



**CSA  
Group**

**CAN/CSA-C22.2 No. 110-94**  
National Standard of Canada  
*(reaffirmed 2018)*



# Construction and Test of Electric Storage-Tank Water Heaters



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# **Update No. 3**

## **CAN/CSA-C22.2 No. 110-94**

### **July 2009**

**Note:** General Instructions for CSA Standards are now called Updates. Please contact CSA Information Products Sales or visit [www.ShopCSA.ca](http://www.ShopCSA.ca) for information about the **CSA Standards Update Service**.

**Title:** *Construction and Test of Electric Storage-Tank Water Heaters* — originally published December 1994

**Revisions issued:** Update No. 2 — January 2004

If you are missing any updates, please contact CSA Information Products Sales or visit [www.ShopCSA.ca](http://www.ShopCSA.ca).

The following revisions have been formally approved and are marked by the symbol delta ( $\Delta$ ) in the margin on the attached replacement pages:

<b>Revised</b>	Clauses 2.1, 4.10.1, 4.13.7.1–4.13.7.3, 5.8.1, and 5.8.2 and Appendix A
<b>New</b>	None
<b>Deleted</b>	None

CAN/CSA-C22.2 No. 110-94 originally consisted of **32 pages** (ix preliminary and 23 text), each dated **December 1994**. It now consists of the following pages:

<b>December 1994</b>	v–ix, 5, 6, and 15–22
<b>January 2004</b>	iii, iv, 3, 4, 10A, 11, 12, and 14A
<b>July 2009</b>	1, 2, 7–10, 13, 14, 23, and 24

- Update your copy by inserting these revised pages.
- Keep the pages you remove for reference.

CAN/CSA-C22.2 No. 110-94

**Construction and Test of Electric Storage-Tank Water Heaters****1. Scope****1.1**

This Standard applies to both cord-connected and permanently connected storage-tank water heaters\*, having tanks less than 610 mm inside diameter, for use on nominal system voltages of 600 V and less, and designed to be used in nonhazardous household and commercial locations in accordance with the Rules of the *Canadian Electrical Code, Part I*.

*\*For convenience only, the shorter term water heater is used herein.*

**1.2**

This Standard applies to water heaters that provide for the storage of hot water. The water shall be heated by immersion heater elements within the tank, wrap-around or other form of surface contact heater elements, or electrically heated circulation type units located either within the jacket or externally. Other types of electric heating, except as excluded by Clause 1.3, may be accepted subject to investigation.

**1.3**

This Standard applies to the water-heater section of kitchen units, combined with a cooking range, refrigerator, water pump, etc.

**1.4**

This Standard does not apply to

- (a) immersion type water heaters (see Clause 2);
- (b) side-arm type water heaters not attached to a storage tank; or
- (c) immersed-electrode type water heaters.

**2. Definitions****2.1**

The following definitions apply in this Standard:

**Built-in water heater**—an assembly of water tank, heater elements, thermostats, and insulation, but no outer shell or enclosure.

Δ **Factory set**—for the purposes of this Standard, any of the following conditions:

- (a) the physical setting of the controls as shipped from the factory if no adjustment is required or possible at the time of installation;
- (b) the setting achieved by placing the controls in the “ON” position at the time of installation if the control was shipped from the factory in the “OFF” position; or
- (c) the setting achieved by placing the controls in the operating position as marked with a line, detent, wording, or some other means to indicate the nominal operating position if the control has multiple operating settings but was shipped from the factory in the “OFF” or lowest available position.

**Heater element**—a complete assembly of heating element, electrical insulation (e.g., mica, magnesium oxide), thermal insulation or air space, metal sheath or plate, and flange, header block, or other mounting means.

**High-temperature water heater**—an assembly of a water tank, elements, thermostats, insulation, outer shell, and a tempering system.

July 2009

(Replaces p. 1, December 1994)