Standard Method of Test for

Nonrepetitive Static Plate Load Test of Soils and Flexible Pavement Components for Use in Evaluation and Design of Airport and Highway Pavements

AASHTO Designation: T 222-81 (2021)

Technically Revised: 1981 **Reviewed but Not Updated: 2021**

Technical Subcommittee: 1b, Geotechnical Exploration, Instrumentation, Stabilization, and Field Testing

AASHTO

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1. SCOPE

1.1. This method covers the making of nonrepetitive static plate load test on subgrade soils and flexible pavement components, in either the compacted condition or the natural state, and is intended 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 SI units are to be regarded as the standard.

1.3. *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 R 18 are generally considered capable of competent and objective testing/sampling/inspection/etc. Users of this standard are cautioned that compliance with R 18 alone does not completely assure reliable results. Reliable results depend on many factors; following the suggestions of R 18 or some similar acceptable guideline provides a means of evaluating and controlling some of those factors.*

2. TERMINOLOGY

2.1. *Definitions*:

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

2.1.2. *residual deflection*—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.

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

3. APPARATUS

3.1. *Field Test Apparatus*—The required field test apparatus, part of which is shown in Figure 1, is as follows:

3.1.1. *Loading Device*—A truck or trailer, or a combination of both, a tractor trailer, an anchored frame, or other structure loaded with sufficient mass to produce the desired reaction on the surface under test. The supporting points (wheels in the case of a truck or trailer) shall be at least 2.4 m (8 ft) from the circumference of the largest diameter bearing plate being used. The dead load shall be at least 5675 kg (25,000 lb).

3.1.2. *Hydraulic Jack Assembly*—With a spherical bearing attachment, capable of applying and releasing the load in increments. The jack shall have sufficient capacity for applying the maximum load required and shall be equipped with an accurately calibrated gauge, or proving ring, that will indicate the magnitude of the applied load.