

February 1, 2015

CONCRETE ENTRAINED AIR AND SLUMP PROPERTIES

Insert the following into the Standard Specifications:

701.2.12.3.1 Entrained Air and Slump Tests

Prior to discharge into forms, entrained air content (as determined by ASTM C231 or ASTM C173) and slump (as determined by ASTM C143) tests will be performed by the Department's representative on the first concrete truck to arrive at the site for every pour to ensure specification compliance. If the first truck arrives with material that is out of tolerance, a retest will be performed after elected steps as outlined below have been taken to correct out of tolerance loads of concrete. Subsequent trucks will be tested, corrected as outlined below, and retested upon arrival until the material meets Department specifications. Once test results show consistently acceptable results, future entrained air and slump testing will be at the discretion of the Department's representative and when making concrete test specimens for compressive strength testing.

Secure the sample for testing after one cubic yard of concrete has been discharged from the delivery vehicle. The one cubic yard can be used in the work provided that it meets Department specifications and is placed into equipment such as a concrete bucket and crane that conveys the concrete without introducing contamination or segregation. The Department will then obtain at least two cubic feet of concrete from the delivery vehicle in a sampling receptacle that conforms to the requirements of ASTM C31.

If either the entrained air content or slump testing yields a test result that is outside of the allowable range, the Department's representative will perform one retest on a different sample of the load in question. Before the retest, the contractor and/or ready mixed concrete producer may elect to take steps to bring the mix within specifications such as adding additional air entraining admixture, adding water that was held back at the plant, etc. When taking these corrective steps, ensure that all other specifications such as allowable time, required number of additional mixing revolutions, and maximum water/cementitious material ratio are in compliance with Department specifications. If the results of the retest are still outside of the allowable range, the load will be rejected and the Contractor's representative will be immediately informed of the test results. Ensure that the producer is immediately notified of the test results through a pre-established means of communication. If the results of the retest indicate passing properties then the concrete will be permitted to be used in the work.

Ensure that no additional cement is added to loads of concrete previously rejected for excessive water content or slump, with the exception of Class 2500 non-structural concrete, as indicated in **Subsection 701.4.6**.

Acceptance or rejection will be based on the results obtained from these tests. Sampling, fabrication, and curing of cylinders to be used for compressive strength testing will be performed as required per ASTM Standards and the Standard Specifications.