

BUILDING SAFETY PROFESSIONALS OF SOUTHWESTERN IDAHO

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COLLABORATIVE INTERPRETATION AND/OR DETERMINATION OF THE PROVISIONS OF THE STATE MANDATED BUILDING CODES

2018 International Residential Code, 2018 International Building Code,
American Concrete Institute

General Topic: Cold Weather Concreting.

Consigning Jurisdictions: Canyon County, City of Nampa, City of Caldwell, Owyhee County, Meridian

Cold Weather Concreting Defined: The provisions that follow apply to “cold weather” which is defined as a period of three consecutive days when the average temperature is below 40° f, and not above 50° F for more than half of any one of those three days. A “cold weather” situation is solely based upon previous temperatures, and not upon forecasted temperatures.

Protection During Cold Weather: In cold weather it is important to protect the concrete from freezing and to maintain curing conditions to ensure adequate strength development. Concrete that does not attain acceptable strength must be removed. It has been shown through data analysis that if concrete freezes, it does not continue to gain strength in a manner consistent with normal concrete performance.

Construction Practices: This summary is not necessarily all inclusive:

- **The temperature of any concrete forms, steel, and sub-grade must be a min. of 35° F.**
- The sub-grade may be thawed by the use of a thermal blanket or an external heat source. The sub-grade may have to be re-compacted.
- **All snow and ice must be removed so that it does not occupy space intended to be filled with concrete.** Hot air may be used for this purpose.
- **Concrete placements must be protected with insulating materials immediately and surface temperature of concrete must be maintained at a min. of 55° F for a min. of 3 days (72 hours) during cold weather.** Commonly used insulating materials include: polystyrene foam sheets, urethane foam, foamed vinyl blankets, mineral wool or cellulose fibers, straw, and blanket or batt insulation. **If average daily temperature falls below 25° F; concrete must be heated continuously for 3 days (72 hours) by utilizing methods such as; a heated enclosures, or an approved type of heat source.**
- **When placing concrete utilizing approved accelerators, Type III Portland cement, or where the cement ration is increased 100 lbs per cubic yard; the concrete shall be protected from freezing for at least 2 days (48 hours).**
- **If footings were required to be protected from freezing, foundation walls will not be allowed to be placed for at least 48 hours. Exception: If protection from freezing can be maintained for a period specified above the wall may be place after 24 hours has elapsed from the time original footing pour.**

Inspection Process:

- **Inspectors will only approve concrete pours for the same day as the inspection.**
- **Inspectors will be checking for frozen ground & whether appropriate protection blankets are on site.**
- **Concrete batch tickets may be required to determine departure time, concrete strength, & additives.**
- **If the inspector believes the concrete has not been properly protect he/she may require additional testing and engineering.**
- **Check www.weather.com for consistent weather and temperature information.**

