

COLD WEATHER CONCRETING

The City of Mason Cold Weather Concrete policy has been developed to be consistent with ACI (American Concrete Institute) standards 318 and 306. Contractors must always select the best methods to satisfy the minimum cold weather concreting requirements in ACI 306 “Guide to Cold Weather Concreting.”

The ACI defines “Cold Weather” as a period when the air temperature has fallen to, or is expected to fall below, 40°F for 3 or more consecutive days. Attention should be given whenever the air temperature is forecasted to fall below 50°F for more than half of any 24 hour period.

City of Mason Building Department Policies:

1. Concrete may be placed if the air temperature is 25°F and rising.
2. Concrete cannot be placed on frozen ground.
3. Protection must be on site at the time of inspection (blankets, heating equipment, etc.)
4. Cover for at least 3 days (for air temperature dropping below 30°F at any time)

Contingent on all the above mentioned items, excavations may be finished, forms set, inspection performed (prior to pouring), concrete poured and covered, if all can be done on the **same day**. Pier-type footings may be dug (augured), inspected (prior to pouring), poured, and covered if all can be done on the **same day** as well.

Protection:

- If subgrade is frozen, careful measures must be taken to thaw the soil, and the final subgrade must be approved by a Geotechnical special inspector.
- All other surfaces that will be in contact with concrete must not be frozen as well.
- Maintain concrete temperature above 50°F for no less than 3 days for footings and walls, and 5 days for flatwork.
- Curing and temperature protection should be continuous for the duration of the previously mentioned time frames.
- Some commonly used insulating materials include polyethylene sheeting and commercial grade insulation blankets. The ACI does not recommend using straw, as it is flammable, bulky and ineffective when wet, and may be blown out of place.
- It is recommended to use 3x the amount of insulating materials at slab corners and/or edges.
- Slabs should be immediately insulated after the concrete has sufficiently set to prevent marring.
- If using heaters for enclosures, allow for proper venting to prevent carbon dioxide and carbon monoxide levels that could be detrimental to concrete and/or humans.

