

"Welder Certification"

The purpose of this presentation is to introduce you to the various aspects of welder 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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Individual Company Requirements

- Each individual company or organization that is dedicated to producing quality welds in a consistent manner should perform some type of welder performance qualification testing. However, a Qualified/Certified welder is not the only part of a quality system dedicated to controlling weld quality. A quality system that assures the proper materials, process variables, trained personnel, and product inspection is essential for assuring consistent weld quality.

Topics to Be Covered

- **Certified-What Does it Mean**
- Specifications, Codes and Standards
- Welder Performance Qualification Tests
- 3rd Party "Certification"
- AWS Certified
- YOUR quality program

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 2006 edition

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 “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 certification alone is not the only requirement 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.

Specification, Codes, and Standards

Various types of documents refer to the requirements for the Qualification Testing of welders. This qualification testing is usually required to be performed prior to welding in accordance with those specifications

- The requirements for qualification testing of a welder and the subsequent documentation may not be called out in an individual document but may be inferred by reference. An example would be a statement in a project specification that says “All welding shall be in accordance with AWS D1.1 Structural Welding Code 2006 or Later”. The above mentioned code requires welders to be tested and properly documented.

Specification, Codes, and Standards (cont)

- Specifications are often written for a product by a purchaser or are internal to a company. Often time these specifications will refer to existing codes and standards or may add to the requirements of the referenced documents.
- Codes and Standards are published by numerous organizations. These include but are not limited to
 - ASME American Society of Mechanical Engineers
 - AWS American Welding Society
 - AWWA American Water Works Association
 - API American Petroleum Institute
 - OSHA Occupation Safety and Health Administration

Specification, Codes, and Standards (cont)

- Each of the previously mentioned organizations may have numerous codes or standards related to welding. Some of the organizations and codes commonly referred to in the context of welder qualification are below.
 - ASME has codes and standards related to various products. The most common is the ASME Boiler and Pressure Vessel Code (BPVC). The ASME BPVC Sec IX covers welder performance qualification
 - The American Welding Society has welding specifications for various industries and product types. Many of these documents are referred to by other industry codes or standards. The code often referred to in many industries is AWS D1.1 “Structural Welding Code”.
 - The American Petroleum Institute has many codes related to petroleum facilities and pipelines. The often referred to specification from API is API 1104.

Welder Performance Tests

Welder Certification in the context of this presentation requires a welder to take some type of test. Each individual code or standard has individual rules for how the test is to be performed, tested, and subsequent range of qualifications.

Some of the variables that affect what a welder is qualified to do are the welding process, position welded, base material thickness, weld type (fillet or groove), filler metal, backing, purging, pipe diameter (if pipe), and others depending upon the process. The rules within each code may have ranges that are completely different from another code.

3rd Party “Certification”

- Most of the codes used by industry for structural steel, pressure vessels and piping do not require a 3rd party to perform welder performance qualification and certification. In some cases such as (ASME Sec IX) it is specifically prohibited.
- It is suggested that each individual organization perform their welder performance qualification or assure that organizations performing the testing be familiar with the organizations requirements.
- If 3rd party performance qualification testing is performed, the manufacturer or organization is still responsible for the welding performed by their organization. The organization that is performing the welding should “certify” that the welder meets the requirements for the welding being performed.

“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. 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”.

One Final Thought

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 ! Do not rely on some piece of paper to let you know what skills they have. The ones that are any count will probably be glad to take a test! Or at least run a few beads for you.

Another thought- The term “Certified Welder” or “Certified” is NOT used in reference to welders in AWS D1.1 2010 Edition.