' premises worldwide.

TWI's Tony Kraus training attendees in plastic welding inspection

Plastic Welding Inspector: CSWIP 3.1P Pipes

Background

Currently in the United Kingdom alone, there are in excess of 200,000 kilometres of new plastic pipelines installed for utility services. Therefore, TWI is offering a new two-day transition course, suitable for those who currently work as metal inspectors, and who wish to be able to understand, identify and report on the inspection of welded plastic pipes. The course also provides candidates with an understanding of the thermoplastic materials used in piping systems and the welding techniques used to join them.

Course content

- Plastic pipe welding techniques and equipment
- Welding imperfections
- Visual inspection and procedures
- Material quality assurance (QA)
- Duties and responsibilities of a plastic welding inspector
- Terms and definitions
- Health and safety

Benefits

- Confidence in contractors and installation teams
- Improvement in systems
- Reduction in downtime due to failure and re-working
- Decline in maintenance costs
- Enhancement in working practices
- Decrease in insurance costs
- Production of inspection reports
- CSWIP certification is recognised worldwide

What will I leave with?

- A fundamental understanding of the plastic welding techniques and the procedures used for welding thermoplastic pipes
- An appreciation of the factors that influence the quality of welding techniques in plastics
- An ability to interpret drawing instructions and symbols, to ensure that specifications are met
- A capability to undertake reports on inspection of welds and mechanical tests
- An confidence in assessing and reporting on welds to provided acceptance levels
- A competency in confirming that incoming materials meet stipulated requirements and recognise the effects on weld quality of departure from specification
- CSWIP certification in visual plastic welding inspection

Suitable for

Inspectors that currently hold the CSWIP Welding Inspector (fusion) – Level 2 Certification (3.1).

Minimum experience requirements

Certified Welding Inspector (fusion welding).

Venue

All training courses and examinations can be carried out at either TWI's Plastic Welding Training Centre in Middlesbrough or at customers' premises worldwide. TWI's Andy Knight delivering a butt fusion welding course at customer's premises



IFE EXTENDING TECHNOLOGY

Pipe Welding Courses Butt Fusion, Electrofusion and Socket Fusion Welding

Course content

- An introduction to the common thermoplastics used for making pipes
- Key processing techniques
- Welding equipment
- Avoidance of joint defects
- Health and safety
- Welding parameters
- Joint preparation
- Process control
- Inspection and testing
- Practical sessions involving butt fusion, electrofusion and/or socket fusion welding of PE and/or PP pipes

Benefits

- Courses tailored to client's needs
- Demonstration of quality to recognised European Standards
- Motivates workforce and enhances competitive tendering for contracts
- CSWIP certification is recognised worldwide
- Attendees trained in current best practice
- A confidence in competent and qualified contractors
- Reduced risk of failures, minimising downtime
- Lower maintenance costs

Suitable for

People wishing to learn new skills, maintenance staff (installation and repair), welding engineers unfamiliar with these processes, engineering apprentices, or experienced plastic pipe welders requiring additional knowledge and/or certification.

Venue

All training courses and examinations can be carried out at either TWI's Plastic Welding Training Centre in Middlesbrough or at customers' premises worldwide.

Duration

Our training and/or certification courses are tailored to the needs of the client, but are typically two days, dependent upon the detail of course required and previous experience of the candidates. The course duration will be discussed prior to a quotation being provided.

Certification

Entry level

Entry level certification is aimed for those entering the industry. Candidates receive practical based training, so that they gain an understanding of the welding process and equipment, before undertaking a practical assessment and multiple-choice examination.

Standard level

TWI offers certification to EN 13067 (plastic welding personnel qualification testing of welders, thermoplastic welded assemblies) for candidates wishing to gain a higher level of qualification. Suitable for experienced welders and supervisors, candidates are required to undertake a practical and written multiple-choice exam in their chosen category/categories. More information is available at www.cswip.com.

Categories of certification

Butt fusion

2.4 - PP pipe (Ø≤315mm) 2.5 - PP pipe (Ø>315mm) 3.4 - PE pipe (Ø≤315mm) 3.5 - PE pipe (Ø>315mm) 4.3 - PVDF pipe (all Ø)

Electrofusion

2.7 - PP pipe (all Ø) 3.6 - PE pipe (Ø≤315mm) 3.7 - PE pipe (Ø>315mm) 3.8 - PE pipe saddle joints

Socket fusion

2.6 - PP pipe (all Ø) 3.9 - PE pipe (all Ø) 4.4 - PVDF pipe (all Ø) TWI's Andy Knight guiding attendees in best practice for hot gas welding

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Fabrication Courses Hot Gas Welding and Extrusion Welding

Course content

- An introduction to the thermoplastic materials used in fabrication
- Common processing techniques
- Weld symbols
- Joint preparation (including hand tools)
- Defects and how to avoid them
- Process control
- Inspection and testing
- Health and safety
- An introduction to the CSWIP certification scheme.

Hot gas appreciation (two days)

This training course is suitable for those with little or no experience of hot gas welding who wish to understand the basics of the process, and safe operation of the equipment. This course is predominantly practical based.

Hot gas welding advanced (three days)

This training and/or certification course is suitable for those wishing to carry out hot gas welding on a regular basis, as it includes both practical and theoretical segments.

Extrusion welding (two days)

This training and/or certification course is suitable for individuals who wish to develop their skills in the process of extrusion welding. The course includes both practical and theoretical segments. The practical sessions involve extrusion welding of PE and/or PP sheet.

Injection welding (one day)

This training course is for any individuals that are currently using, or are considering using, the Injectiweld system and wish to learn how to operate it effectively and efficiently. The course is predominantly practical based.

Tailored training courses

TWI offers welder training and/or certification courses tailored to your company needs, i.e. using specific welding techniques, materials or equipment, or relating to a particular type of fabrication or manufacturing process. Please get in touch to discuss your requirements.

Benefits

- Courses tailored to client's needs
- Demonstration of quality to recognised European Standards
- Motivates workforce and enhances competitive tendering for contracts
- CSWIP certification is recognised worldwide
- Attendees trained in current best practice
- A confidence in competent and qualified contractors
- Reduced risk of failures, minimising downtime
- Lower maintenance costs

Venue

All training courses and examinations can be carried out at either TWI's Plastic Welding Training Centre in Middlesbrough or at customers' premises worldwide.

Certification

Standard level

TWI offers CSWIP certification in hot gas and extrusion welding techniques, to EN 13067 (plastic welding personnel qualification testing of welders, thermoplastic welded assemblies) for those with a minimum of 2 years practical experience. Candidates are required to undertake a practical and a multiple-choice exam in their chosen category/categories. More information is available at www.cswip.com.

Categories of certification

Hot gas, round nozzle welding

1.1 – PVC

Hot gas, speed nozzle welding

- 1.2 PVC sheet
- 2.1 PP sheet
- 3.1 PE sheet
- 4.1 PVDF sheet
- 5.1 ECTFE, FEP or PFA sheet

Continuous extrusion welding

2.2 - PP sheet 3.2 - PE sheet

On-site heated wedge welding training

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Lining Membrane Welding Courses Heated Wedge, Extrusion and Manual Hot Air Welding

Course content

- An introduction to the common thermoplastics used for lining membranes
- Key processing techniques
- Joint preparation
- Defects and how to avoid them
- Process control
- Inspection and testing
- Health and safety
- Practical lining membrane welding (including gas membranes)
- Good and bad site working practices
- The BGA/CSWIP certification scheme.

Benefits

- Confidence in competent and qualified staff
- Reduced risk of failures
- Demonstration of quality to European Standards
- Reduced re-work lowers installation costs
- Motivated workforce
- Enhances competitive tendering for contracts
- CSWIP is recognised worldwide

Suitable for

All personnel working with lining membranes for any containment solution with a need to understand the materials, equipment and welding processes to assure the quality of an installation.

Venue

All training courses and examinations can be carried out at either TWI's Plastic Welding Training Centre in Middlesbrough or at customers' premises worldwide.

Duration

Our training and/or certification courses are tailored to the needs of the client, but are typically between one and three days.

Certification

TWI offers examinations leading to CSWIP certification in accordance with EN 13067 (plastic welding personnel qualification testing of welders, thermoplastic welded assemblies), which is required by the UK Environment Agency for welding on landfill sites.

Entry level

Entry level certification is for those entering the industry. Candidates will receive basic training, so that they develop an understanding of the welding processes and equipment, before undertaking a practical assessment.

Standard level

Standard level certification is for those with relevant experience. Suitable for experienced welders and supervisors, candidates are required to undertake a practical and written multiple-choice exam in their chosen category/categories.. More information is available at www.cswip.com.

Categories of certification

Hot gas (manual)

9.1 - PP membrane (0.7 - 3mm) 7.6 - PE membrane (0.3 - 1mm)

Hot gas (machine)

7.2 - PE membrane (1 - 5mm)

Heated wedge

7.3 - PE membrane (1 - 5mm) 7.4 - PE membrane (1 - 5mm) 7.7 - PE membrane (0.3 - 1mm) 9.4 - PP membrane (0.7 - 3mm)

Extrusion (manual)

7.5 - PE membrane (1 - 5mm) 7.8 - PE membrane (0.3 - 1mm) 9.5 - PP membrane (0.7 - 3mm)

PVC roofing and vinyl flooring welder training and certification is available on request.

Landfill construction quality (CQA) engineers learning geomembrane welding

Landfill CQA Engineer Courses Welding of Geomembranes and Pipes

Background

The consequences of a landfill geomembrane failing and allowing toxic chemicals and leachate to leak into the local environment could be catastrophic. Therefore, it is imperative that they are inspected and qualityassured. To be able to do this effectively, inspectors and CQA engineers need to have a good knowledge of the processes involved in constructing a landfill geomembrane liner.

To meet this demand, TWI is offering a new course on welding of geomembranes and pipes for CQA engineers; designed specifically for Environment Agency inspectors and Construction Quality Assurance (CQA) engineers. This course provides attendees with an understanding of geomembranes and pipes, and the techniques used to join them.

Course content

- Health and safety, equipment and site practices
- BGA/CSWIP certification and Company Accreditation schemes
- Introduction to thermoplastic materials used for geomembrane
- Fundamentals and theory of welding thermoplastic geomembranes and pipes
- Testing of welds and interpreting laboratory results
- Good and bad site working practices

Venue

All training courses and examinations can be carried out at either TWI's Plastic Welding Training Centre in Middlesbrough or at customers' premises worldwide.

Course duration

One day.

Frequently Asked Questions

Can the training be carried out at my company premises with our own equipment?

Yes, the training can be carried out at your premises and with your equipment, all you need to do is request it at the time of booking the course.

What certification is mandatory in the UK and for which courses?

In the UK currently certification is mandatory for the installation of lining systems and piping to cover the methane and leachate removal from landfill sites but has been extended by the Environment Agency to cover all lining systems.

How long does it take to get our certificates once we have completed a course and who owns them?

It will typically take approximately 30 days for you to receive the certificates from TWI, and the owner is the person or company who paid for the course.

Can we do combination courses i.e. pipes and fabrication?

Yes, as most of the courses we deliver are bespoke to each sponsoring company, a course can be designed to suit your individual requirements as long as you inform us at the time of booking.

How long does the certification last for?

Certification for pipes, fabrication and the lining systems lasts for 2 years plus 2 years of prolongation, so a total of 4 years. The landfill CQA engineer course certification lasts for a total of 5 years and the plastic pipe inspection course certification lasts for 5 years with a further 5 years of prolongation, for a total of 10 years.

Will you travel overseas to deliver courses and is the certification recognised?

Yes, we run courses overseas and have currently delivered courses in 17 different countries to date with all asking for and accepting the CSWIP certification to the European standard EN 13067.

Why TWI?

TWI is a world recognised material joining and technology organisation that teaches 'best practice' when carrying out training for all welding and joining techniques.

Will I receive my certificate or will it go to the company?

All certificates for training and certification are sent from CSWIP to the company or bill payer, if the company issues you with the certificate that will be their decision.

What opportunities are there in the plastic welding industry?

As plastics is a growing market opportunities are opening. Currently there are vacancies in the aquaculture business (fish farming), piping and fabrication sectors. The housing sector has gas membranes that require welding and are becoming more common with regulation changes throughout the industry.

If you have any further questions of comments, please do not hesitate to contact us.

TWI Management System

TWI operates a Management System designed to ensure that customer requirements are met and that any work carried out is conducted in a planned and controlled manner. Customer satisfaction is a key measure of the success of TWI, which remains committed to delivering world-class solutions. To this end:

All technical activities are controlled by a management system that complies with the general requirements of the BS EN ISO 9000:2008 series of standards.

Project management, examination and training services are audited by LRQA as complying with BS EN ISO 9001:2008 and software development in accordance with TickITplus, Certification Number 0925004.

TWI is a UKAS accredited testing laboratory No. 0088. Specific details are given on the UKAS Schedule of Accreditation, available at www.ukas.org. Reports may contain information not included in the TWI schedule of accredited tests. Enquiries concerning accreditation of tests should be directed to the Quality and Safety Group.

Examination activities are assessed by PCN to BINDT requirements and by TWI Certification Ltd to CSWIP requirements.

TWI is certificated by LRQA to ISO 14001:2015, certificate number LRQA 10031305.

TWI's Occupational Health and Safety Management System is certificated to BS OHSAS 18001:2007 by LRQA, certificate number 4004571. The Management System operated by TWI includes the following features that are particularly relevant to ensuring the success of projects:

Close and frequent contact with the customer is requested of the Project Leader throughout the project. In particular, changes in personnel involved in the project or equipment availability are discussed together with any project delays or contractual changes.

Regular management reviews of projects are held throughout the life of a project and upon its completion. These cover finance, technical progress and adherence to schedule.

Project sponsors are formally contacted on project completion by senior TWI management to determine their satisfaction with the work carried out. Moreover, TWI management welcomes feedback on project progress at all times during the course of the work. Significant lapses in service are subjected to a structured management review so that inadequate procedures are identified and improved.

Connect With Us







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