

CAN/CSA-S850-12 – Design and assessment of buildings subjected to blast loads

This document provides an overview of the requirements of *Welding Requirements CSA-S850 – Design and assessment of buildings subjected to blast loads* with respect to welding. It is designed to specify the requirements for analysis and design of new buildings and assessment of existing buildings to resist blast loading.

This document is only for general guidance purposes; reference to the full text of CSA S850 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 buildings. To ensure welds of the highest quality and the safety of both the users of platforms and the general public, CSA Standard S850 provides specific requirements around the design and fabrication of building structures, with awareness that the buildings are used by people.

Welded Fabrication

CSA S850 provides the following requirements:

9.3 Masonry structures

9.3.2.2 Reinforcement in new construction shall comply with CSA G30.18 and CSA W186.

9.4.12 Connections

9.4.12.3 Welds shall be in accordance with CSA S16.

CSA Standard S16 states that 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.

CSA Standard W47.1 and CSA Standard W186 provide requirements for the qualification of welders and welding operators, welding procedures and welding supervisory and engineering personnel.

CSA Standard W47.1 requires that contractors performing work under this standard qualify procedures in accordance to CSA standard W59 or other standard specified in the contract documents.

CSA Standard W59 and Standard W186 provide guidance on weld design, fabrication techniques, inspection and other key considerations around welding for steel.

An organization meeting the requirements of CSA Standard W47.1 and CSA Standard W186 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 and 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 place public safety at risk.

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

Welding Inspection

CSA Standard W59 and 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 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.

