

CAN/CSA-A370-04 – Connectors for Masonry Welding Requirements

This document provides an overview of the requirements of *CAN/CSA-A370-04 – Connectors for Masonry Structures* with respect to welding. It is designed to provide guidance for individuals and organizations involved in the design of masonry connectors.

This document is only for general guidance purposes; reference to the full text of CSA A370-04 should be made. For further information, please contact the CWB at 1-800-844-6790 or info@cwbgroup.org.

Introduction

Welding is a key joining method used in the fabrication of masonry connectors. To ensure welds of the highest quality and the safety of both the users of masonries and the general public, CSA Standard A370 provides specific requirements around the fabrication masonry connectors, with awareness that the unreinforced, reinforced and prefabricated masonries are occupied by people.

Welded Fabrication

CSA A370 provides the following requirements:

4.2.2 Welding

Welding materials and practices shall conform to the appropriate CSA Standards for the base metals to be welded and the type of welding to be performed.

Connectors coated with protective materials shall be welded using welding materials and techniques that minimize inclusions and embrittlement.

Protective coatings damaged by welding shall be restored, and where practicable, welding shall be carried out before the application of zinc or other protective coatings.

Although CSA Standard A370 does not reference any specific standard to be used for welding applications the CWB strongly recommends that all welding to conform with CSA Standard W186 or CSA Standard W47.1 in order to be in line with requirements of CSA Standard 304.1 Design for Masonry Structures.

CSA Standard W186 and / or CSA Standard W47.1 provide requirements for the qualification of welders and welding operators, welding procedures and welding supervisory and engineering personnel. A company certified to CSA W186 Division 1 requires having full time engineer(s) and a company certified to Division 2 requires having retained part time engineer(s).

CSA standard W186 and / or CSA Standard W59 provide guidance on weld design, fabrication techniques, inspection and other key considerations around welding for steel and aluminum respectively.

An organization meeting the requirements of CSA Standard W186 and / or CSA Standard W47.1 will have qualified welders, accepted welding procedures and accepted supervisory/engineering personnel. All elements of the welding operation will be independently verified by the Canadian Welding Bureau on an on-going basis.

Please note that there are no domestic or international equivalents to CSA Standard W186 and / or CSA Standard W47.1. Other national systems, such as that of the American Welding Society (AWS) do not include key concepts such as independent and on-going verification and welding supervisors/engineers. The CWB strongly cautions the reader around accepting substitutions; doing so may place public safety at risk.

For a listing of all organizations that currently meet the requirements of CSA Standard W186 and / or CSA Standard W47.1 and please see www.cwbgroup.org.

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Welding Inspection

CSA Standard W186 and / or CSA Standard W59 require that all welds be visually inspected. In addition, when required by contract weld inspection must be completed by certified welding inspectors or a welding inspection organization following the requirements of CSA Standard W178.2 or CSA Standard W178.1 respectively. It also requires that CSA Standard W186 be followed for the acceptance criteria for all welds. It should be noted that CSA Standard W178.2 has individual “product categories” that inspectors may qualify to, including one for CSA Standard W59.

For a listing of all organizations and individuals who currently meet the requirements of CSA Standard W178.1 and CSA Standard W178.2, please see www.cwbgroup.org.