

CAN/CSA-Z267-00 – Safety Code for Amusement Rides and Devices Welding Requirements

This document provides an overview of the requirements of CAN/CSA- Z267-00 –Safety code for amusement rides and devices with respect to welding. It is designed to provide guidance for individuals and organizations involved in the design, construction, installation, erection, inspection, maintenance, repair or modification of amusement rides and devices.

This document is only for general guidance purposes; reference to the full text of CSA Z267 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 amusement rides and devices. To ensure welds of the highest quality and the safety of both the users of lift carriages and the general public, CSA Standard Z267 provides specific requirements around the design, construction, installation, erection, inspection, maintenance, repair or modification of amusement rides and devices, with awareness that the rides are used by people.

Welded Fabrication

CSA Z267 provides the following requirements:

4.3.1 Fixed Amusement Rides and Devices:

Foundations for a fixed amusement ride or device shall be designed in accordance with the National Building Code of Canada.

Section 4.3.3.1 of NBCC Design Basis for Plain, Reinforced and Prestressed Concrete requires buildings and their structural members made of plain, reinforced or prestressed concrete shall conform to CSA A23.3-04 Design of Concrete Structure and makes reference to CSA A23.1-09 for “Concrete Materials and Methods of Concrete”. Clause 6.6.10 of CSA A23.1-09 states that Welding of Reinforcement shall be in accordance to CSA Standard W186. Clause 6.7 of CSA A23.1-09 states that Welding of hardware shall be in accordance to CSA Standard W59.

5.4.3 Welding:

Welding and welding procedures shall be in accordance with CSA W59 or CSA W59.2, or equivalent.

7.4 Welding Connection:

Welding and welding procedures shall be in accordance to Clause 5.4.3 above.

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

CSA Standard W186 “Welding of Reinforcing Bars in Reinforced Concrete Construction” provides guidance on weld design, fabrication techniques, inspection and other key considerations around welding for reinforcing bars.

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 to be certified under the requirements of CSA Standard W47.2. CSA Standard W47.2 provides requirements for the qualification of welders and welding operators, welding procedures and welding supervisory and engineering personnel.

An organization meeting the requirements of CSA Standard W47.1, CSA Standard W47.2 and / or CSA Standard 186 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 W47.1, CSA Standard W47.2 and / or CSA Standard W186. 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 contravene the intent of CSA Z267 and place public safety at risk.

For a listing of all organizations that currently meet the requirements of CSA Standard W47.1, CSA Standard W47.2 and CSA Standard W186 please see www.cwbgroup.org.

Welding Inspection

CSA Standard W59, CSA Standard W59.2 and / or CSA Standard W186 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, CSA Standard W59.2 and / or 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 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.