



# Cold Weather Concreting

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**Building Inspections Department**

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## Objectives:

The objective of cold weather concreting practices are to:

1. Prevent damage to concrete due to freezing at early ages.
2. Assure that the concrete develops the required strength.
3. Maintain curing conditions that foster normal strength development.

The following guidelines are formatted using the American Concrete Institutes reports: ACI 306R – Cold Weather Concreting and ACI 530.8/TMS602.03 – Specifications for Masonry Construction.

## Removal of Snow and Ice:

All snow, ice and frost must be removed from forms, reinforcement and other embedments.

## Condition of Subgrade:

Concrete shall not be placed on frozen subgrade material.

## Concrete Protections:

- Work should not commence, unless at 6:00 a.m., the air temperature is 0° F or higher and expected to rise.
- *To prevent early-age freezing, protection must be provided immediately after concrete placement.*
- Insulated blankets or heated housings are acceptable protection methods. Straw is not an acceptable protection method.
- All forms shall remain in place during the required protection periods.
- Insulated blankets or heated housing shall remain in place for a minimum period of 24 hours for temperature ranges of 32°F-20°F.
- Insulated blankets or heated housing shall remain in place for a minimum period of 36 hours for temperature ranges of 20° F – 0° F.
- Insulated blankets or heated housing shall remain in place for a minimum period of 48 hours for temperature ranges below 0°F.

## Masonry Blocks:

- *Masonry units shall be dry at time of placement.*
- Wet or frozen masonry units shall not be laid.
- The tops of all walls not enclosed or sheltered shall be covered at the end of each workday or shutdown period.

## Masonry Protection:

- With temperature range between 32°F-20°F protect newly constructed masonry by covering with a weather resistive membrane for a minimum of 24 hours.
- With temperature range between 20°F – 0°F cover newly constructed masonry completely with weather resistive insulated blankets or equal protection for a minimum of 24 hours. The cover shall extend down both sides of the constructed masonry.
- With temperature range below 0°F protect constructed masonry with heated enclosure for a minimum of 24 hours. The cover shall extend down both sides of the constructed masonry.