

Stainless steel pipe and fittings for potable water systems

ISSUE:

The National Plumbing Code of Canada 2010 does not provide the option to use ferrous pipes and fitting (stainless steel) when designing potable water systems. The addition of stainless steel potable systems would provide another option to other products that are presently in the Code.

BACKGROUND:

Stainless steel has consistently demonstrated the ability to perform as well as other materials to minimize the risks associated with the support of expected loads and forces to limit the probability that the performance of stainless steel would fail, which could lead to leakage, which could lead to damage to the building or facility. To minimize the risk of contamination of potable water and limiting the probability of the consumption of contaminated water by a person would be exposed to an unacceptable risk of illness due to unsanitary conditions. The consideration of stainless steel in plumbing systems is representative of current industry practice and reflects the acceptance of stainless steel in other jurisdictions.

CODE REQUIREMENT: National Plumbing Code of Canada 2010

2.2.6.7 Steel Pipe

- 1) Except as provided in sentences (2) and (3), welded and seamless steel pipe shall not be used in a plumbing system.
- 2) Galvanized steel pipe is permitted to be used in a drainage system or a venting system above ground inside a building.
- 3) Galvanized steel pipe and fittings shall not be used in the water distribution system, except
 - a) in buildings of industrial occupancy is described in the ABC or
 - b) for the repair of existing galvanized steel piping systems.

VARIANCE:

This is a variance to Article 2.2.6.7 Division B of the National Plumbing Code of Canada adding stainless steel as an alternate material for potable water systems.

Issue of this STANDATA is authorized by
the Chief Plumbing Administrator



[Original Signed]
Sidney Manning



This variance allows that, in addition to the provisions identified in subsection 2.2.6 Division B of the National Plumbing Code of Canada, stainless steel is permitted to be used in a plumbing system in Alberta for potable water systems, provided that:

- a) Stainless steel pipe shall be Type 304/304L or Type 316/316 L and shall comply with ASTM A312/A312M and ASME B36.19M, and
- b) Stainless steel tube shall be Type 304/304L or Type 316/316L and shall comply with ASTM A269 and ASME B16.19, and
- c) Stainless steel fittings shall be Type 304/304L or Type 316/316L stainless steel pipe shall conform to ASTM A403, A351 or A182.

Design and Installation

- All aspects of a stainless steel potable water systems are complex and shall be designed by a professional engineer licensed to practice in the province of Alberta.
- The stainless steel potable water systems shall be reviewed during installation by a professional engineer, so that an acceptable level of performance may be maintained for all installations.
- The stainless steel piping system shall be installed in accordance with the manufacturer's instructions and the requirements of the National Plumbing Code of Canada.

This variance does not make or imply any assurance or guarantee with respect to life expectancy, durability or performance of equipment or materials. Non-Compliance with the instructions contained in this variance is an offence under the Safety Codes Act.