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.

Designation: D8 – 26

Standard Terminology Relating to Materials for Roads and Pavements[1]

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 (ε) 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 Section 3 of Terminology D8. Terms that were historically part of this terminology but never appeared, or no longer appear, in more than one standard under the jurisdiction of Committee D04 are listed in Appendix X1. The terms in Appendix X1 are not maintained and updated by Subcommittee D04.91. The terms in Appendix X1 are available for reference purposes only. The terminology in Appendix X1 may not reflect current practices, standards, and technology used in materials for roads and pavements.

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]

D242/D242M Specification for Mineral Filler for Asphalt Mixtures
D2026/D2026M Specification for Cutback Asphalt (Slow-Curing Type)
D2027/D2027M Specification for Cutback Asphalt (Medium-Curing Type)
D2028/D2028M Specification for Cutback Asphalt (Rapid-Curing Type)
D2170/D2170M Test Method for Kinematic Viscosity of Asphalts
D2419 Test Method for Sand Equivalent Value of Soils and Fine Aggregate
D3142/D3142M Test Method for Specific Gravity, API Gravity, or Density of Cutback Asphalts by Hydrometer Method
D4124 Test Method for Separation of Asphalt into Four Fractions
D4552 Classification for Hot-Mix Recycling Agents
D5505 Practice for Classifying Emulsified Recycling Agents
D5821 Test Method for Determining the Percentage of Fractured Particles in Coarse Aggregate
D6995 Test Method for Determining Field VMA Based on the Maximum Specific Gravity of an Asphalt Mixture (G_{mm})
E11 Specification for Woven Wire Test Sieve Cloth and Test Sieves

3. Terminology

agency, *n*—an organization, company, bureau, or other entity engaged in testing, sampling, or inspection of road and paving materials.

aggregate, *n*—a granular material used as a construction material, meeting the requirements of road and paving applications.

Discussion—Examples of aggregate include sand, gravel, shell, slag, and crushed stone. See *coarse aggregate* and *fine aggregate* for more information.

air voids (Pa), *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.

Discussion—A variable previously used for this term was *Va*.

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

API gravity, *n*—a function of specific gravity represented by the equation in Test Method D3142/D3142M.

Discussion—A specific gravity scale developed by the American Petroleum Institute (API) used to compare how heavy or light a petroleum liquid is compared to water.

[1] 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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[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.

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asphalt, *n*—a dark brown to black cement-like residuum obtained from the distillation of suitable crude oils, naturally occurring sources, or combinations thereof.

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 modifier, *n*—any material capable of being dissolved, dispersed, or reacted in asphalt binder with the objective of altering its performance characteristics, workability, or ease of placement.

DISCUSSION—Such materials include polymers, rubber, mineral additives, and chemical additives.

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.

bitumen, *n*—dark brown to black cement-like residuum obtained from the distillation of suitable crude oils, naturally occurring sources, or combinations thereof.

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.

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

DISCUSSION—Depending on the way of cooling of the liquid slag, it can be distinguished between crystalline air-cooled blast furnace (ACBF) slag and glassy granulated blast furnace (GBF) slag.

bond breaker, *n*—a material applied between two adjoining materials to prevent adhesion between them.

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*.

bulk specific gravity, *n*—the ratio of the mass of a given volume of material, including the impermeable and permeable voids, to the mass of an equal volume of water at a specified temperature.

DISCUSSION—This term is also sometimes referred to as *relative density*.

calibration, *n*—a process that establishes the relationship (traceability) between the results of a measurement instrument, measurement system, or material measure and the corresponding values assigned to a reference standard.

DISCUSSION—The purpose of calibration is to establish the traceability of a measurement on certain types of equipment, such as balances (measurement instrument) and dynamic shear rheometer (measurement system). Uncertainty estimates obtained during calibration are used to judge if an instrument is suitable for its intended purpose. There is a need to reestablish traceability or recalibrate only when instrument measurements drift out of control (as determined through verification of calibration).

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

check, *n*—a specific type of inspection and/or measurement performed on equipment and materials to indicate compliance or otherwise with stated criteria.

DISCUSSION—Checks are performed on items of equipment that do not make measurements, such as specimen molds and ovens. Stated criteria can be dimensional tolerances.

cleanability, *n*—the ability of a raised retroreflective marker to keep its optical surfaces clean under traffic and environmental conditions.

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 ⅜ in.

cold-laid plant mix, *n*—a mixture of cutback asphalt, asphalt emulsion, or tar and mineral aggregate prepared in an asphalt mixing plant, then spread and compacted at the job site when the mixture is at or near ambient temperature.

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