

Suggested Shortform Specification: Green Canvas

Shrinkage compensating concrete shall be in accordance with the following:

MATERIALS

- A. Shrinkage-Compensating concrete shall be made by the addition of a Type G shrinkage-compensating component to an approved standard concrete mix in accordance with the following:
 - 1. Concrete mixing, placing, finishing, and curing shall be in accordance with ACI 223R10 "Standard Practice for the Use of Shrinkage- Compensating Concrete" and manufacturer's recommendations.
 - 2. Component shall be a calcium hydroxide platelets system, Type G, added to an approved concrete mix design using Type I, II, or V Portland cement conforming to ASTM C150. Component shall be added at a rate of 8 to 10% by weight of cementitious material in the standard concrete mix design. Green Canvas, a Type G Shrinkage- Compensating component contact information 870-917-2054, is pre-approved.
 - 3. The specified water/cement ration of the standard concrete mix design shall be maintained and the water content shall be increased accordingly since the shrinkage-compensating component is a cementitious material.
 - 4. Shrinkage Reducing Agents are not an acceptable substitute for Shrinkage-Compensating Concrete and will not be approved as an "or equal" substitute.
- B. Shrinkage-Compensating Concrete shall have an expansion of .03% to .10% at 7 days when tested in accordance with ASTM C 878, Standard Test Method for Restrained Expansion of Shrinkage-Compensating Concrete, and shall meet the expansion requirements stated on the project engineering drawings.
- C. In shrinkage compensation applications steel reinforcing shall have a minimum cross-sectional area of .15%. Steel reinforcing specified as temperature steel for crack control normally meets this requirement and can be used for both purposes.

- D. For calcium hydroxide component systems, admixtures shall conform to ASTM C494.

EXECUTION

- A. Shrinkage-Compensating concrete shall be made by either of the following methods.
 - 1. Job site addition – The approved concrete mix for the specified strength shall be delivered to the job site. The shrinkage-compensating component, at the specified dosage, and water, at the specified water/ cementitious ratio for the amount of component added, shall be added to the truck and mixed as follows prior to placement. The truck shall be run at mixing speed for 3 minutes and then backed up until the concrete reaches the discharge point. This procedure shall be repeated 2 more times and the concrete can then be discharged after the third mixing cycle.
 - 2. Batch plant addition - Shrinkage-Compensating component may be added at concrete suppliers plant by adding the specified dosage of component in a uniform manner, so as to achieve complete distribution throughout the batch, to either the cement or the sand as it is being batched. Concrete shall then be thoroughly mixed as per the concrete suppliers standard method. If necessary, component can be added at the batch plant following the method described as job site addition.
- B. Cure in accordance with specified curing methods for Portland Cement concrete. Curing membrane, if used, shall be applied so as to provide 95% retention of moisture in the concrete.
- C. Quality Assurance, TQM, and packaging procedures require that we custom manufacture Green Canvas for each shipment. The shelf-life of Green Canvas, although the product is cementitious, is less than that of cement. Recommendations are to use all material within two months of receipt in bulk or paper bags. Green Canvas in pails can be stored much longer, from six months to one year. Paper bags are not biodegradable, therefore care should be taken to keep all bags out of the concrete mix.