

CAN/CSA-Z271-10 – Safety Code for Suspended Platforms Welding Requirements

This document provides an overview of the requirements of CAN/CSA- Z271-10 – Safety Code for Suspended Platforms with respect to welding. It is designed to provide guidance for individuals and organizations involved in the design, construction, installation, inspection, testing, maintenance, alteration, and repair of suspended platforms.

This document is only for general guidance purposes; reference to the full text of CSA Z271 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 suspended platforms. To ensure welds of the highest quality and the safety of both the users of tower cranes and the general public, CSA Standard Z271 provides specific requirements around the welded fabrication and welding inspection of such equipment.

Welded Fabrication

CSA Z271 provides the following requirements:

5.3.1 Materials structural

Components shall be constructed of steel, aluminum, or other appropriate materials in such a manner as to consistently withstand the deteriorating effect of the most rigorous weather conditions that might be encountered, as detailed in the National Building Code of Canada.

The design, fabrication, and erection of components and fastenings made of

- (a) steel shall conform to CAN/CSA-S16; and*
- (b) aluminum shall conform to CAN/CSA-S157.*

5.3.2 Welding

Welding of

- (a) steel shall conform to CSA W59 and CSA W47.1, or the equivalent; and*
- (b) aluminum shall conform to CSA W59.2 and CSA W47.2, or the equivalent.*

5.8 Fatigue and vibration

The effects of fatigue and vibration shall be considered in the design of components in accordance with good engineering practice and the guidance provided in CAN/CSA-S16, CSA S136, CAN/CSA-S157, CSAW59, CSAW59.2, and the National Building Code of Canada.

11.8.2 Inspections - Structural components

Structural components of the suspended platform shall be inspected at intervals not exceeding 12 months. The inspection and testing shall be performed by an engineer or the engineer's delegate. Upon successful completion of the inspection and testing, the engineer shall provide written verification that the equipment and attachments to the structure comply with this Standard.

CSA Standard W47.1 and CSA Standard W47.2 provide requirements for the qualification of welders and welding operators, welding procedures and welding supervisory and engineering personnel.

CSA Standards W59 and CSA Standard W59.2 provide guidance on weld design, fabrication techniques, inspection and other key considerations around welding for steel and aluminium respectively. 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 W59.2 requires that contractors performing work under this standard be certified under the requirements of CSA Standard W47.2.



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

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

Please note that there are no domestic or international equivalents to CSA Standard W47.1 and / or CSA Standard W47.2. Other national systems, such as that of the American Welding Society (AWS) do not include key concepts such as independent and ongoing verification and welding supervisors/engineers. The CWB strongly cautions the reader around accepting substitutions; doing so may contravene the intent of CSA Z271 and place public safety at risk.

Welding Inspection

CSA Standard W59 and / or 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 W59 and/ or CSA Standard W59.2 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 for CSA Standard W59 and 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.

