

Cold weather concrete protection plan

In Minnesota, any Portland concrete placed in the fall and winter will require protection so it can develop sufficient strength and durability to satisfy its intended service life. *Cold weather conditions exist when the air temperature has fallen to/or is expected to fall below 40 degrees Fahrenheit.* Not only should this concrete be protected during this initial period, the ideal temperature of the concrete during this period should be a constant temperature of 50 degrees Fahrenheit. The concrete should remain protected from cold weather (freeze/thaw) until it reaches a minimum compressive strength of 3,500 psi.

The purpose of the October 1 date with the City of Minneapolis Public Works is to provide a consistent date for cold weather protection to begin, regardless of the air temperatures.

Fresh concrete should never be placed on frozen soils or snow.

After the concrete has achieved the minimum compressive strength, appropriate concrete membrane sealers should be applied to further protect the concrete from deicers which are frequently used in the City of Minneapolis as snow and ice control.

The purpose of the City of Minneapolis Cold Weather Plan submittal is to have the contractor (applicant) provide a written letter, with their permit on what means and methods they will use to protect the fresh concrete until it achieves the minimum compressive strength of 3,500 psi. So the applicant should include a detailed written plan (or the cold weather concrete plan) on how they will protect the concrete from any cold weather conditions.