



COLD WEATHER SETTING PRACTICES

Due to tight timelines, construction during cold temperatures often occurs and cold weather building practices have been developed to protect masonry against the perils of freezing when construction must be performed in such environments. It is important for all of the parties involved to be well versed in the building code requirements, as well as, industry guidelines. Table 1. Below offers guidelines based on the building code and industry recommendations:

Table 1

Ambient Temperature	Recommendations
Above 40°F,	Use normal masonry practices. Cover the walls at end of workday to prevent water entering masonry.
40°F - 25°F:	Heat the mixing water to produce mortar temperatures between 40°F - 120°F. Cover the walls with plastic or canvas to prevent wetting and freezing.
25°F - 20°F:	Heat the mixing water and sand to produce mortar temperatures between 40°F - 120°F. Cover the walls with plastic or canvas to prevent wetting and freezing. Mortar on boards should be maintained above 40°F. Cover walls and materials at the end of the day to prevent wetting and freezing. Maintain masonry above freezing for 16 hours using auxiliary heat or insulated blankets.
20°F - 0°F:	Heat the mixing water and sand to produce mortar temperatures between 40°F - 120°F. Cover the walls with plastic or canvas to prevent wetting or freezing. Mortar on boards should be maintained above 40°F. Cover walls and materials at the end of the day to prevent wetting and freezing. Provide enclosures and supply sufficient heat to maintain masonry enclosure above 32°F for 24 hours.

Additional guidelines include:

- Protect the cast stone and mortar materials from the elements.
- Avoid setting cast stone in extreme cold. Stonework set in temperatures below 40°F may expand and crack the mortar bond when temperatures eventually warm.
- Never set cast stone on frozen or ice covered walls.
- Touch up and repair should not be done in any environment which may be subject to freezing within 72 hours without conditioning of the cast stone or the repair environment.
- Non-chloride non-corrosive admixtures complying with ASTM C1384 are acceptable to accelerate the set of the mortar, but they are no substitute for the recommendations above. Chloride based admixtures should not be used.

This Technical Bulletin addresses generally accepted practices, methods and general details for the use of Architectural Cast Stone. This document is designed *only as a guide* and is *not* intended for any specific application or project. It is the responsibility of design and construction professionals to determine the applicability and appropriate application of any detail to a specific project based on professional judgment, specific project conditions, manufacturer's recommendations and solid understanding of product characteristics. The Cast Stone Institute makes no express or implied warranty or guarantee of the techniques or construction methods identified herein. Technical references shall be made to the edition of the International Building Codes for the location of the structure, the latest edition of the TMS 402/406 Masonry Standards document and TMS 404, 504, 604 Standards for Design, Fabrication and Installation of Architectural Cast Stone.

The Cast Stone Institute (CSI) is a not-for-profit organization created to advance the design, manufacture and use of Architectural Cast Stone. To further this goal, the CSI continually disseminates information to targeted construction industry audiences through presentations, programs and technical publications.