



Designation: D 5624 – 00

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 calibrating the transverse-aggregate spread rates in 0.3-m (1-ft) increments.

1.2 *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 can then be calculated, and the chip spreader adjusted if desired. Moisture content and aggregate gradation can be determined from the collected material.

4. Significance and Use

4.1 This test method can be used to calibrate aggregate spreaders prior to construction.

4.2 Quality control during construction can be monitored.

4.3 Moisture content and sieve analysis of the aggregates at the time of construction can also be obtained.

5. Apparatus

5.1 *Balance*—A balance of sufficient capacity to handle the weight of the aggregate shall be provided. This balance 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 scales shall meet the requirement set forth in Method E 898 for top loading, direct-reading laboratory scales and balances.

5.2 *Containers*—Any container of a sufficient size to hold the contents of one rubber mat. If moisture content is to be determined, then the container should be sealable.

5.3 *Rubber Mats*—Rubber mats should have grooves of sufficient depth to prevent aggregate from rolling and slipping when the chips are spread. The mats should be cut in widths appropriate for the gate openings of the equipment being adjusted. Widths of 0.3 m (1 ft) have been commonly used. The length of the mats should be a minimum of 0.9 m (3 ft). Mats should be cut so that the grooves are perpendicular to the 0.9 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 English 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 width of aggregate distribution to be monitored.

6.2 Tare one container for each mat to be used. If the container has a lid, tare the container with the lid. Designate this mass as *B*.

6.3 Drive the aggregate spreader over the pads with the gates open to allow the aggregate to fall onto the rubber mats. The gates must be opened a minimum of 2.5 m (8 ft) before reaching the rubber mats. This allows time for the transverse-aggregate distribution to stabilize.

6.4 The aggregate spreader should be operated just as if it

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

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