

Cold Weather Protection

BC Building Code requirements for working in cold weather

Purpose

The purpose of this bulletin is to provide information to owners and contractors regarding the regulations pertaining to working in cold weather conditions. Freezing can have an adverse effect on the structural integrity, excessive shrinkage and cracking or the inability to properly repel moisture. The freezing of excavations can lead to settlement problems as well as damage to foundations caused by heaving of the supporting earth.

Improper use of heating appliances has caused significant property damage and precautions for the safe use of heating appliances as regulated under the BC Fire Code and WorkSafe BC should be followed.

Building bulletins are part of the City's customer service program. They are designed to provide an improved understanding of the Building Code and Building Science and to reduce the costs associated with correcting infractions.

Background

2018 BC Building Code

Section 9.3. Materials, Systems and Equipment

9.3.1.9. Cold Weather Requirements

- 1) When the air temperature is below 5°C, concrete shall be
 - a) kept at a temperature of not less than 10°C or more than 25°C while being mixed and placed, and
 - b) maintained at a temperature of not less than 10°C for 72 h after placing.
- 2) No frozen material or ice shall be used in concrete described in Sentence (1).

9.12 Excavations

9.12.1.3. Protection from Freezing

- 1) The bottom of excavations shall be kept from freezing throughout the entire construction period.

Section 9.20. Masonry and Insulating Concrete Form Walls Not In Contact with the Ground

9.20.14. Protection during Work

9.20.14.1. Laying Temperature of Mortar and Masonry

- 1) Mortar and masonry shall be maintained at a temperature not below 5°C during installation and for not less than 48 h after installation.
- 2) No frozen material shall be used in mortar mix.
- 3) Every building shall be provided with an adequate water supply for firefighting.

Section 9.28. Stucco (this includes placement of faux brick or stone veneer)

9.28.6. Stucco Application

9.28.6.1. Low Temperature Conditions

- 1) The base for stucco shall be maintained above freezing.
- 2) Stucco shall be maintained at a temperature of not less than 10°C during application and for not less than 48 h afterwards.

Section 9.29. Interior Wall and Ceiling Finishes

9.29.5.10. Low Temperature Conditions

- 1) In cold weather, heat shall be provided to maintain a temperature not below 10°C for 48 h prior to taping and finishing and maintained for not less than 48 h thereafter.

References

[BC Building Code](#)

[BC Fire Code](#)

Implementation

Building Code Requirements

If on the day of the inspection the above referenced code requirements are not being followed, the Building Inspector may stop the project. Additional sample testing or verification from a Registered Professional may be required if the inspector believes that the materials placed without adequate protection and or heating may be compromised. Owners and Contractors shall be responsible for ensuring that low temperature conditions and precautions are being fulfilled.

British Columbia Fire Code

Ensure that the gas equipment is inspected and tagged by the Gas Inspector at BC Safety Authority. Proper fire separations and non-combustible surfaces may not be fully installed which make the building more vulnerable. Ensure that heating units are sitting on stable, non-combustible surfaces and that there are adequate clearances provided to tarps or other combustible materials. Precautions should also be taken to ensure electrical heaters have the proper electrical cords and any flammable liquids are adequately stored and restrained.

Please contact the City of Penticton Fire Department at 250 490-2300 for further information.

Technical Safety BC

Electrical and Gas permits are regulated by the [Technical Safety BC](#) and they should be contacted to ensure their requirements are met and works are performed by qualified trades people. Please contact Technical Safety BC at contact@technicalsaftybc.ca or 1-866-566-7233.

Click the [Directive](#) for "Requirements for Vented and Ventless Construction/Temporary Heaters".

Worker Safety - WorkSafe BC

Precautions should be taken to protect workers in confined spaces. Owner/Agent/Contractor are responsible to ensure that the worker(s) are aware of the Worker's Compensation Board's Occupational Health and Safety Regulations pertaining to confined work spaces.

Have questions? We're here to help. Please contact the Building Department at 250-490-2571 or buildinginfo@penticton.ca for more information.