Cold Weather Concrete Procedures

These procedures are designed to insure that concrete placed in freezing or near freezing weather conditions will be of proper strength and durability to satisfy all code requirements. Concrete placed during cold weather conditions will developed these qualities only if it is properly manufactured, placed and protected.

The following cold weather concreting procedures are based on requirements of the International Building Code 2003 (IBC), International Residential Code 2003 (IRC).
The American Concrete Institute (ACI 306), latest version
The American Concrete Institute (ACI 308), latest version
The American Concrete Institute (ACI 318), latest version
ASTM Standards in Building Codes, latest version

Procedures are as follows:

1. Concrete, other than high early strength concrete, shall be maintained above (40) forty degrees Fahrenheit and in a moist condition for at least (5) five days after placement. High early strength concrete shall be maintained above (40) forty degrees Fahrenheit. And in moist condition for at least (3) three days after placement.
2. Adequate equipment shall be provided for heating or warming concrete materials and protecting concrete during freezing or near freezing weather conditions.
3. Insulated blankets or other means of protection shall be on site at time of the inspection.
4. All concrete materials and all reinforcements, forms, fillers and sub grade, including stone base, with which concrete is in concrete is to come in contact with shall not be frozen and shall be free of frost.
5. The use of "POLARSET" or other products or means which is a non-chloride accelerating admixture can be use in place of Calcium chloride. As per ASTM C494 Type C Calcium chloride accelerators darken concrete and increase shrinkage and potential reinforcement. **Calcium chloride shall not be used for an accelerator.**
6. All mixtures are limited to (2%) two percent maximum of base concrete mix design of 3,000 psi. In lieu of this minimum standard, the Township will require testing lab to produce 4 test cylinders for compressive strength testing at (8) eight days and then (16) sixteen days. The cost for concrete cylinder testing will be paid for by the general contractor.
7. Masonry construction during cold weather shall be in strict conformance with the IBC/2003, Section 2104.