



American Welding Society®

ISO Standards Endorsement
Program Description

Scope of Endorsement

AWS QC1, *Specification for AWS Certification of Welding Inspectors*, provides for endorsements that may be added to the CWI and SCWI certifications. Endorsements are indication of an additional knowledge, skill or ability documented in writing and added to an individual's certification credential(s).

Who Should Take the Endorsement?

Any candidate for initial CWI certification may choose this examination to satisfy the requirements to successfully complete a Part C open codebook examination.

Any current CWI or SCWI may take this endorsement to supplement their current credential(s) and understanding in EN and ISO standards.

What Are the Requirements Of Taking The Exam?

Initial candidates for CWI certification shall meet all the requirements of AWS QC1.

Candidates who hold an AWS CWI and SCWI wishing to take this examination to add as an endorsement to their AWS credentials shall be current in their AWS certification status.

Training Requirements

This endorsement has no mandatory training requirements. Candidates are encouraged to attend an AWS seminar or to self-study to become familiar with the use of ISO and EN standards.

Examination Requirements

Candidates seeking the ISO Standards endorsement shall pass an open-book examination. To study for the endorsement, candidates are encouraged to become thoroughly familiar with the reference standards listed under Informative References for self-study.

Electronic versions of the reference books may not be available at the computer-based test center during the exam. Candidates are strongly encouraged to bring their own printed, bound copies of the reference standards listed under References Required for Examination.

Successful candidates must correctly answer 72% of the questions to receive this endorsement. Re-examinations for this endorsement shall be in accordance with of AWS QC1.

Test Specifications

The Test Specifications are a breakdown of the exam content areas covered by the endorsement along with the proportion of the exam devoted to each content area. This endorsement consists of a minimum of 50 questions.

Domain	Subdomain	Percent of Questions on Test
Domain 01 Qualification [ISO 15614-1 and ISO 9606-1]	General Requirements	30%
	WPS Qualification	
	Performance Qualification of Welders	
Domain 02 Fabrication [EN 15085-3 and ISO 5817]	General Fabrication Requirements for Railway Applications	30%
	Design of Welded Connections in Railway Applications	
	Welding Requirements for Railway Applications	
Domain 03 Inspection [EN 15085-5, ISO 5817]	General Requirements	30%
	Visual Testing	
	NDT	
Domain 04 Reports and Records [ISO 15614-1, ISO 9606-1, ISO 5817]	General Reports and Records	5%
Domain 05 Materials and Design [EN 15085-3]	Parent Materials and Consumables in Railway Applications	5%
	Weld Joint Design in Railway Applications	
	Total	100%

Informative References for Self-Study

The following is a list of informative reference standards to assist those wishing to learn and understand how ISO standards are used and to prepare for this endorsement exam. Candidates should be thoroughly familiar with ISO terminology, classifications, and symbols.

1. ISO 2553 *Welding and allied processes – Symbolic representation on drawings welded joints*
2. ISO 6947 *Welding and allied processes – Welding positions*
3. ISO 4063 *Welding and allied processes – Nomenclature of processes and reference numbers*
4. ISO 6520-1 *Classification of imperfections in fusion welding, Part 1: Fusion welding*
5. ISO 15609-1 *Specification and qualification of welding procedures for metallic metals - Welding procedure specification - Part 1: Arc Welding*
6. ISO 17637 *Non-destructive testing of welds - Visual testing of fusion-welded joints*
7. ISO 9712 *Non-destructive testing - Qualification and certification of personnel*
8. EN 15085: *Railway applications – Welding of railway vehicles and components, Parts 1 through 5*
9. ISO 9606-1 *Qualification testing of welders – Fusion welding – Part 1: Steels*
10. ISO 15614-1 *Specification and qualification of welding procedures for metallic metals - Welding procedure test - Part 1*
11. ISO 5817 *Welding – Fusion welded joints in steel, nickel, titanium and their alloys (beam welding excluded) – Quality levels for imperfections*
12. ISO 5173 *Destructive tests on welds in metallic materials – Bend tests*

References Required for Examination

Questions appearing on this endorsement exam are drawn from the following list of reference standards which will be provided in PDF at testing:

1. EN 15085:2007 *Railway applications – Welding of railway vehicles and components, Parts 1 through 5 (provided in combined PDF)*
2. ISO 9606-1:2012 *Qualification testing of welders – Fusion welding – Part 1: Steels*
3. ISO 15614-1:2017 *Specification and qualification of welding procedures for metallic metals Welding procedure test - Part 1*
4. ISO 5817:2014 *Welding – Fusion welded joints in steel, nickel, titanium and their alloys (beam welding excluded) – Quality levels for imperfections*

What Question Types Appear on The Exam?

The exam will consist primarily of multiple-choice items; some single correct answer items and alternative item types may appear as well.

How Is the Exam Delivered?

The endorsement exam will be delivered at an AWS approved computer-based test (CBT) test center.

How Much Time Does A Candidate Have to Complete The CBT exam?

The maximum time a candidate can have to complete the test is 120 minutes.

How Will the Endorsement Be Expressed?

Existing CWIs and SCWIs who meet the endorsement examination requirements will be awarded the endorsement in an approved manner.

Eligibility for Initial Certification Or 9-Year Recertification

For candidates seeking initial certification at the CWI level, this examination satisfies the requirements of clause 6.2.1 of AWS B5.1:2013-AMD1. For existing CWIs and SCWIs, successful completion of this endorsement satisfies the re-examination requirements of clauses 16.2.1 or 16.3.1, as applicable, of AWS QC1:2016-AMD1.

For existing CWI and SCWIs, successful completion of this endorsement satisfies the re-examination requirements for 9-year recertification, provided that the endorsement is taken during the immediate 9-year period.

Renewal Requirements for This Endorsement

This endorsement does not have any requirements for renewal. It will automatically be renewed at each CWI renewal or recertification. The endorsement will continue to be listed on the CWI secondary wallet card at the discretion of the individual CWI.

Professional Development Hours

N/A