
Standard Practice for Reducing Samples of Asphalt Mixtures to Testing Size

AASHTO Designation: R 47-23¹

Technically Revised: 2023

Editorially Revised: 2023

Technical Subcommittee: 2c, Asphalt–Aggregate Mixtures



American Association of State Highway and Transportation Officials
555 12th Street NW, Suite 1000
Washington, D.C. 20004

Standard Practice for

Reducing Samples of Asphalt Mixtures to Testing Size

AASHTO Designation: R 47-23¹

AASHTO

Technically Revised: 2023

Editorially Revised: 2023

Technical Subcommittee: 2c, Asphalt–Aggregate Mixtures

1. SCOPE

- 1.1. This standard practice outlines methods for the reduction of large samples of asphalt mixture to the appropriate size for testing, employing techniques that are intended to minimize variations in the measured characteristics between the test samples so selected and the large sample.
- 1.2. The values stated in SI units are to be regarded as the standard.
- 1.3. *This standard practice may involve hazardous materials, operations, and equipment. This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. REFERENCED DOCUMENTS

- 2.1. *AASHTO Standards:*
 - < M 339M/M 339, Thermometers Used in the Testing of Construction Materials
 - < R 97, Sampling Asphalt Mixtures

3. TERMINOLOGY

- 3.1. *mastic*—a mixture of asphalt binder and fine mineral material.

4. SIGNIFICANCE AND USE

- 4.1. Specifications for asphalt mixtures require sampling portions of the material for testing. Other factors being equal, larger samples will tend to be more representative of the total supply. This method provides procedures for reducing the large sample obtained in the field or produced in the laboratory to a convenient size for conducting a number of tests to describe the material and measure its quality in such a manner that the smaller test sample portion is most likely to be a representation of the larger sample, and thus of the total supply. The individual test methods provide the minimum quantity of material necessary.

5. SELECTION OF METHOD

- 5.1. The selection of a particular method to reduce the large sample to test size depends on the amount of material comprising the large sample. It is recommended that for a large amount of material, a mechanical splitter be employed whenever possible, thus lessening the time needed for reduction and minimizing the loss of temperature. To further reduce the sample size, a quartering method can be used.

6. SAMPLING

- 6.1. Obtain samples of asphalt mixture according to R 97 or as required by individual test methods. When additional tests are to be conducted, ensure that the initial size of the field sample is adequate to accomplish all intended tests. Use similar procedures for asphalt mixtures produced in the laboratory.

MECHANICAL SPLITTER METHOD

7. APPARATUS

- 7.1. *Mechanical Splitter Type A*—A mechanical splitter with four equal-width chutes that discharge the material into four appropriately sized containers, designed with a receiving hopper to hold the asphalt mixture field sample until a handle releases the material to fall through a divider and distribute it into four equal portions without restriction or the loss of material (see Figures 1 to 3).