

approved testing agency, certifying and attesting that such an appliance has been tested, inspected and meets the requirements of the applicable standards or code.

**502.4.2 Single-Wall Heat Exchanger.** Indirect-fired water heaters that incorporate a single-wall heat exchanger shall meet all of the following requirements:

- (1) Connected to a low-pressure hot water boiler limited to a maximum of 2bar (30 psi) by an approved safety or relief valve.
- (2) Heater transfer medium is either potable water or contains fluids having a toxicity rating or Class of 1.
- (3) Bear a label with the word: "Caution," followed by the following statements:
  - (a) The heat-transfer medium must be water or other nontoxic fluid having a toxic rating or Class of 1 as listed in *Clinical Toxicology of Commercial Products*, 5th edition.
  - (b) The pressure of the heat-transfer medium shall be limited to a maximum of 2bars (30 psi) by an approved safety or relief valve.

**Note:** The word: "Caution" and the statements in letters shall have an uppercase height of not less than 3mm (0.12 in.) The vertical spacing between lines of type shall be not less than 1mm (0.046 in.). Lower-case letters shall be compatible with the upper-case letter size specification.

**502.5 Permits.** It shall be unacceptable for any person to install, remove, replace or cause to be installed, removed, or replace any water heater, without first obtaining a permit from the Authority Having Jurisdiction to do so.

#### **502.6 Inspections.**

**502.6.1 Final Water Heater Inspection.** This inspection shall be made after all work authorized by the permit has been installed. The Authority Having Jurisdiction will make such inspection as deemed necessary to be assured that the work has been installed in accordance with the intent of this code. No appliance or part thereof shall be covered or concealed until the same has been inspected and approved by the Authority Having Jurisdiction.

#### **503.0 Water Heater Connections.**

**503.1 Water Heater Connectors.** Plastic tubing shall not be installed within the first 50cm (18 in.) of piping connected to a water heater. Stainless steel or copper tubing/pipe that is approved materials for water distribution piping shall be permitted.

**503.2 Flexible Corrugated Connectors.** Flexible corrugated connectors of copper or stainless steel shall be limited to 60cm (2 ft.). Flexible corrugated water heater connectors shall be stainless steel or copper conforming to ASME A112.18.6 or equivalent International Standard(s) approved by the Authority Having Jurisdiction.

#### **504.0 Safety Devices.**

**504.1 Pressure-Limiting Valve.** A water heater installation shall be provided with overpressure protection by means of an approved, listed device, installed in accordance with the terms of its listing and the manufacturer's instructions. Any water-heating device connected to a separate storage tank and having valves between said heater and tank shall be provided with an approved water pressure relief valve complying with CSA Z21.22 or equivalent International Standard(s) approved by the Authority Having Jurisdiction. Each pressure relief valve shall be an approved automatic type with drain, and each such relief valve shall be set at a pressure not exceeding 10bar (150 psi). No shutoff valve shall be installed between the relief valve and the system or in the drain line.

**504.2 Temperature-Limiting Devices.** A water heater installation or a hot water storage vessel installation shall be provided with over-temperature protection by means of an approved, listed device, installed in accordance with the terms of its listing and the manufacturer's instructions.

**504.3 Combination Temperature and Pressure Relief Valve.** Any water system containing storage water heating equipment shall be provided with an approved, listed, adequately sized combination pressure and temperature relief valve, except for listed non-storage instantaneous heaters having an inside diameter not exceeding 80mm (3 in.) and energy cut-off device. Each combination temperature and pressure relief valve shall comply with CSA Z21.22 or equivalent International Standard(s) approved by the Authority Having Jurisdiction and be installed on the water-heating device in an approved location based on its listing requirements and the manufacturer's instructions. The combination temperature and pressure relief valve shall discharge in accordance with Section 504.5. Relief valve shall be set at a pressure of not more than 10bar (150 psi) and shall have a temperature setting of not more than 99°C (210°F). No shutoff or check valve shall be installed between the relief valve and the system or in the drain line. The hourly discharge capacity in watts or the rated steam relief capacity of the device shall not be less than the input rating of the water heater.

**504.4 Vacuum Relief Valves.** Where a hot-water storage tank or an indirect water heater is located at