



Designation: D 5106 – 03

Standard Specification for Steel Slag Aggregates for Bituminous Paving Mixtures¹

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1. Scope

1.1 This specification covers crushed steel slag coarse and fine aggregates suitable for use in bituminous paving mixtures.

1.2 Steel slag coarse and fine aggregates shall be used entirely (Note 1) or combined with other mineral aggregates covered in Specification D 692 or D 1073, to produce paving mixtures as described in Specification D 3515 or D 4215.

NOTE 1—When 100 % of the coarse aggregate in a bituminous mixture is steel slag, the amount of steel slag fines in that mixture may be limited to prevent bulking.

1.3 The values stated in SI units are to be regarded as standard. The values shown in parentheses are for information only.

1.4 The text of this specification references notes and footnotes which provide explanatory material. These notes and footnotes (excluding those in tables and figures) shall not be considered as requirements of the standard.

2. Referenced Documents

2.1 ASTM Standards:²

- C 88 Test Method for Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate
- C 117 Test Method for Material Finer Than 75 μm (No. 200) Sieve in Mineral Aggregates by Washing
- C 125 Terminology Relating to Concrete and Concrete Aggregates
- C 131 Test Method for Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine
- C 136 Test Method for Sieve Analysis of Fine and Coarse Aggregates
- C 142 Test Method for Clay Lumps and Friable Particles in Aggregates

D 8 Terminology Relating to Materials for Roads and Pavements

D 75 Practice for Sampling Aggregates

D 448 Classification for Sizes of Aggregate for Road and Bridge Construction

D 692 Specification for Coarse Aggregate for Bituminous Paving Mixtures

D 1073 Specification for Fine Aggregates for Bituminous Paving Mixtures

D 3319 Test Method for Accelerated Polishing of Aggregates Using the British Wheel

D 3515 Specification for Hot-Mixed, Hot-Laid Bituminous Paving Mixtures

D 3665 Practice for Random Sampling of Construction Materials

D 4215 Specification for Cold-Mixed, Cold-Laid Bituminous Paving Mixtures

D 4318 Test Method for Liquid Limit, Plastic Limit, and Plasticity Index of Soils

D 4792 Test Method for Potential Expansion of Aggregates from Hydration Reactions

D 4867/D 4867M Test Method for Effect of Moisture on Asphalt Concrete Paving Mixtures

D 5711 Test Method for Determining the Adherent Coating on Course Aggregates

D 5821 Test Method for Determining the Percentage of Fractured Particles in Coarse Aggregate

2.2 Federal Registrar:³

SW846 1311 EPA Test Method, Toxicity Characteristic Leaching Procedure

3. Terminology

3.1 Definitions of Terms Specific to This Standard:

3.1.1 *steel slag, n*—the nonmetallic product, consisting essentially of calcium silicates and ferrites combined with fused and mineralogically combined oxides of iron, aluminum, manganese, calcium, and magnesium, that is developed simultaneously with steel in basic oxygen, electric, or open hearth furnaces.

¹ The specification is under the jurisdiction of ASTM Committee D04 on Road and Paving Materials and is the direct responsibility of Subcommittee D04.50 on Aggregate Specifications.

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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.

³ Available from the Department of Commerce, National Technical Information Center, 5285 Port Royal Road, Springfield, VA 22151. Order Number: EPAW-846.3.3.