



Standard Test Method for Determining the Transverse-Aggregate Spread Rate for Surface Treatment Applications¹

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1. Scope

1.1 This test method details the procedure for determining the aggregate spread rates in approximately 0.33-m (1-ft) transverse increments.

1.2 The values stated in SI units are to be regarded as standard. The inch-pound units shown in parentheses are for information only.

1.3 *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 ASTM Standards:

C 566 Test Method for Total Moisture Content of Aggregate by Drying²

C 136 Test Method for Sieve Analysis of Fine and Coarse Aggregates²

E 898 Method of Testing Top Loading, Direct-Reading Laboratory Scales and Balances³

3. Summary of Test Method

3.1 The transverse-aggregate spread rate is determined by the use of a series of rubber pads laid side by side width-wise across the pavement. The chip spreader is then allowed to proceed across the rubber mats with the gates open allowing the aggregate to drop onto the mats. Aggregate collected on each of the mats is removed and weighed. The transverse-aggregate distribution then is calculated, and the aggregate spreader adjusted if desired. Moisture content and aggregate gradation can be determined from the collected material.

4. Significance and Use

4.1 The results from this test method are used to calibrate aggregate spreaders and verify the uniformity of distribution

transversely prior to construction of the surface treatment by determining the average quantity of aggregate spread per unit area.

4.2 The test method is useful for quality control during construction to monitor the spread rate.

4.3 The samples obtained during construction by this test method are useful for determination of moisture content and grading when such information is required.

5. Apparatus

5.1 *Balance*—A balance (or scale) of sufficient capacity to handle the mass of the aggregate shall be provided. This balance (or scale) shall be readable and accurate to 1 g if only the transverse spread rate is being determined; an accuracy of 0.1 g is needed if moisture content is being determined. All balances, or scales, shall meet the requirement set forth in Method E 898 for top loading, direct-reading laboratory scales and balances.

5.2 *Containers*—Containers, sufficient in number for the number of samples to be taken, and of a sufficient size to hold the contents of one rubber mat. If moisture content is to be determined, then the container shall be sealable.

5.3 *Rubber Mats*—Rubber mats shall have grooves of sufficient depth to prevent aggregate from rolling and slipping when the chips are spread. The mats shall be cut in widths appropriate for the gate openings of the equipment being adjusted. Widths of 0.305 m (1 ft) have been commonly used. The length of the mats shall be a minimum of 0.9144 m (3 ft). Mats shall be cut so that the grooves are perpendicular to the 0.9144 m (3 ft) side.

NOTE 1—Rubber floor mats conforming to these specifications are available at local hardware stores. Various sizes can be accommodated and both inch—pound and SI units can be handled.

5.4 *Oven*—The oven shall be a forced air type oven capable of maintaining a uniform temperature of $110 \pm 5^\circ\text{C}$ ($230 \pm 9^\circ\text{F}$).

PROCEDURES

6. Determination of Transverse Spread Rate

6.1 Place the rubber mats side by side width-wise on the pavement with the grooves perpendicular to the centerline (Fig. 1). The number of rubber mats to be used shall be equal to the

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² *Annual Book of ASTM Standards*, Vol 04.02.

³ *Annual Book of ASTM Standards*, Vol 14.02.