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: D1195/D1195M – 21

Standard Test Method for Repetitive Static Plate Tests of Soils and Flexible Pavement Components for Use in Evaluation and Design of Airport and Highway Pavements[1]

This standard is issued under the fixed designation D1195/D1195M; 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 covers the apparatus and procedure for making repetitive static plate load tests on subgrade soils and compacted pavement components, in either the compacted condition or the natural state, and is to provide data for use in the evaluation and design of rigid and flexible-type airport and highway pavements.

1.2 The values stated in either SI units or inch-pound units are to be regarded separately as standard. The values stated in each system may not be exact equivalents; therefore, each system shall be used independently of the other. Combining values from the two systems may result in nonconformance with the standard.

1.3 *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.*

1.4 *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]

A572/A572M Specification for High-Strength Low-Alloy Columbium-Vanadium Structural Steel

2.2 *AASHTO Standard:*[3]

T 221 Standard Method of Test for Repetitive Static Plate Load Tests of Soils and Flexible Pavement Components for Use in Evaluation and Design of Airport and Highway Pavements

2.3 *German Standard:*[4]

DIN 18134 Soil—Testing Procedures and Testing Equipment—Plate Load Test

3. Terminology

3.1 *Definitions:*

3.1.1 *deflection, n*—the amount of downward vertical movement of a surface due to the application of a load to the surface.

3.1.2 *modulus of subgrade reaction (k_s), n*—the ratio of the normal stress σ_0 under an area load to the associated settlements "s."

3.1.3 *plate load test, n*—a test in which a load is repeatedly applied and released in increments using a circular loading plate aided by a loading device, with the settlement of the loading plate being measured.

3.1.4 *rebound deflection, n*—the amount of vertical rebound of a surface that occurs when a load is removed from the surface.

3.1.5 *residual deflection, n*—the difference between original and final elevations of a surface resulting from the application and removal of one or more loads to and from the surface.

3.1.6 *strain modulus (E_v), n*—a parameter expressing the deformation characteristics of a soil, calculated from the secants of the load settlement curves obtained from the first or repeat loading cycle between points 0.3 – σ_{0max} and 0.7 – σ_{0max}.

4. Summary of Test Method

4.1 This test method is used to evaluate the strength of subgrade soils and unbound pavement components, in either

[1] This test method is under the jurisdiction of ASTM Committee E17 on Vehicle - Pavement Systems and is the direct responsibility of Subcommittee E17.41 on Pavement Testing and Evaluation.

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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.

[3] Available from American Association of State Highway and Transportation Officials (AASHTO), 444 N. Capitol St., NW, Suite 249, Washington, DC 20001, http://www.transportation.org.

[4] Available from Deutsches Institut für Normung e.V.(DIN), Am DIN-Platz, Burggrafenstrasse 6, 10787 Berlin, Germany, http://www.din.de.

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