



Designation: D7196 – 23

Standard Test Method for Raveling Test of Cold-Mixed Emulsified Asphalt Samples¹

This standard is issued under the fixed designation D7196; 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 test method measures the resistance to raveling characteristics of emulsified asphalt and field aggregates or recycled asphalt pavement (RAP) mixtures by simulating an abrasion similar to early return to traffic.

1.2 A precision and bias statement for this standard has not been developed at this time. Therefore, this standard should not be used for acceptance or rejection of a material for purchasing purposes.

1.3 The values stated in SI units are to be regarded as standard. No other units of measurement are included in this standard.

1.4 The text of this standard 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.

1.5 *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, health, and environmental practices and determine the applicability of regulatory limitations prior to use.*

1.6 *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

D75/D75M Practice for Sampling Aggregates
D977 Specification for Emulsified Asphalt
D979/D979M Practice for Sampling Asphalt Mixtures

¹ This test method is under the jurisdiction of ASTM Committee D04 on Road and Paving Materials and is the direct responsibility of Subcommittee D04.27 on Cold Mix Asphalts.

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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.

D2397/D2397M Specification for Cationic Emulsified Asphalt

D3666 Specification for Minimum Requirements for Agencies Testing and Inspecting Road and Paving Materials

D3910 Practices for Design, Testing, and Construction of Slurry Seal

D4753 Guide for Evaluating, Selecting, and Specifying Balances and Standard Masses for Use in Soil, Rock, and Construction Materials Testing

D6372 Practice for Design, Testing, and Construction of Microsurfacing

D6925 Test Method for Preparation and Determination of the Relative Density of Asphalt Mix Specimens by Means of the Superpave Gyratory Compactor

2.2 ISSA Document:

ISSA Technical Bulletin No. 100 Test Method for Wet Track Abrasion of Slurry Surfaces

3. Summary of Test Method

3.1 An aggregate or RAP, or both, is mixed together with a preset amount of additives (if shown to be necessary), water (if necessary), and emulsified asphalt. This may be a field-blended mixture (Method A) or a laboratory-blended mixture (Method B). The mixture is compacted in a gyratory compactor and cured at the specified conditions for a designated period of time. After the assigned curing time, a rotating rubber hose exerts an abrasion force on the specimen for a preset time period and the abraded loss of material is calculated.

4. Significance and Use

4.1 This test is useful for classifying the curing and formulation of cold-mixed emulsified asphalt samples through ravel testing of compacted specimens. This performance test should be used to rank the mix conditions and approximate curing time for return to traffic and resistance to weather damage.

NOTE 1—The quality of the results produced by this standard are dependent on the competence of the personnel performing the procedure and the capability, calibration, and maintenance of the equipment used. Agencies that meet the criteria of Specification D3666 are generally considered capable of competent and objective testing, sampling, inspection, etc. Users of this standard are cautioned that compliance with Specification D3666 alone does not completely ensure reliable results. Reliable results depend on many factors; following the suggestions of Specification D3666 or some similar acceptable guideline provides a means of evaluating and controlling some of those factors.