

Standard Method of Test for

Methods of Reducing Size of Aggregate Sample

SCDOT Designation: SC-T-3 (8/08)

1. SCOPE

- 1.1. These methods are intended to apply to aggregate samples that have been obtained by the procedures outlined in SC-T-1 or SC-T-2.
- 1.2. This standard may involve hazardous materials, operations and equipment. This standard does not purport to address all of the safety problems associated with its use. It is the responsibility of the user of this standard to consult and establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.

2. REFERENCED DOCUMENT

- 2.1. SC-T-1, SC-T-2.

3. SUMMARY OF TEST METHOD

- 3.1. A bulk sample of aggregate is reduced to the size necessary for testing by either the quartering method or the riffle splitter method.

4. SIGNIFICANCE AND USE

- 4.1. Sampling is equally as important as the testing, and the sampler must use every precaution to obtain samples that will show the true nature and condition of the materials that they represent. The sample size obtained during sampling is often larger than desirable for test procedures. Samples must be reduced in a manner that retains the properties of the original sample.

5. APPARATUS

- 5.1. For quartering method: clean and smooth surface free from cracks, shovel, trowel or other acceptable device for mixing aggregate and dividing the material. For riffle splitter method: riffle splitter pans to distribute material over splitter and catch material coming through splitter.

6. TEST SPECIMENS

- 6.1. The size of the test specimen required after reduction will be given in the procedure for that particular test.

7. PROCEDURE

7.1. Quartering Method:

- 7.1.1. Empty sample on a hard, clean and smooth surface that is free from cracks. Mix thoroughly and pile in a cone. Materials which tend to segregate should be dampened.
- 7.1.2. Flatten cone with a shovel, spreading the material to a circular layer of uniform thickness. Divide into quarters by two (2) lines intersecting at right angles at the center of the pile.
- 7.1.3. Discard the two (2) diagonally opposite quarters. Sweep clean the space occupied by the discarded quarters.
- 7.1.4. The remaining quarters should be thoroughly mixed and further reduced by quartering if desired. "Quartering" may be performed any number of times to obtain the required sample size.

7.2. Riffle Splitter Method:

- 7.2.1. The openings in the splitter device must be wide enough to let the largest particle easily pass through yet not so wide that a non-representative separation is obtained. (In general, the opening size should be approximately 50 percent greater than the largest particle size.)
- 7.2.2. Thoroughly mix the aggregate sample. Spread the material evenly across a rectangular pan having the proper width to allow equal portions of the material to be fed to each individual chute.
- 7.2.3. Dump the aggregate into the splitter device so that the sample is uniformly and simultaneously fed over the entire length of the splitter. Discard the material caught on one side of the splitter. This method of reducing a sample size may be repeated as many times as necessary to obtain the appropriate sample size.