

STANDATA bulletin 20-PCB-007

Plumbing

Requirements for solar domestic hot water systems

Date Issued: April 2023

Page 1 of 2

Purpose

This bulletin informs the construction industry of the sale and installation requirements on solar domestic hot water systems.

Discussion

Solar domestic hot water systems must meet the applicable codes and standards of the National Plumbing Code of Canada (NPC) 2020.

- Systems for solar heating of potable water must be certified to CAN/CSA-F379.1 “Packaged solar domestic hot water systems.”

The NPC 2020 covers the materials, piping, allowable pressures, water temperature and protection from contamination relating to the application of solar domestic hot water heating systems.

- All piping, fittings, and heat exchangers used for domestic hot water, must be made of approved materials and suitable for use with potable water.
- Operation of a water system at pressures above 550 kPa (80 psi) will accelerate deterioration of the system and could create a health risk due to splashing and potential scalding.
- If the solar domestic heating water system supplies fixtures with a water temperature in excess of 60°C (140°F), a mixing valve or other means must be installed in the potable hot water supply to temper the water to reduce scald hazard potential.

Unless stated otherwise, all Code references in this STANDATA are to the National Plumbing Code of Canada 2020

Issued by the Provincial Plumbing Administrator

[Original signed]

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- Unless an approved heat exchanger system is incorporated, toxic chemicals such as those used for freezing protection or boiler treatment must not be utilized. Potable water systems must be protected from all sources of contamination to reduce the probability of creating an unsafe potable water supply.
- Required protection to prevent cross connection and backflow must be provided.

Note: Solar domestic hot water systems must meet the following requirements:

The authority having jurisdiction may consider a properly submitted alternate solution with the permit application for systems that are not certified. The alternate solution must be complete with supporting documentation from a professional engineer licensed to practice in the province of Alberta and the alternate solution must contain evidence of compliance with the requirements of CAN/CSA F379.1.

Code Reference

NPC 2020 2.6.1.8.

2.6.1.8. Solar Domestic Hot Water Systems

- 1) Systems for solar heating of *potable* water shall be installed in conformance with CAN/CSA-F383, "Installation of packaged solar domestic hot water systems."