
Standard Method of Test for Penetration of Bituminous Materials

AASHTO Designation: T 49-22

Technically Revised: 2022

Technical Subcommittee: 2b, Liquid Asphalt

ASTM Designation: D5/D5M-13



**American Association of State Highway and Transportation Officials
555 12th Street NW, Suite 1000
Washington, D.C. 20004**

Standard Method of Test for

Penetration of Bituminous Materials

AASHTO Designation: T 49-22

AASHTO

Technically Revised: 2022

Technical Subcommittee: 2b, Liquid Asphalt

ASTM Designation: D5/D5M-13

AASHTO T 49-22 is identical to ASTM D5/D5M-13 except for the following provisions:

1. Replace all references to ASTM D36 with AASHTO T 53.
2. Add reference in Section 2 for the AASHTO standard:
 - M 339M/M 339, Thermometers Used in the Testing of Construction Materials
3. Add references in Section 2 for ASTM standards:
 - E230/E230M, Standard Specification for Temperature-Electromotive Force (emf) Tables for Standardized Thermocouples
 - E879, Standard Specification for Thermistor Sensors for General Purpose and Laboratory Temperature Measurements
 - E1137/E1137M, Standard Specification for Industrial Platinum Resistance Thermometers
 - E2251, Standard Specification for Liquid-in-Glass ASTM Thermometers with Low-Hazard Precision Liquids
 - E2877, Standard Guide for Digital Contact Thermometers
4. Delete references in Section 2 for ASTM standards that no longer apply:
 - E77, Test Method for Inspection and Verification of Thermometers
 - E563, Practice for Preparation and Use of an Ice-Point Bath as a Reference Temperature
 - E644, Test Methods for Testing Industrial Resistance Thermometers
5. Add the following to Section 2:

2.3 International Electrotechnical Commission Standards:

 - IEC 60584-1: 2013 Thermocouples - Part 1: EMF Specifications and Tolerances
 - IEC 60751: 2008 Industrial Platinum Resistance Thermometers and Platinum Temperature Sensors
6. Add the following to Section 2:

2.4 Federal Standard:

 - Fed. Std. No. 29, CFR 1910.1200 OSHA Hazard Communication Standard; see also Permissible Exposure Limits—Annotated Tables, available at <https://www.osha.gov/dsg/annotated-pels/>