

## SUBDIVISION AND LAND DEVELOPMENT

### *22 Attachment 6*

Township of East Rockhill

#### **Appendix F Concrete Specifications**

1. Concrete must be class AA, 3,750 PSI (28-day strength), except as otherwise identified in this Ordinance.
2. Public sidewalk and driveway aprons (located within the right-of-way) must be installed in accordance with American Concrete Institute (ACI) 306R-88 specifications for cold weather concrete installation. Cold weather is defined as a period of more than three consecutive days where average daily temperature is forecast to be less than 40° F. and where air temperature is forecast to be less than 50° F. for more than 12 hours.
3. Mixing water is not permitted to be added to the batch after concrete is dispatched from the plant. Concrete batch ticket must be submitted to the inspector at time of pour and must identify concrete strength and slump. Concrete that has been supplemented with additional mixing water will be rejected.
4. No additives are permitted after the concrete is dispatched from the plant.
5. Air-entrained admixtures are not permitted for concrete placed during non-cold-weather conditions and where freezing temperature (32° F. or less) are not expected during the curing period.
6. Water-reducing admixtures are not permitted for concrete placed during cold weather conditions, as they also act as retarding admixtures. Use of water-reducing admixtures must be approved by the Township Engineer.
7. Superplasticizing admixtures are not permitted for concrete placed during cold weather conditions, as they also act as retarding admixtures. Use of superplasticizing admixtures must be approved by the Township Engineer.
8. Set-retarding admixtures are not permitted for concrete placed during cold weather conditions. Use of set-retarding admixtures must be approved by the Township Engineer. Set-retarding admixtures must be added to the mixing water at the batch plant. Set-retarding admixture content may never exceed 0.10% by weight of cement (1.5 ounces per 100 pounds) of cementitious material) in the concrete mix and may only be utilized during hot weather conditions (greater than 85° F.).
9. Set-accelerating admixtures (such as calcium chloride) must be approved by the Township Engineer and shall only be used with 5,000 PSI (28-day strength) concrete (in lieu of 4,000 PSI). Set-accelerating admixtures are only permitted for use during cold weather conditions. If approved by the Township Engineer,

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accelerator may not exceed 2% by weight of cement in the batch and must be added to the mixing water at the plant. Addition of accelerator to the batch after dispatch from the plant is not permitted. Use of accelerators with sulfate-resistant cement is prohibited. Calcium chloride (or other chloride additives) may not be used in reinforced concrete.

### 10. Cold Weather Concrete Installation:

- A. Concrete installed during cold-weather conditions must be 5,000 PSI (28-day strength).
- B. Concrete may not be installed when air temperature is less than 35° F.
- C. Concrete may not be set on frozen ground, snow or ice. Ground temperature must be at least 35° F. and stone sub-base and embedded reinforcement (welded wire fabric, reinforcing bars, etc.) must be protected from freezing for at least 24 hours prior to placement.
- D. All concrete must be air-entrained for cold weather placement. Air entrainment shall be 4% to 7% of the concrete volume.
- E. Concrete must be protected from freezing with insulating blankets, enclosure, or heaters. Concrete must be sufficiently protected to maintain a temperature of at least 50° F. for the entire protection period. Concrete protection (insulating blankets, etc.) must remain in place for a minimum of three days after placement (protection period). Maximum permitted drop in concrete temperature over the twenty-four-hour period following the end of the protection period shall be 50° F.
- F. Concrete must be placed and properly finished in sufficient time to maintain a minimum surface temperature of 55° F. at time of placement of temperature protection (insulating blankets).
- G. Mixing temperature of concrete (at the plant) must be at least 60° F. Temperature of concrete at time of placement will be measured by the township inspector and must be at least 55° F., otherwise, concrete will be rejected.
- H. Mixing water is not permitted to be added to the batch to improve workability after concrete is dispatched from the plant.

(Ord. 214, 10/18/2005, §XXX)