



CSWIP 3.1 - CSWIP Welding Inspector

Duration

6 days course and examination

Suitable for

The CSWIP Welding Inspector course is designed for inspection engineers and supervisory staff. Those with little or no previous welding experience are advised to attend the Certificate in Visual Inspection of Welds course to prepare for this course.

Course content

This course will teach you the duties and responsibilities of a welding inspector including fusion welding processes, typical weld defects, types of steel (including carbon-manganese, low alloy and stainless steels), the hardening of steels, weldability, heat treatment, and parent metal defects.

The programme also includes visual inspection, the testing of parent metals and welds, and destructive and non-destructive test techniques.

You will also learn welder and procedure approval, codes and standards, and an outline of safe working practices. There will also be the opportunity to practice examination questions while undergoing continuous and end-of-course assessment. If you meet the CSWIP requirements for eligibility, you will be able to complete the relevant CSWIP examination on day 5 of the course. In addition, you can purchase TWI's online CSWIP Welding Inspector Pre-Learning package which prepares them for the course.

Topics

By the end of this course, you should:

- Understand factors which influence the quality of fusion welds in steels

- Recognise characteristics of commonly used welding processes in relation to quality control
- Interpret drawing instructions and symbols to ensure that specifications are met
- Set up and report on inspection of welds, macrosections, and other mechanical tests
- Assess and report on welds to acceptance levels
- Confirm that incoming material meets stipulated requirements and recognise the effects on weld quality of departure from specification
- Be in a position to pass the Welding Inspector examinations.

Certification/Awarding Body:

CSWIP

Additional Information:

CSWIP Welding Inspector examination - All candidates must attend a CSWIP approved course of training prior to examination. Enrolment on this course does not constitute reservation of an examination. All courses may be followed by a CSWIP Welding Inspector examination for candidates with appropriate experience - as specified in CSWIP document WI-6-92

In addition, candidates can purchase TWI's online CSWIP Welding Inspector Pre-Learning package which prepares them for the course

All CSWIP documents are available at www.cswip.com

Entry Requirements

- Welding Inspector for a minimum of 3 years with experience related to the duties and responsibilities listed in Clause 1.2.2 of CSWIP document WI-6-92, under qualified supervision, independently verified OR

- Certified Visual Welding Inspector for a minimum of 2 years with job responsibilities in the areas listed in 1.2.1 and 1.2.2 of CSWIP document WI-6-92 OR
- Welding Instructor or Welding Foreman/Supervisor for a minimum of one year

In addition to all the above, candidates must comply with Clause 1.3.4 of document WI-6-92 available at www.cswip.com

All experience will need to be verified by either your previous/present employer/company.

CSWIP Welding Inspector PLUS Theory Pre-course eLearning

This online pre-course learning will provide you with a thorough eLearning experience and an essential foundation of knowledge before attending the full, classroom based CSWIP Welding Inspection course. It will also allow you to identify areas of weakness or uncertainty that can be discussed with the lecturer during the full course delivery.

The pre-courses are also very effective as supplementary learning resources and visual revision tools to support the learning materials and course content from their full, classroom-based CSWIP Welding Inspection course. These packages provide comprehensive blended learning experiences that lend themselves to all types of learning preferences.

What will I learn?

The package consists of eleven modules:

- **Module 1:** Duties of a Welding Inspector - The requirements of a welding inspector before, during, and after welding
- **Module 2:** Codes and Standards - Outlines what codes and standards are, and how the control of quality in a fabrication and welding situation is achieved
- **Module 3:** Welding Terminology and Definitions - Language used, and considerations that should be taken into account, in joint design and weld preparation
- **Module 4:** Welding Defects - Types of welding defects that can occur and how to identify them
- **Module 5:** Welding Symbols - The different welding symbols that are used to symbolically represent weld joints
- **Module 6:** Electricity in Welding - The basic principles of how electricity works and how current, voltage, resistance and polarity all affect the welding process

- **Module 7:** Introduction to Destructive Testing - Destructive tests available to establish the mechanical properties and soundness of welded joints
- **Module 8:** Non-Destructive Testing - Basic insight into the main NDT methods that welding inspectors will encounter
- **Module 9:** Weldability of Steels - Definition of the term weldability, characteristics of steel alloys and their cracking mechanisms
- **Module 10:** Heat Treatment - The different types of heat treatment that are used in material manufacture and welding operations
- **Module 11:** Welding Equations - Describes a range of equations that a welding inspector may encounter, and how to perform them

Specifications

So that your computer can run the Welding Inspector Pre-Learning package you will need the following basic systems:

Operating System

Windows Vista 7, 8 or 10

Browser

Internet Explorer 11 or higher (PC)

Plugin

Silverlight Plug-in

You can get the Silverlight Plug-in using the following link:

www.microsoft.com/getsilverlight/

Internet connection

2 MBIT/s

