



Designation: D5081/D5081M – 90 (Reapproved 2011)^{ε1}

Standard Test Method for Aggregate Layer Hiding Power¹

This standard is issued under the fixed designation D5081/D5081M; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reapproval.

^{ε1} NOTE—Units information was editorially corrected in January 2012.

1. Scope

1.1 This test method measures the quantity of aggregate needed to provide an opaque layer under laboratory conditions. Aggregate size Numbers 1 through 8, as listed in Classification **D448**, may be tested.

1.2 The values stated in either SI units or inch-pound units are to be regarded separately as standard. The values stated in each system may not be exact equivalents; therefore, each system shall be used independently of the other. Combining values from the two systems may result in non-conformance with the standard.

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:*²

C702 Practice for Reducing Samples of Aggregate to Testing Size

D75 Practice for Sampling Aggregates

D448 Classification for Sizes of Aggregate for Road and Bridge Construction

D1079 Terminology Relating to Roofing and Waterproofing

3. Terminology

3.1 *Definitions*—For definitions of terms used in this test method, see Terminology **D1079**.

¹ This test method is under the jurisdiction of ASTM Committee **D08** on Roofing and Waterproofing and is the direct responsibility of Subcommittee **D08.03** on Surfacing and Bituminous Materials for Membrane Waterproofing and Built-up Roofing.

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² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

4. Significance and Use

4.1 One of the functions of a roofing aggregate is to shield the roofing membrane from sunlight that may be destructive to the roofing membrane. This test method measures the quantity of gravel needed to exclude light under arbitrary laboratory conditions. This test method need not be performed if the roofing membrane is not affected by light exposure.

5. Apparatus

5.1 *Exposure Box*, 300-mm² [12-in.²] \pm 1 % tray, 90 mm [3.6 in.] minimum deep with an opaque lid.

5.2 *Light Source*—150-W floodlight with stand.

5.3 *Counting Template*—A clear plastic mask with 100-mm² [4-in.²] grid of lines 10 mm [0.4 in.] apart to result in 100 counting cells.

5.4 *Light Sensitive Paper*—Rapid printing opaque diazo papers for use in diazo blueline printing machines.

5.5 *Sample Splitter*, riffle type.

5.6 *Balance*, 30-kg [66-lb] capacity, sensitive to 3×10^{-3} % of the capacity.

5.7 *Diazo Printing Machine*.

6. Sampling

6.1 Follow the sampling recommendations of Practice **D75**.

7. Procedure

7.1 *For Roofing Ballast*—Fractionate the aggregate, dried to 110°C [230°F] to constant weight, using a sample splitter, until a 25-kg [55-lb] sample is obtained. Riffle out 2.3-kg [5.1-lb], 4.5-kg [9.9-lb], 6.8-kg [15.0-lb], and 9-kg [20.0-lb] \pm 1 % specimens in accordance with Practice **C702**.

7.2 *For Builtup Roofing Aggregate*—Fractionate the dried aggregate sample, using the sample splitter, until a 6-kg [13.4-lb] sample is obtained. Riffle out 1.394-kg [3.073-lb], 1.858-kg [4.096-lb], and 2.323-kg [5.12-lb] \pm 1 % specimens in accordance with Practice **C702**. These specimens represent aggregate application rates of 15 kg/m² [3.1 lb/ft²].

7.3 Cut a sheet of light sensitive paper to cover the bottom of the exposure box. Place the paper in the box. Position the