



## Standard Practice for Selection and Use of Emulsified Asphalts<sup>1</sup>

This standard is issued under the fixed designation D 3628; 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 practice covers the selection of emulsified asphalts for various paving and allied uses.

1.2 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

### 2. Referenced Documents

#### 2.1 ASTM Standards:

- D 8 Terminology Relating to Materials for Roads and Pavements<sup>2</sup>
- D 977 Specification for Emulsified Asphalt<sup>2</sup>
- D 2397 Specification for Cationic Emulsified Asphalt<sup>2</sup>
- D 3515 Specification for Hot-Mixed, Hot-Laid Bituminous Paving Mixtures<sup>2</sup>

### 3. Terminology

#### 3.1 Definitions:

3.1.1 *bituminous-aggregate applications*—applications of bituminous material to a prepared aggregate base or pavement surface followed by the application of aggregate.

3.1.2 *bituminous-aggregate mixtures*—a combination of bituminous material and aggregate that is physically mixed by mechanical means, spread on the job site, and compacted.

3.1.3 *bituminous applications*—the application of sprayed bituminous coatings not involving the use of aggregates.

3.1.4 *crack filler*—the bituminous material used to fill and seal cracks in existing pavements.

3.1.5 *dense-graded aggregate*—aggregate that is graded from the maximum size, down to and including filler, with the object of obtaining a bituminous mix with a controlled void content and high stability.

3.1.6 *dust binder*—a light application of bituminous material for the express purpose of laying and bonding loose dust.

3.1.7 *fog seal*—a light spray application of asphalt to an existing pavement as a seal to inhibit raveling, or seal the surface, or both.

3.1.8 *graded aggregate seal, n*—a single surface treatment in which the aggregate is graded with little or no mineral filler, typically with a nominal maximum size of about 19 mm, and containing sufficient sand that the bituminous material will be required to penetrate upward into the aggregate cover; the nominal maximum aggregate size may vary depending on the course thickness desired and aggregate availability. It is an application method used in lieu of a chip seal to provide a lower cost road.

3.1.8.1 *Discussion*—In this case, nominal maximum size refers to the definition in Terminology D 8

3.1.9 *maintenance mix*—a mixture of bituminous material and mineral aggregate applied at ambient temperature for use in patching holes, depressions, and distress areas in existing pavements, using appropriate hand or mechanical methods in placing and compacting the mix. These mixes may be designed for immediate use or for use out of a stockpile at a later date without further processing.

3.1.10 *mixed-in-place*—the procedures by which the bituminous material and mineral aggregate are mixed on the job site by means of travel plants, blade mixing, or other special road-mixing equipment.

3.1.11 *mulch treatment*—a spray application of bituminous material used to temporarily stabilize a recently seeded area. The bituminous material can be applied to the soil or to a straw or hay mulch as a tie-down.

3.1.12 *multiple surface treatment*—two or more single surface treatments placed one on the other. The maximum aggregate size of each successive treatment is usually one half that of the previous one, and the total thickness is about the same as the nominal maximum size aggregate particles of the first course.

3.1.13 *open-graded aggregate*—aggregate containing little or no mineral filler and in which the void spaces in the compacted aggregate are relatively large.

3.1.14 *pavement bases and surfaces*—the lower or underlying pavement course atop the subbase or subgrade and the top or wearing course. Cold-laid mixtures that are bound together with liquid bitumens use either open or dense aggregate gradations.

3.1.15 *penetration macadam*—pavement construction using essentially one-size coarse aggregate which is penetrated in place by an application of high viscosity bituminous material followed by an application of smaller one-size coarse aggregate and thoroughly rolled. Procedure may be progressively

<sup>1</sup> This practice is under the jurisdiction of ASTM Committee D-4 on Road and Paving Materials and is the direct responsibility of Subcommittee D04.41 on Emulsified Asphalt Specifications.

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<sup>2</sup> *Annual Book of ASTM Standards*, Vol 04.03.