



Designation: ~~D8~~—~~16b~~ **D8** – 17

## Standard Terminology Relating to Materials for Roads and Pavements<sup>1</sup>

This standard is issued under the fixed designation D8; 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 standard incorporates generic terms and generic definitions of terms specifically associated with road and paving materials. These generic terms and definitions are used within the standards developed by Committee D04 on Road and Paving Materials.

1.2 Only terms that appear in more than one standard under the jurisdiction of Committee D04 will be included in Terminology D8.

### 2. Referenced Documents

2.1 *ASTM Standards*:<sup>2</sup>

[D4124 Test Method for Separation of Asphalt into Four Fractions](#)

[D4552 Practice for Classifying Hot-Mix Recycling Agents](#)

[D5505 Practice for Classifying Emulsified Recycling Agents](#)

### 3. Terminology

**aggregate**, *n*—a granular material of mineral composition such as sand, gravel, shell, slag, or crushed stone, used with a cementing medium to form mortars or concrete, or alone as in base courses, railroad ballasts, etc.

**air voids (Va)**, *n*—the volume of air between the asphalt-coated aggregate particles throughout a compacted asphalt mix, expressed as a percent of the total volume of the sample.

**anionic emulsion**, *n*—a type of emulsion such that a particular emulsifying agent establishes a predominance of negative charges on the discontinuous phase.

**asphalt**, *n*—A dark brown to black cement-like residuum obtained from the distillation of suitable crude oils.

<sup>1</sup> This terminology is under the jurisdiction of ASTM Committee D04 on Road and Paving Materials and is the direct responsibility of Subcommittee D04.91 on Terminology.

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<sup>2</sup> For referenced ASTM standards, visit the ASTM website, [www.astm.org](http://www.astm.org), or contact ASTM Customer Service at [service@astm.org](mailto:service@astm.org). For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

DISCUSSION—

The distillation processes may involve one or more of the following: atmospheric distillation, vacuum distillation, steam distillation. Further processing of distillation residuum may be needed to yield a material whose physical properties are suitable for commercial applications. These additional processes can involve air oxidation, solvent stripping or blending of residua of different stiffness characteristics. In Europe asphalt is called *bitumen*.

**asphalt binder**, *n*—asphalt which may or may not contain an asphalt modifier (see *asphalt modifier*).

DISCUSSION—

this term is often used in the Performance Graded Binder system.

**asphalt cement**, *n*—See *asphalt*

**asphalt concrete**, *n*—See *asphalt mix*.

**asphalt mix (asphalt mixture)**, *n*—a mixture of asphalt binder, emulsified asphalt, or cutback asphalt and aggregates. The mixture may also include other materials.

**asphalt pavement**, *n*—a structure consisting of one or more prepared layers of asphalt mix atop one or more supporting layers of unbound, modified, or treated subgrade, subbase or base materials.

**asphalt-rubber**, *n*—a blend of asphalt cement, reclaimed tire rubber, and certain additives in which the rubber component is at least 15 % by weight of the total blend and has reacted in the hot asphalt cement sufficiently to cause swelling of the rubber particles.

**asphaltenes**, *n*—insoluble materials that are precipitated by use of selected solvents, such as *n*-heptane.

DISCUSSION—

The asphaltene fraction should be identified by the solvent and solvent-asphalt ratio used.

**bank gravel**, *n*—gravel found in natural deposits, usually more or less intermixed with fine material, such as sand or clay, or combinations thereof; gravelly clay, gravelly sand, clayey gravel, and sandy gravel indicate the varying proportions of the materials in the mixture.

**bitumen**, *n*—dark brown to black cement-like residuum obtained from the distillation of suitable crude oils.

DISCUSSION—

The distillation processes may involve one or more of the following: atmospheric distillation, vacuum distillation, steam distillation. Further processing of distillation residuum may be needed to yield a material whose physical properties are suitable for commercial applications. These additional processes can involve air oxidation, solvent stripping or blending of residua of different stiffness characteristics. In North America bitumen is called asphalt.

**bituminous**, *adj*—containing or treated with bitumen (also *bituminized*).

DISCUSSION—

Examples: bituminous concrete, bituminized felts and fabrics, bituminous pavement.

**bituminous emulsion**, *n*—(1) a suspension of minute globules of bituminous material in water or in an aqueous solution, (2) a suspension of minute globules of water or of an aqueous solution in a liquid bituminous material.

**blast-furnace slag**, *n*—the nonmetallic product, consisting essentially of silicates and alumino-silicates of lime and of other bases, that is developed simultaneously with iron in a blast furnace.

**bulk density**, *n*—the ratio of the mass of a material to the volume it occupies.

DISCUSSION—

Another common phrase for this term is *unit weight*.

**cationic emulsion**, *n*—a type of emulsion such that a particular emulsifying agent establishes a predominance of positive charges on the discontinuous phase.

**clinker**, *n*—generally a fused or partly fused by-product of the combustion of coal, but also including lava and portland-cement clinker, and partly vitrified slag and brick.

**coal tar**, *n*—a dark brown to black cementitious material produced by the destructive distillation of bituminous coal.

**coarse aggregate**, *n*—(1) aggregate predominantly retained on the 4.75-mm (No. 4) sieve: or (2) the portion of aggregate retained on the 4.75-mm (No. 4) sieve.

DISCUSSION—

The definitions are alternatives to be applied under differing circumstances. Definition (1) is applied to an entire aggregate either in a natural condition or after processing. Definition (2) is applied to a portion of an aggregate. Requirements for properties and grading should be stated in the specification. Some specifying agencies use alternative sieve sizes to define coarse aggregate, such as the No. 8 and  $\frac{3}{8}$  in.

**coke-oven tar**, *n*—coal tar produced in by-product coke ovens in the manufacture of coke from bituminous coal.