



Designation: D6764 – 02 (Reapproved 2019)

Standard Guide for Collection of Water Temperature, Dissolved-Oxygen Concentrations, Specific Electrical Conductance, and pH Data from Open Channels¹

This standard is issued under the fixed designation D6764; 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 guide describes procedures to collect cross-sectional means of temperature, dissolved oxygen (DO), specific electrical conductance (SC), and pH of water flowing in open channels.

1.2 This guide provides guidelines for preparation and calibration of the equipment to collect cross-sectional means of temperature, DO, SC, and pH of water flowing in open channels.

1.3 This guide describes what equipment should be used to collect cross-sectional means of temperature, DO, SC, and pH of water flowing in open channels.

1.4 This guide covers the cross-sectional means of temperature, DO, SC, and pH of fresh water flowing in open channels.

1.5 *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.*

1.6 *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

D888 Test Methods for Dissolved Oxygen in Water

D1125 Test Methods for Electrical Conductivity and Resistivity of Water

D1129 Terminology Relating to Water

D1293 Test Methods for pH of Water

D4410 Terminology for Fluvial Sediment

D4411 Guide for Sampling Fluvial Sediment in Motion

D5464 Test Method for pH Measurement of Water of Low Conductivity

3. Terminology

3.1 *Definitions:*

3.1.1 For definitions of terms used in this standard, refer to Terminologies **D1129** and **D4410**.

3.2 *Definitions of Terms Specific to This Standard:*

3.2.1 *electronic temperature sensor, n*—an electrical device that converts changes in resistance to a readout calibrated in temperature units. Thermistors and resistance temperature detectors are examples of electronic temperature sensors.

3.2.2 *thermometer, n*—any device used to measure temperature, consisting of a temperature sensor and some type of calibrated scale or readout device.

4. Summary of Guide

4.1 This guide establishes criteria and describes procedures for the collection of cross-sectional means of temperature, DO, SC, and pH of water flowing in open channels.

4.2 This guide provides only generic guidelines for equipment use and maintenance. Field personnel must be familiar with the instructions provided by equipment manufacturers. There are a large variety of available field instruments and field instruments are being continuously updated or replaced using newer technology. Field personnel are encouraged to contact equipment manufacturers for answers to technical questions.

5. Significance and Use

5.1 This guide describes stabilization criteria for recording field measurements of temperature, DO, SC, and pH.

5.2 This guide describes the procedures used to calibrate and check meters to be used in the field to records these measurements and the procedures to be use in the field to obtain these data.

¹ This guide is under the jurisdiction of ASTM Committee **D19** on Water and is the direct responsibility of Subcommittee **D19.07** on Sediments, Geomorphology, and Open-Channel Flow.

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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.