



TECHNICAL BULLETIN 103

Epoxy Grouting in Cold Weather

Low temperatures decrease flow, delay set and strength development of epoxy grout and make working with epoxy products more difficult. The guidelines below may compensate for these conditions.

- A. All epoxy grout components (resin, hardener and aggregate) shall be pre-conditioned so that placed grout is between 70°F and 90°F (21°C and 32°C). Due to the mass of palletized material (aggregate component), up to 72 hours of pre-conditioning may be required. Store epoxy grout components in an enclosed, warm or heated area where necessary.
- B. Indirect heating of surfaces (steel, concrete) will also help compensate for cold temperatures. During mixing, the barrel of the mortar mixer may be heated using an appropriate heater to keep the grout mix temperature within an acceptable range.
- C. When necessary, heating shall be accomplished by indirect exposure. Heated enclosures must be windproof and weatherproof. Heaters shall not be permitted to unevenly heat concrete. Caution: Exhaust gases of unvented heaters may contaminate or cause carbonation of concrete within enclosed environment.
- D. Grout temperature shall be maintained above 50°F (16°C) until grout reaches required strength (as specified by the engineer).
- E. Gradually allow grout temperature to cool to ambient to avoid thermal shock.
- F. Heated enclosures must be properly vented to ensure heater exhaust gases do not accumulate in the enclosure and create a potentially dangerous safety situation

REFERENCE:

ACI 351.1R-99: "Grouting Between Foundations and Bases for Support of Equipment and Machinery"

PIP/API RP 686: "Process Industry Practices"



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