

# ***CAN/CSA-Z98-07 – Passenger Ropeways and Passenger Conveyors Welding Requirements***

This document provides an overview of the requirements of *CAN/CSA-Z98-07 – Passenger Ropeways and Passenger Conveyors* 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 lift carriages.

This document is only for general guidance purposes; reference to the full text of CSA Z98 should be made. For further information, please contact the CWB at 1-800-844-6790 or [info@cwbgroup.org](mailto:info@cwbgroup.org).

## **Introduction**

Welding is a key joining method used in the fabrication of ropeways and conveyors. To ensure welds of the highest quality and the safety of both the users of the passenger ropeways, passenger conveyors and the general public, CSA Standard Z98 provides specific requirements around the welded fabrication and welding inspection of such equipment, with awareness that the equipment will be carrying personnel.

## **Welded Fabrication**

CSA Z98 provides the following requirements:

### **4.9 Welding:**

4.9.1 Welding shall be performed in accordance with the applicable welding standards:

- (a) CSA W47.1;
- (b) CSA W47.2;
- (c) CSA W178.1;
- (d) CSA W178.2; and
- (e) CSA W186.

4.9.2 Shop and field welding of critical components shall be carried out by qualified welders in accordance with the applicable welding standards:

- (a) CSA W47.1;
- (b) CSA W47.2;
- (c) CSA W178.1;
- (d) CSA W178.2; and
- (e) CSA W186.

4.9.3 As an alternative, welding performed in accordance with a Standard other than those specified in Clauses 4.9.1 and 4.9.2 may be accepted provided:

- (a) the Standard is suitably referenced in the passenger ropeway code of the country of origin of the structure or component, and the requirements of the Standard meet or exceed the requirements of the applicable welding Standards specified in Clauses 4.9.1 and 4.9.2;
- (b) the qualifications of all welders performing the work and the welding procedures are in accordance with the class of welding being performed; and
- (c) welds are inspected by a qualified welding inspector and a statement confirming compliance is provided.

CSA Standard W47.1, CSA Standard W47.2 and CSA Standard W186 provide requirements for the qualification of welders and welding operators, welding procedures and welding supervisory and engineering personnel.

CSA Standards W59, W59.2 and CSA W186 provide guidance on weld design, fabrication techniques, inspection and other key considerations around welding for steel and aluminum respectively.

An organization meeting the requirements of CSA Standard W47.1, CSA Standard W47.2 and / or 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.

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](http://www.cwbgroup.org).

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 ongoing verification and welding supervisors/engineers. The CWB strongly cautions the reader around accepting substitutions; doing so may contravene the intent of CSA Z98 and place public safety at risk.

### **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](http://www.cwbgroup.org).

