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Page 1 of 2

Requirements for Solar Domestic Hot Water Systems

SUBJECT: SOLAR HEATING SYSTEM REQUIREMENTS

Safety Services and the Plumbing Technical Council, in order to inform the construction industry of the requirements associated with the sale and installation of solar domestic hot water systems, have jointly developed this bulletin.

Solar domestic hot water systems shall meet the applicable codes and standards;

NPC 2005

- 2.6.1.8.Solar Domestic Hot Water Systems
- Systems for solar heating of *potable* water shall be installed in conformance with CAN/CSA-F383-87, "Installation Code for Solar Domestic Hot Water Systems."
- Systems for solar heating of potable water shall be certified to CAN/CSA-F379.1-88, "solar domestic hot water systems"

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

- All piping, fittings, 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 contains water with a temperature in excess of 60°C (140°F), a mixing valve or other means shall be installed in the **potable** hot water supply to temper the water to reduce scald hazard potential.
- Do not introduce toxic chemicals such as those used for freezing protection or boiler treatment. **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.

Notes: solar domestic hot water systems shall meet the following requirements:

1. All packaged systems to be certified to CAN/CSA 379.1-88 solar domestic hot water systems (liquid to liquid heat transfer).
2. The Authority having jurisdiction may consider a properly submitted alternate solution with the permit application for systems that are not certified. The Alternate solution shall be complete with supporting documentation from a professional engineer licensed to practice in the province of Alberta and the alternate solution shall contain evidence of compliance with the requirements of CAN/CSA 379.1 -88 or CAN/CSA 379.1-09.
3. These installations would fall under the plumbing code regulation and require a plumbing permit, installation by a plumber and inspected by an SCO in the plumbing discipline.