
Standard Specification for Thermometers Used in the Testing of Construction Materials

AASHTO Designation: M 339M/M 339-22

First Published: 2022

Technical Subcommittee: 5c, Quality Assurance and Environmental



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

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1. SCOPE

- 1.1. This specification covers requirements for thermometers used in the testing of construction materials.
- 1.2. The requirements included are descriptive of the thermometers required by a number of AASHTO test methods. The general-purpose thermometers described herein may not be sufficiently accurate for certain tests, especially where a high degree of accuracy is required at large capacities. In such instances, any special requirements for the thermometers should be included in the test method. The *AASHTO Guide for Selecting Thermometers for Laboratory and Field Applications* should be consulted when establishing thermometer requirements in any given standard.
- 1.3. The values stated in SI and English Customary units are to be regarded separately as standard.

2. REFERENCED DOCUMENTS

- 2.1. *AASHTO Standards:*
 - < R18, Establishing and Implementing a Quality Management System for Construction Materials Testing Laboratories
 - < *AASHTO Accreditation Policy and Guidance on Thermometer Selection and Records*
- 2.2. *ASTM Standards:*
 - < E1, Standard Specification for ASTM Liquid-in-Glass Thermometers
 - < 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
- 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