CAN/CSA-A344.2-05 – Standard for the design and construction of steel storage racks

This document provides an overview of the requirements of *CSA-A344.2 – Standard for the design and construction of steel storage racks* with respect to welding. It is designed to apply primarily to selective pallet racks, although the principles set out in this Guide may be used when purchasing and using other types of racks, such as deep reach, push-back, drive-in and drive-through racks; cantilever racks; portable racks; rack buildings; and stacker racks..

This document is only for general guidance purposes; reference to the full text of CSA A344.2 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 storage racks. To ensure welds of the highest quality and the safety of both the users of storage racks and the general public, CSA Standard A344.2 provides specific requirements around the design and fabrication of steel storage racks, with awareness that the structures are used by people.

Welded Fabrication

CSA A344.2 provides the following requirements:

5 Welding
The welding provisions shall be in accordance with CAN/CSA-S16 and Appendix B of CAN/CSA-S136. Note: The referenced structural design specifications require the manufacturer to be certified by the Canadian Welding Bureau for the type of welding employed in the rack construction.

CSA Standard S16 requires all fabricators and erectors responsible for welding structures fabricated or erected under this Standard shall be certified by the Canadian Welding Bureau to the requirements of CSA W47.1 (Division 1 or Division 2), CSA W55.3, or both, as applicable. Part of the work may be sublet to a Division 3 fabricator or erector; however, the Division 1 or Division 2 fabricator or erector shall retain responsibility for the sublet work.

An organization meeting the requirements of CSA Standard W47.1 and CSA Standard W55.3 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 provides guidance on weld design, fabrication techniques, inspection and other key considerations around welding for steel.

Please note that there are no domestic or international equivalents to CSA Standard W47.1 or CSA Standards W55.3. 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.

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* .