

STANDARD INFORMATION

Standard: CSA C22.2 No. 110

Standard ID: Electric Storage-Tank Water Heaters [CSA C22.2#110:2019 Ed.6]

Previous Standard ID: Construction and Test of Electric Storage-Tank Water Heaters (R2018) [CSA C22.2#110:1994 Ed.5+G1;U2;U3]

EFFECTIVE DATE OF NEW/REVISED REQUIREMENTS

Effective Date: **September 1, 2023**

IMPACT, OVERVIEW, AND ACTION REQUIRED

Impact Statement: Per our accreditation, Intertek is required to review reports against the standard revisions to confirm compliance. Once compliance is confirmed, the standard reference in the report is updated to show continued compliance to the technical requirements of the standard. Reports not updated to this version by the effective date above will be withdrawn.

Overview of Changes:

- Increase in minimum thickness of the metal plate to which conduit or armoured cable is to be attached
- New cord length requirements
- New test procedure for evaluating strain relief
- Modified requirements for insulating barriers or liners
- New requirements for adhesive labels

Specific details of new/revise requirements are found in table below.

Current Listings Not Active? – Please immediately identify any current Listing Reports or products that are no longer active and should be removed from our records. We will do this at no charge as long as Intertek is notified in writing prior to the review of your reports.



STANDARD INFORMATION

CLAUSE	VERDICT	COMMENT
		<i>Additions to existing requirements are <u>underlined</u> and deletions are shown lined-out below.</i>
5	Info	Construction
5.6	Info	Supply connections for permanently connected heaters
		The metal plate to which the conduit or armoured cable is attached shall be of steel not less than 1.2 mm thick or, if thinner sheet or other metal is used, equivalent rigidity shall be provided.
5.6.2		<u>If supply connections are located within the water heater enclosure, the metal plate to which the conduit or armoured cable is attached shall be of steel not less than 1.34 mm thick or, if thinner sheet or other metal is used, equivalent rigidity shall be provided. The wall may be reinforced at the point of conduit connection to provide the required thickness, provided the reinforcing plate is permanently secured to the enclosure and complies with Clause 5.6.3.</u>
		<i>New clause added;</i>
5.6.5		Conduit connection shall not be made to covers giving access to supply terminals. Components parts shall not be mounted on such covers unless the covers are hinged.
5.7	Info	Supply connections for Portable cord-connected heaters
		The flexible cord of a power supply cord shall have a bonding conductor for bonding-to-ground exposed metal parts, and shall be either
5.7.1		a) Type SJ, SJO, SJT, HSJO, or equivalent, and a length external to the heater measured to the face of attachment plug of i) <u>610 to 1829 mm (household use); or</u> ii) <u>a minimum of 1829 mm (commercial use); or</u>
		b) Type SPT-3, and a length that will not touch the floor.
		<i>New clause added;</i>
5.7.1.2		Power supply cords shall comply with C22.2 No. 21 and have a suitable grounding-type attachment plug.
5.7.3		Strain relief shall be provided so that mechanical strain on the flexible cord will not be transmitted to terminals, splices, or interior wiring, or reduce the spacings below those specified in Table 1 (see Clause 7.9) and to prevent cords from being pushed in if they would be subjected to mechanical damage or a temperature in excess of the cord rating. <u>Strain relief bushings shall be prevented from rotating.</u>



CLAUSE	VERDICT	COMMENT
5.13	Info	Thermostats and switches
5.16		Overcurrent protection <i>New clause added;</i>
5.16.1		Fuses shall comply with CSA C22.2 No. 248-1 and the applicable part of the CSA C22.2 No. 248 series for the specific fuse type. <i>New clause added;</i>
5.16.2		Fuseholders shall comply with the following: a) CSA C22.2 No. 39; or b) CSA C22.2 No. 4248.1 and the applicable part of the CSA C22.2 No. 4248 series for the specific fuseholder type. <i>New clause added;</i>
5.16.3		Circuit breakers shall comply with CSA C22.2 No. 5. <i>New clause added;</i>
5.16.4		Fuses or circuit breakers shall be a) of a suitable type for the particular application; and b) accessible and contained within the enclosure of the appliance but not without opening a door or cover. The door or cover shall comply with Clause 5.2.4.5. The operating handle of a circuit breaker may project outside the enclosure, provided that the operating handle is not subjected to mechanical damage and its function is not hindered. Note: Extractor post type fuses employed in control circuits rated at 120 V nominal need not be covered.
5.17	Info	Electromagnetic interference (EMI) filters <i>New clause added;</i>
5.17.1		EMI filters used for suppressing radio interference shall comply with C22.2 No. 8.
5.18	Info	Spacings
5.18.3		If the spacings specified in Clause 5.18.2 cannot be maintained, an insulating barrier or liner may be used, provided that it is a) of adequate dielectric strength and resistant to moisture; b) not adversely affected by arcing and is suitable for the temperature encountered; c) of adequate mechanical strength and permanently retained in place by means other than adhesives; and d) not less than 0.70 mm thick, except that it may be as thin as



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		<p>i) 0.35 mm thick if used in conjunction with a spacing through air that is not less than one-half of that required before the barrier is applied; or ii) <u>0.25 mm thick if it is of mica or other equivalent insulating material of suitable thickness to comply with the requirements of Items a) and b). Such parts shall be held in position between the parts involved by mechanical means (no spacing required). Adhesive shall not be relied upon to fix such insulation in place.</u></p>
6	Info	Markings
6.2		Markings shall comply with the requirements of CAN/CSA-C22.2 No. 0. <u>Adhesive nameplates shall comply with the applicable requirements of CSA C22.2 No. 0.15.</u>
7	Info	Hydrostatic pressure test <i>New clause added;</i>
7.9		Strain relief for a power supply cord shall prevent the transmission of strain to terminals, splices, interior wiring, and the reduction of spacings below those specified in Table 1 when a) a steady pull of 156 N is applied in any direction for 1 min; and b) the cord is pushed in, in which case the cord shall be prevented from contacting sharp edges, points or moving parts or exposed to temperatures above the temperature rating of the cord insulation.