

# Welder Qualification and Certification

The purpose of this presentation is to introduce you to the various aspects of welder qualification and certification. This is not intended to cover all of the requirements for certification but only introduce you to the basic concepts.

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# Topics to Be Covered

- Questions?
- What is a “Certified Welder”
- When is Welder Testing Required?
- Who can perform Testing and Certification?
- Is Welder Testing/Certification all that is required?
- Questions/Additional Info

# What is a “CERTIFIED WELDER”



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# Certified- What does it Mean

This is from the American Welding Societies Document “Standard Welding Terms and Definition”.

**Welder certification**-Written verification that a welder has produced welds meeting a prescribed standard of welder performance.

**Welder performance qualification**-The demonstration of a welders or Welding Operators to produce welds meeting prescribed standards

# Certified- What does it Mean

## Continued

**Welder certification**-Written verification that a welder has produced welds meeting a prescribed standard of welder performance.

The words to pay attention to in the above definition are “written verification” and “prescribed standard”.

A welder who is considered to be or previously had been “certified” would have some type of written documentation. This documentation would support having met some “prescribed standard”.

# Certified- What does it Mean

## Continued

**Welder performance qualification**-The demonstration of a welders or Welding Operators to produce welds meeting prescribed standards

The words to pay attention to in the above definition are “demonstration” and “prescribed standard”.

A welder who has performed “Welder Performance Qualification” is not “Certified” until the written documentation is provided.

***NOTE: The term “certified welder” or similar term does not appear in AWS D1.1***



# Certified- What does it Mean

## Continued

The term “Certified Welder” is one of the most abused terms in the industry. It can refer to an individual who can spot weld two pieces of sheet metal together or someone who welds on nuclear power plant components. The requirement for a welder to be qualified by testing and “certified” can be driven by government regulations, purchasing documents, customer specifications, internal quality requirements, design drawings etc...

# Certified- What does it NOT Mean

**THIS IS VERY IMPORTANT.**

A welder being certified is **not** any type of assurance that a specific weld will meet a certain level of quality. Welder qualification testing and certification are not the only requirements to assure that a given weld meets a level of quality.

There are no codes or specifications that only require “Welder Certification” for weld quality.

# “AWS Certified vs. Certified in Accordance With”

- The term “AWS Certified Welder” is often used in classified ads, resumes, and sometimes project specifications.
- This implies a welder who has been certified in accordance with the AWS Certified Welder Program. This program is NOT required by any specific codes or standards but is a standardized program developed by the American Welding Society. It may be referenced in project specifications and some jurisdictions.
- If this is referred to in project specifications you should verify the intent is for the welders to be qualified in accordance with AWS QC-7 Standards. A welder who has been tested in accordance with a specific AWS Code or Standard may NOT be an “AWS Certified Welder” but is a welder who “Has been certified in accordance with AWS XXXX”.

# Thoughts for employers

**Welding is a developed skill that is not for everyone.**

If you are looking to hire a welder, please take the time and effort to see what they can do! Don't rely on a piece of paper only. Use it as a screening tool or prerequisite but know enough about what you do to make sure they can do what you need. The ones that are good at it, should be happy to weld a little for you. Give some validity to those with prior records of qualification but don't assume they are capable of welding your product. Do not assume just because a person has passed a test that they are performing quality welds. There is nothing that releases a company from responsibility for the quality of their work.

# Thoughts for the Welder

**If your the welder, don't expect to be handed a job because you passed a test some time in the past.**

**Its better to show up at an interview with a hood, gloves, skills and the right attitude than with a stack of papers. As of this writing, I have been a welder for around 38 years. At no time have I obtained a good job as a welder without taking a test. Sure, it may be worthwhile to get your own certification under your belt but understand that the skill is always more valuable than the paper saying you have the skill.**

# Thoughts for the Welder

**If a company doesn't want to see my welding skills before hiring me, they don't need to see em at all!**

# Thoughts for the Teacher

- **The Skill of a welding student encompasses more than what can be done on a single test...their ability to demonstrate that skill is more valuable than the paper.**
- **What your students will have to do when they go into the workforce will be varied depending on where they go and what they do, make sure they don't think a "certification" is going to make that easy. There are plenty of highly skilled welders with NO CERTIFICATIONS and plenty of certified welders with little skill.**

# When is Welder Testing Required

- When Required by Laws
- Required by Companies
- Required by Schools



# When Required by Laws

## (by reference)

- Building Codes
  - [IBC>AISC360>AWSD1.1](#)
- Bridges, Transportation
  - [States have individual requirements> AWS D1.1/D1.5](#)
- Transmission Pipelines
  - [49 CFR Subpart E 192.227](#)
- Boiler and Pressure Vessels
  - [Tennessee Boiler Law](#)

# Required by Companies

- Candidate Pre-screening
- Employee Advancement
- Internal Company requirements for their product
- Comply with the requirements of an owner of a facility
- Comply with the requirements of an engineered product
- Comply with law, industry code/standards.

# Required by Schools

- Student Credential (IRC) for funding, Regional Industry or Other
  - AWS Certified Welder-Preferred Perkins
  - SENSE ENTRY LEVEL-Valued
  - SENSE ADVANCED-Preferred
  - Lincoln NC3-Valued

# Required by Schools

- Teacher Credentials
  - CTE Requirements Vary
    - AWS Certification (Welding or OTHER?)

# Required by Schools

- Industry Recognized Certification for DOE requirements/grants (Perkins Lists SENSE, AWS Certified Welder, and NCCER Core for Welding Programs)

# Required by Schools

- **Student Experience of Testing**
  - Most Valuable IMO
  - May help (Resume Item)
  - May hurt (I'm Certified!!!!)

# Who Can Perform Testing

- Responsibilities for qualification and certification almost always fall with the company/employer.
  - Never seen an exception for responsibility of qualification.
  - A company can often subcontract all or some of the services related to qualification and certification but responsibility does not change.

# Who Can Perform Testing

- Each Code Varies for Qualification requirements for inspectors for qualification tests. Look at the applicable code/standard!



# Who Can Perform Testing

- In most cases a CWI is **NOT REQUIRED** except for AWS Certified Welder.

# Who Can Perform Testing

- AWS D1.1 Says
  - “Each manufacturer or Contractor shall be responsible for the qualification of welders, welding operators and tack welders, whether the qualification is conducted by the manufacturer, Contractor, or an independent testing agency.”

# Who Can Perform Testing

## • D1.1 Says

- (1) Current or previous certification as an AWS Certified Welding Inspector (CWI) in conformance with the provisions of AWS QC1, *Standard for AWS Certification of Welding Inspectors*, or
- (2) Current or previous qualification by the Canadian Welding Bureau (CWB) in conformance with the requirements of the Canadian Standard Association (CSA) Standard W178.2, *Certification of Welding Inspectors*, or
- (3) An individual who, by training or experience, or both, in metals fabrication, inspection and testing, is competent to perform inspection of the work.

# Who Can Perform Testing

- AWS Accredited Test Facilities performing testing in accordance with AWS QC4 and AWS QC7 must utilize a CWI as the test supervisor. WPQ Endorsement to be required soon. (GTC Written Program allows for offsite testing if you need AWS Certified Welder testing for your students)

# Who Can Perform Testing

- ASME Sec. IX had no requirements for the supervision of welder qualification tests until the 2019 release other than requiring to be performed by the manufacturer or contractor.
- Contractors performing work that referenced ASME Sec. IX would almost always have a written quality system.

# Who Can Perform Testing

- Companies may have different requirements based upon their quality system.
- It may be a good idea for companies to modify their practices for what best suits their business and still complies with any documented requirements. (Often times they exceed what the codes say)

# Who Can Perform Testing

- If you are performing the qualification testing of welders, make sure you understand the requirements of the code and the company.
- Not every CWI or SCWI understands what they are doing when it comes to welder performance qualification testing.

# Who Can Perform Testing

- AWS Accredited Test facilities have been audited and approved by the American Welding Society and have a written quality program to help assure requirements are met. They are operated by humans.



- **Is welder Testing all that is required**

- For products that require quality welds, welder qualification and certification is only a small part.

- **Is welder Testing all that is required**

- The requirements in a code such as AWS D1.1 for qualification of welders is only a small part of a large document. [D1.1 TOC](#)

# Is welder Testing all that is required

Design and Engineering?

Material Control?

Process Control

(Welding, Inspection, Fabrication)

# Additional Info

- [Welder Testing Mindmap](#)
- [AWS Certified Welder Info](#)
- [AWS Forum-Original](#)
- [AWS Forum-New](#)
- [AWS Forms for use.](#)
- [AWS ATF Quality Manual Samples](#)

# Questions and Answers

- **You may ask or you may answer!**
- **Feel Free to contact me if I can help you.**