CRD-C 620-80

STANDARD METHOD OF SAMPLING FRESH GROUT

1. Scope

1.1 This method covers procedures for obtaining representative samples of fresh cement grout as delivered to or mixed at the project site on which tests are to be performed to determine compliance with quality requirements of the specifications under which the grout is made available (Note 2).

Note 1.- The values stated in U. S. customary units are to be regarded as the standard. The SI equivalents of U. S. customary units may be approximate.

Note 2.- Composite samples are required by this method, unless specifically excepted by procedures governing the tests to be performed such as tests to determine uniformity of consistency and mixer efficiency. Procedures used to select the specific test batches are not described in this method, but it is recommended that random sampling be used to determine overall specification compliance.

1.2 This method does not cover procedures to be used for procuring samples of chemical grouts, e.g., silicates, acrylics, lignins, epoxies, etc.

2. Sampling

2.1 The elapsed time between obtaining the samples and initiating the tests shall be as short as possible but in no instance shall it exceed 10 min.

2.1.1 Transport the samples to the place where fresh-grout tests are to be performed or where test specimens are to be molded. The samples shall be combined and remixed with a stirring rod (Note 3) the minimum amount necessary to insure uniformity.

Note 3.- A tamping rod as described in CRD-C 5 or similar stirring tool may be used.

2.1.2 Start tests as required for quality requirements. Immediately initiate testing for such of the following as may be applicable: flow, slump, air content, time-of-setting, etc., within 5 min after the sampling is completed. Start molding specimens for strength tests or other hardened physical property test within 15 min after fabricating the composite sample. Keep the elapsed time between obtaining and using the sample as short as possible and protect the sample from sun, wind, and other sources of rapid evaporation and from contamination.

3. Procedure

3.1 Size of Sample.- Make the samples to be used for strength tests and other hardened physical property tests a minimum of 1 ft^3 (28 litres). Smaller samples may be permitted for routine air content, slump, flow, and time-of-setting tests.

3.2 The procedures used in sampling shall include the use of every precaution that will assist in obtaining samples that are truly representative of the nature and condition of the grout sampled as follows.

3.2.1 Sampling from Stationary Mixers.- Sample the grout at two or more regularly spaced intervals during discharge of the middle portion of the batch. Take the samples so obtained within the time limit specified in Section 2, and composite them into one sample for test purposes. Do not obtain samples from the very first or last 10 percent of the batch discharge. Perform sampling by passing the receptacle completely through the discharge stream. Have additional receptacles readily available for continuing regularly spaced sampling of the middle portion of the batch.

3.2.2 Sampling from Revolving-Drum Truck Mixers or Agitators.- Repeat sampling procedure described in Section 3.2.1 except regulate the rate of discharge of the batch by the rate of revolution of the drum and not by the size of the gate opening.

3.2.3 Sampling from Mixers or Agitator Holding Tanks.- Sample the grout at two or more regularly spaced intervals during discharge of the middle portion of the batch; however, if discharge rate is too slow, sample from open top of mixers or tanks. In the event mixers or tanks discharge into open hoppers of grout pumps, sample middle portion of batch from pump hopper.

3.2.4 Sampling from Grout Pump Discharge or from Sampling "T" In-Line in Discharge Line.- Sample middle portion of batch as described in previous sections (Note 4). So as to insure that middle portion of batch is being sampled, coordinate timing with pump and mixer operators.

Note 4.- As a safety precaution closely coordinate sampling of discharge line and in-line sampling "T" with pump operator to regulate pump line pressures to low enough pressures which will provide safety during sampling.