



# Certification of companies for fusion welding of steel



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# Preface

This is the seventh edition of CSA W47.1, *Certification of companies for fusion welding of steel*. It supersedes the previous editions published in 2009, 2003, 1992, 1983, 1973, 1947 (as W47), and 1938 (as a preliminary Standard). Technological advancements have made it necessary to provide an updated version.

This Standard deals with the certification of companies for fusion welding of steel. It is not a product Standard and cannot be used to evaluate or approve products. Furthermore, it is not intended to supersede Codes and Standards that govern specific products, e.g., CSA B51, the ASME *Boiler and Pressure Vessel Code*, the Rules of the American Bureau of Shipping, or the Standards of the American Petroleum Institute.

This Standard stipulates minimum requirements that a company must meet and adhere to in order to obtain and maintain certification. Certification is granted by the Canadian Welding Bureau, the administrative body for this Standard, to companies that comply with the requirements of this Standard. Certification of a company indicates that, consistent with the requirements of the Division in which the company is certified, it has the organization, personnel, welding procedures, and equipment required to produce satisfactory welds and weldments.

Production of satisfactory welds and weldments is the responsibility of the certified company. It is the responsibility of the purchaser to ensure, through adequate inspection, that the required quality is attained. Although the Canadian Welding Bureau (CWB) makes periodic inspections of certified companies to ensure that they continue to comply with the requirements of this Standard, these inspections do not eliminate the need for a certified company's quality control methods or a purchaser's comprehensive inspection program.

This Standard was prepared by the Subcommittee on Marine Annex, under the jurisdiction of the Technical Committee on Certification of Companies for Welding of Steel and Aluminum and the Strategic Steering Committee on Construction and Infrastructure, and has been formally approved by the Technical Committee.

## Notes:

- 1) *Use of the singular does not exclude the plural (and vice versa) when the sense allows.*
- 2) *Although the intended primary application of this Standard is stated in its Scope, it is important to note that it remains the responsibility of the users of the Standard to judge its suitability for their particular purpose.*
- 3) *This Standard was developed by consensus, which is defined by CSA Policy governing standardization — Code of good practice for standardization as “substantial agreement. Consensus implies much more than a simple majority, but not necessarily unanimity”. It is consistent with this definition that a member may be included in the Technical Committee list and yet not be in full agreement with all clauses of this Standard.*
- 4) *To submit a request for interpretation of this Standard, please send the following information to [inquiries@csa.ca](mailto:inquiries@csa.ca) and include “Request for interpretation” in the subject line:*
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  - b) *provide an explanation of circumstances surrounding the actual field condition; and*
  - c) *where possible, phrase the request in such a way that a specific “yes” or “no” answer will address the issue.*

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- a) *Standard designation (number);*
  - b) *relevant clause, table, and/or figure number;*
  - c) *wording of the proposed change; and*
  - d) *rationale for the change.*

# CSA W47.1:19

## ***Certification of companies for fusion welding of steel***

### **1 Scope**

#### **1.1**

This Standard provides the requirements for the certification of companies engaged in the fusion welding of steel and the qualification of their personnel and welding procedures.

**Note:** *This Standard is not intended for applications governed by codes such as the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code and codes of the American Petroleum Institute (API).*

#### **1.2**

The requirements of this Standard are based on the principle that a certified company has full responsibility for the quality of the welded product it produces and this responsibility cannot be transferred to its employed or retained personnel, or to the administrator of this Standard.

#### **1.3**

This Standard governs the certification of companies. Certification pertains to the capability of the company with respect to welding. Certification should not be construed as approving any products or services of the certified company.

#### **1.4**

This Standard stipulates requirements for

- a) welding engineers;
- b) welding supervisors;
- c) tack welders, welders, and welding operators; and
- d) documentation.

#### **1.5**

The qualification requirements for tack welders, welders, and welding operators specified in this Standard are intended to demonstrate an individual's basic welding skills and to provide a means of verifying that individual's continuing ability in the fusion welding of steel.

#### **1.6**

Provisions for recognition of personnel qualified under other jurisdictions are included in this Standard.

#### **1.7**

For welding of stainless steel, Annex [K](#) of this Standard specifies provisions for the qualification of welding procedures and personnel.

## 1.8

This Standard does not address the safety issues associated with welding and welding practices.

**Note:** *CSA W117.2 addresses safety in welding and should be followed, in addition to any applicable workplace health and safety legislation in effect. It is the responsibility of the user of this Standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

## 1.9

In this Standard, “shall” is used to express a requirement, i.e., a provision that the user is obliged to satisfy in order to comply with the standard; “should” is used to express a recommendation or that which is advised but not required; and “may” is used to express an option or that which is permissible within the limits of the Standard.

Notes accompanying clauses do not include requirements or alternative requirements; the purpose of a note accompanying a clause is to separate from the text explanatory or informative material.

Notes to tables and figures are considered part of the table or figure and may be written as requirements.

Annexes are designated normative (mandatory) or informative (non-mandatory) to define their application.

## 1.10

The values given in SI units are the units of record for the purposes of this Standard. The values given in parentheses are for information and comparison only.

## 2 Reference publications

This Standard refers to the following publications, and where such reference is made, it shall be to the edition listed below, including all amendments published thereto.

### CSA Group

G30.18-09 (R2014)

*Billet-steel bars for concrete reinforcement*

G40.20/G40.21-13 (R2018)

*General requirements for rolled or welded structural quality steel/Structural quality steel*

S6:19

*Canadian Highway Bridge Design Code*

W48-18

*Filler metals and allied materials for metal arc welding*

W59-18

*Welded steel construction (metal arc welding)*

W117.2:19

*Safety in welding, cutting, and allied processes*