

November 2012

P-07-06-NPC 10[Rev2]

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(File Number 16090-P01)

Subject: PROTECTION FROM FROST DRAINAGE AND WATER PIPING

This bulletin has been jointly developed by Safety Services and the Plumbing Technical Council to inform the plumbing industry of the requirements associated with the installation of piping systems. Division B article 2.3.5.4. Where piping may be exposed to freezing conditions, it shall be protected from the effects of freezing.

Installers and **Safety Codes Officers** are reminded that building services and piping in exterior walls and vent pipes passing through roofs shall be protected from frost in accordance with the National Plumbing Code of Canada 2010. The methods of protection are not specifically described and climatic conditions do vary between southern and northern Alberta, particularly the depth of frost penetration.

However, the methods of protection as described in the previous Alberta Plumbing and Private Sewage Codes are suitable on the basis of past performance, and the depth of frost penetration **shall be** established on the basis of local experience.

1. Piping in trenches

Sewer and Water services shall have a minimum of 1.8 m (6 ft) of cover, and more if it is considered necessary based on local conditions to prevent freezing of the services. Where there is inadequate burial coverage, the service piping shall have a protective covering, a frost box or equivalent means of insulation.

2. Piping in exterior walls

No part of a plumbing system, except a dry vent that is adequately insulated from freezing, shall be located in an exterior wall. Adequately insulated means the piping shall be located on the warm side of the insulation and vapor barrier in an enclosed space on the inside of the exterior wall or equivalent.

3. Vent pipe termination

A vent pipe that terminates above the surface of a roof shall be protected from frost closure by

- a) increasing its diameter at least one size, but not less than 3 inches in size, immediately before it penetrates the roof, and not less than 3 inches in size before penetrating a wall,

- b) insulating the vent pipe based on the length exposed to freezing and local experience, or
- c) protected in some other manner (i.e. heat tracing as per manufacturers installation instruction).

4. Unheated spaces

Drainage piping in unheated spaces (such as piping serving condensing appliance) shall be protected by

- a) Insulation, or
- b) Protected in some other manner (i.e. heat tracing as per manufacturers installation instruction)