



COLD WEATHER CONCRETE REQUIREMENTS

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The following cold weather concrete policy will be in effect and enforced within the City of Savage for all projects. Requirements were derived from the Concrete Foundations Association, Ulteig Engineers Inc., J.H. Dahlmeier Engineering Inc., Concrete Poured Wall Association, American Concrete Institute and the State Building Code.

Cold weather is defined as a period when for more than three successive days the average daily temperature drops below 40°F. The average daily temperature is the average of the highest and lowest temperature during the period from midnight to midnight. These guidelines are based on industry research that a compressive strength of 500 psi should be attained prior to freezing of concrete in winter construction.

- Concrete ingredients heated at the batch plant in accordance with ACI 301 delivered and placed at a **minimum temperature of 60°F. Maximum slump of 6 inches.**
- Concrete materials and reinforcement, forms, fillers and ground with which concrete is to come in contact shall be free from frost.
- Walls are to be protected as required below until the next day (at least 16 hours).

LOW TEMPERATURE Expected overnight following concrete placement	TYPE I CEMENT Regular strength Concrete	TYPE III CEMENT High-early strength Concrete
32°F to 20°F	<ul style="list-style-type: none"> • 3000 psi (470# cement – 5 sack mix) • 1% calcium chloride or equivalent accelerator • No protection required 	<ul style="list-style-type: none"> • 3000 psi (470# cement – 5 sack mix) • No accelerator • No protection required
19°F to 10°F	<ul style="list-style-type: none"> • 3500 psi (517# cement – 5 ½ sack mix) • 2% calcium chloride or equivalent accelerator • No protection required 	<ul style="list-style-type: none"> • 3500 psi (517# cement – 5 ½ sack mix) • 1% calcium chloride or equivalent accelerator • No protection required
9°F to 0°F	<ul style="list-style-type: none"> • 4000 psi (564# cement – 6 sack mix) • 2% calcium chloride or equivalent accelerator • cover top of wall w/6' insulated blanket or cover and provide auxiliary heat 	<ul style="list-style-type: none"> • 4000 psi (564# cement – 6 sack mix) • 2% calcium chloride or equivalent accelerator • No protection required
Below 0°F	<ul style="list-style-type: none"> • 4000 psi (564# cement – 6 sack mix) • 2% calcium chloride or equivalent accelerator • cover entire wall with insulated blankets or cover and provide auxiliary heat 	<ul style="list-style-type: none"> • 4000 psi (564# cement – 6 sack mix) • 2% calcium chloride or equivalent accelerator • cover top of wall w/6' insulated blanket or cover and provide auxiliary heat