

COLD WEATHER GUIDELINES FOR MASONRY AND CONCRETE CONSTRUCTION

MASONRY CONSTRUCTION

The following cold-weather procedures shall be implemented when either the ambient temperature falls below 40° F or the temperature of the masonry units is below 40° F:

- Temperatures of masonry units shall not be less than 20° F when laid in the masonry. Visible ice on masonry units shall be removed before the unit is laid in the masonry.
- Mortar sand or mixing water shall be heated to produce mortar temperatures between 40° F and 120° F at the time of mixing. Mortar shall be maintained above freezing until used in masonry.
- Heat sources shall be used where ambient temperatures are between 20° F and 25° F on both sides of the masonry under construction and wind breaks shall be installed when wind velocity is in excess of 15 mph.
- Where ambient temperatures are below 20° F, an enclosure for the masonry under construction shall be provided and heat sources shall be used to maintain temperatures above 32° F within the enclosure.
- Where mean daily temperatures are between 32° F and 40° F, completed masonry shall be protected from rain or snow by covering with a weather-resistant membrane for 24 hours after construction.
- Where mean daily temperatures are between 25° F and 32° F, completed masonry shall be completely covered with a weather-resistant membrane for 24 hours after construction.
- Where mean daily temperatures are between 20° F and 25° F, completed masonry shall be completely covered with insulating blankets or equal protection for 24 hours after construction.
- Where mean daily temperatures are below 20° F, masonry temperature shall be maintained above 32° F for 24 hours after construction by enclosure with supplementary heat, by electric heating blankets, by infrared heat lamps or by other approved methods.
- Glass unit masonry shall not be laid during cold periods as defined in this section. The temperature of glass unit masonry shall be maintained above 40° F for the first 48 hours after construction.

CONCRETE CONSTRUCTION

Concrete that is to be placed during freezing or near-freezing weather shall comply with the following:

- Concrete (other than high-early-strength) shall be maintained above 50° F and in a moist condition for at least the first seven days after placement, except when accelerated curing is provided in accordance with ACI 318, Section 5.11.3.
- High-early-strength concrete shall be maintained above 50° F and in a moist condition for at least the first three days, except when accelerated curing is provided in accordance with ACI 318, Section 5.11.3.
- Accelerated curing of concrete shall comply with ACI 318, Section 5.11.3.
- Adequate equipment shall be provided for heating concrete materials and protecting concrete during freezing or near-freezing weather.
- Concrete materials and reinforcement, forms, fillers and ground with which concrete is to come in contact shall be free from frost.
- Frozen materials or materials containing ice shall not be used.

DEFINITIONS

Ambient temperature – The temperature of the air surrounding the work area.

Mean Daily Temperature – The average daily temperature of temperature extremes predicted by a local weather bureau for the next 24 hours.

REFERENCES

2012 International Residential Code, 2012 International Building Code, ACI 318-05, ACI 530/ASCE 5/ TMS402

***PLEASE INFORM YOUR CONCRETE AND
MASONRY CONTRACTORS OF THESE REQUIREMENTS***