



Designation: E 644 – 02⁴

Standard Test Methods for Testing Industrial Resistance Thermometers¹

This standard is issued under the fixed designation E 644; 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 These test methods ~~describe~~ cover the principles, apparatus, and procedures for calibration and testing of industrial resistance thermometers.

1.2 These test methods cover the tests for insulation resistance, calibration, immersion error, pressure effects, thermal response time, vibration effect, mechanical shock, self-heating effect, stability, thermoelectric effect, humidity, thermal hysteresis and thermal shock.

1.3 These test methods are not necessarily intended for, recommended to be performed on, or appropriate for every type of thermometer. The expected repeatability and reproducibility of the results are tabulated in Appendix X4.

1.4 These test methods, when specified in a procurement document, shall govern the method of testing the resistance thermometer.

1.5 Thermometer performance specifications, acceptance limits, and sampling methods are not covered in these test methods; they should be specified separately in the procurement document.

1.6 *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 and health practices and determine the applicability of regulatory limitations prior to use.* Specific precautionary statements are given in 6.3.2, 6.3.5, and 8.1.

¹ These test methods are under the jurisdiction of ASTM Committee E20 on Temperature Measurement and are the direct responsibility of Subcommittee E20.03 on Resistance Thermometers.

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