



Designation: D5106 – 08

# Standard Specification for Steel Slag Aggregates for Bituminous Paving Mixtures<sup>1</sup>

This standard is issued under the fixed designation D5106; 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 ( $\epsilon$ ) indicates an editorial change since the last revision or reapproval.

## 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 are currently being used entirely (Note 1) or combined with other mineral aggregates, such as those covered in Specification D692 or D1073, to produce paving mixtures similar to those described in Specification D3515 or D4215.

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*:<sup>2</sup>

- C88 Test Method for Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate
- C117 Test Method for Materials Finer than 75- $\mu$ m (No. 200) Sieve in Mineral Aggregates by Washing
- C125 Terminology Relating to Concrete and Concrete Aggregates
- C131 Test Method for Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine
- C136 Test Method for Sieve Analysis of Fine and Coarse Aggregates
- C142 Test Method for Clay Lumps and Friable Particles in Aggregates

<sup>1</sup> 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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<sup>2</sup> 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.

D8 Terminology Relating to Materials for Roads and Pavements

D75 Practice for Sampling Aggregates

D448 Classification for Sizes of Aggregate for Road and Bridge Construction

D692 Specification for Coarse Aggregate for Bituminous Paving Mixtures

D1073 Specification for Fine Aggregate for Bituminous Paving Mixtures

D3319 Practice for the Accelerated Polishing of Aggregates Using the British Wheel

D3515 Specification for Hot-Mixed, Hot-Laid Bituminous Paving Mixtures (Withdrawn 2009)<sup>3</sup>

D3665 Practice for Random Sampling of Construction Materials

D4215 Specification for Cold-Mixed, Cold-Laid Bituminous Paving Mixtures

D4318 Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils

D4792 Test Method for Potential Expansion of Aggregates from Hydration Reactions

D4867/D4867M Test Method for Effect of Moisture on Asphalt Concrete Paving Mixtures

D5711 Test Method for Determining the Adherent Coating on Coarse Aggregates

D5821 Test Method for Determining the Percentage of Fractured Particles in Coarse Aggregate

2.2 *Federal Registrar*:<sup>4</sup>

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.

<sup>3</sup> The last approved version of this historical standard is referenced on www.astm.org.

<sup>4</sup> Available from the Department of Commerce, National Technical Information Center, 5285 Port Royal Road, Springfield, VA 22151. Order Number: EPAW-846.3.3.