



Designation: D1863/D1863M – 05 (Reapproved 2024)

Standard Specification for Mineral Aggregate Used on Built-Up Roofs¹

This standard is issued under the fixed designation D1863/D1863M; 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.

This standard has been approved for use by agencies of the U.S. Department of Defense.

1. Scope

1.1 This specification covers the quality and grading of crushed stone, crushed slag, and water-worn gravel suitable for use as coarse mineral aggregate on built-up roofs.

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 nonconformance with the standard.

1.3 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

2. Referenced Documents

2.1 ASTM Standards:²

C29/C29M Test Method for Bulk Density (“Unit Weight”) and Voids in Aggregate

C33/C33M Specification for Concrete Aggregates

C117 Test Method for Materials Finer than 75- μ m (No. 200) Sieve in Mineral Aggregates by Washing

C136/C136M Test Method for Sieve Analysis of Fine and Coarse Aggregates

D75/D75M Practice for Sampling Aggregates

D448 Classification for Sizes of Aggregate for Road and Bridge Construction

D1864/D1864M Test Method for Moisture in Mineral Aggregate Used on Built-Up Roofs

D1865/D1865M Test Method for Hardness of Mineral Aggregate Used on Built-Up Roofs

E11 Specification for Woven Wire Test Sieve Cloth and Test Sieves

3. Materials and Manufacture

3.1 *Crushed Stone and Gravel*—The crushed stone and gravel at the time of application shall be hard, durable, opaque, and free of clay, loam, sand, or other foreign substances.

3.2 *Crushed Slag*—Crushed slag shall be hard, air-cooled blast-furnace slag, or electric furnace phosphate slag that is free of sand, clay, or other foreign substances at the time of application.

4. Requirements

4.1 The aggregate shall conform to the gradation requirements specified in Table 1.

4.2 The aggregate shall conform to the physical properties specified in Table 2.

4.3 Suggested Field Checks:

4.3.1 Aggregate shall be free of ice and snow.

4.3.2 A handful of aggregate shall not drip water.

4.3.3 The aggregate shall be dry and clean enough to adhere to the hot bitumen flood coat when installed.

5. Sampling

5.1 Sample aggregates received in bulk in accordance with Practice D75/D75M.

5.2 For aggregates received in bags or small containers, select a number of bags or small containers at random equivalent to the cube root of the total number in the shipment.

6. Test Methods

6.1 *Gradation*—Test Method C136/C136M.

6.2 *Moisture*—Test Method D1864/D1864M.

6.3 *Unit Mass (Loose)*—Test Method C29/C29M, utilizing the shoveling procedure.

6.4 *Dust*—Test Method C117.

6.5 *Hardness*—Test Method D1865/D1865M.

¹ This specification 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 www.astm.org/contact. For *Annual Book of ASTM Standards* volume information, refer to the standard’s Document Summary page on the ASTM website.