

CAN/CSA-C225 – Vehicle – mounted aerial devices

Welding Requirements

This document provides an overview of the requirements of CAN/CSA-C225 – Vehicle – mounted aerial 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 lattice and telescopic boom mobile cranes.

This document is only for general guidance purposes; reference to the full text of CSA C225 should be made. For further information, please contact the CWB at 1-800-844-6790 or info@cwbgroupp.org.

Introduction

Welding is a key joining method used in the fabrication of mobile cranes. To ensure welds of the highest quality and the safety of both the users of mobile cranes and the general public, CSA Standard C225 provide specific requirements around the welded fabrication and welding inspection of such equipment.

Welded Fabrication

CSA C225 provides the following requirements:

6.8 Welding

All welds whose failure could result in motion of the platform(s) shall meet the requirements of CSA W59 and CSA W59.2 or AWS D1.1 and AWS D1.2.

The manufacturer shall establish applicable welding quality assurance procedures for all weldments. Methods of nondestructive testing shall be described in the manufacturer's quality assurance procedures. The manufacturer shall designate in an appropriate manual the welds to be examined, the extent of the examination, and the method of test.

If nondestructive testing is designated, the particular method used shall be in accordance with CSA W59 and CSA W59.2 or AWS B1.10, as appropriate to the materials being welded.

7.7 Welding

All welds that are made by the installer and whose failure could result in motion of the platform(s) shall meet the requirements of CSA W59 and CSA W59.2 or AWS D1.1 and AWS D1.2. The installer shall establish applicable welding quality assurance procedures for all weldments.

CSA C225 requires that fabricators meet the requirements of CSA W59 and CSA W59.2. 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 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 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.

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

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Please note that there are no domestic or international equivalents to CSA Standard W47.1 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 on-going verification and welding supervisors/engineers. The CWB strongly cautions the reader around accepting substitutions; doing so may contravene the intent of CSA C225 and place public safety at risk.

Welding Inspection

CSA C225 provides the following requirements:

6.6.2 Visual Inspection

A visual inspection of the finished unit shall be made to determine that the operational tests have not adversely affected the equipment.

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

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