

CAN/CSA-S367-12 – Air-, cable-, and frame-supported membrane structures

This document provides an overview of the requirements of *Welding Requirements CSA-S367 – Air-, cable-, and frame-supported membrane structures* with respect to welding. It is designed to provide requirements for the design, fabrication, installation, and maintenance of single-membrane structures that are either reinforced or unreinforced and that are air-supported, frame-supported, or cable-supported.

This document is only for general guidance purposes; reference to the full text of CSA S367 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 transformers. To ensure welds of the highest quality and the safety of both the users of single-membrane structures and the general public, CSA Standard S367 provides specific requirements around the design and fabrication, installation and maintenance of single-membrane structures, with awareness that the structures are used by people.

Welded Fabrication

CSA S367 provides the following requirements:

10 Fabrication and erection

10.1.1 *Membrane structure fabricators engaged in the fabrication of metal structures shall meet the requirements of CSA W59 or W59.2, as applicable. All welding shall be performed by qualified personnel, certified by the Canadian Welding Bureau (or the equivalent) to the requirements for Division 1 or 2 of CSA W47.1 or CSA W47.2.*

An organization meeting the requirements of CSA Standard W47.1 and CSA Standard W47.2 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.

CSA Standard W59 requires that contractors performing work under this standard be certified under the requirements of CSA Standard W47.1 unless the Engineer of record approves the contractor for the work to be undertaken. CSA Standard W47.1 provides requirements for the qualification of welders and welding operators, welding procedures and welding supervisory and engineering personnel.

CSA Standard W59.2 requires that contractors performing work under this standard be certified under the requirements of CSA Standard W47. CSA Standard W47.2 provides requirements for the qualification of welders and welding operators, welding procedures and welding supervisory and engineering personnel.

CSA Standard W59 and CSA Standard W59.2 provide guidance on weld design, fabrication techniques, inspection and other key considerations around welding for steel respective aluminum.

Please note that there are no domestic or international equivalents to CSA Standard W47.1 or CSA Standards W47.2. 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 W47.1 and CSA Standard W47.2 please see www.cwbgroup.org.

Welding Inspection

CSA Standard W59 and CSA Standard W59.2 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 and CSA Standard W59 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 and one for CSA Standard W59.2.

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.

