



COLD WEATHER MASONRY CONSTRUCTION AND PROTECTION RECOMMENDATIONS

Minneapolis Construction Code Services
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Cold weather masonry construction and quality control require some additional attention to construction practices and protection. Attention should be directed to the following details as well as those normally attended.

1. The cold weather construction and protection recommendations of this recommended practice should be closely followed.
2. Construction materials should be received, stored and protected in ways that prevent water from entering the materials
3. If climatic conditions warrant, temperatures of construction materials should be measured – frozen sand and wet masonry unites must be thawed. Masonry units below 20°F must be heated above 20°F without over heating.
4. Sufficient mortar ingredients should be heated to produce mortar temperatures between 40°F and 120°F. Every effort should be made to produce consecutive batches of mortar with the same temperatures falling within this range. The mortar temperature after mixing and before use should be above 40°F, maintainable either by auxiliary heaters under the mortar board or by more frequent mixing of mortar batches. Heater mortar on mortar boards should not become excessively hot (greater than 120°F).
5. During below normal temperatures, masonry should be placed on sound, unfrozen foundations. Masonry should never be placed on a snow or ice-covered surface because of the danger of movement when the base thaws and the possibility of very little bonding being developed between the mortar and the supporting surface.
6. At the end of the day, the top surface of all masonry should be protected to prevent moisture, as rain, snow or sleet, from entering the masonry. This protection must cover the top surface and should extend a minimum of two (2) feet down all sides of the masonry.

Code Citation

2006 IBC Section 2104.3: Cold-weather construction. The following cold-weather procedures shall be implemented when either the ambient temperature falls below 40°F (4°C) or the temperature of masonry units is below 40°F (4°C).

1. Temperatures of masonry units shall not be less than 20°F (-7°C) when laid in the masonry. Visible ice and snow on masonry units shall be removed before masonry is laid in the unit.
2. Mortar sand or mixing water shall be heated to produce mortar temperatures between 40°F (4°C) and 120°F (49°C) at the time of mixing. Mortar shall be maintained above freezing until used in masonry.
3. Heat sources shall be used where ambient temperatures are between 20°F (-7°C) and 25°F (-4°C) on both sides of the masonry under construction and wind breaks shall be installed when wind velocity is in excess of 15 mph (24 km/hr).
4. Where ambient temperatures are below 20°F (-7°C), an enclosure for the masonry under construction shall be provided and heat sources shall be used to maintain temperatures above 32°F (0°C) within the enclosure.
5. Where mean daily temperatures are between 32°F (0°C) and 40°F (4°C), completed masonry shall be protected from rain or snow by covering with a weather-resistance membrane for 24 hours after construction.
6. Where mean daily temperatures are between 25°F (-4°C) and 32°F (3°C), completed masonry shall be completely covered with a weather-resistant membrane for 24 hours after construction.
7. Where mean daily temperatures are between 20°F (-7°C) and 25°F (-4°C), completed masonry shall be completely covered with insulating blankets or equal protection for 24 hours after construction.
8. Where mean daily temperatures are below 20°F (-7°C), masonry temperature shall be maintained above 32°F (0°C) for 24 hours after construction by enclosure with supplementary heat, by electric heating blankets, by infrared heat lamps or by other approved methods.
9. 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 (4°C) for the first 48 hours after construction.