



Designation: D7825 – 24

Standard Practice for Generating a Process Stream Property Value through Application of a Process Stream Analyzer¹

This standard is issued under the fixed designation D7825; 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 practice covers generating a Process Stream Property Value (PSPV) from the application of a process stream analyzer, which requires the use of several ASTM standards. These standards describe procedures to collect a representative sample, establish and validate the relationship to the primary test method, and calculate a property value with an expected uncertainty. Each standard builds or prepares data, or both, to be used in another standard. The workflow process culminates to produce a process stream analyzer result that represents a user defined batch of product. The sequence in which the standards are to be utilized is defined in this practice.

1.2 *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.*

1.3 *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

- D3764 Practice for Validation of the Performance of Process Stream Analyzer Systems
- D4177 Practice for Automatic Sampling of Petroleum and Petroleum Products
- D6122 Practice for Validation of the Performance of Multivariate Online, At-Line, Field and Laboratory Infrared

Spectrophotometer, and Raman Spectrometer Based Analyzer Systems

- D6299 Practice for Applying Statistical Quality Assurance and Control Charting Techniques to Evaluate Analytical Measurement System Performance
- D6624 Practice for Determining a Flow-Proportioned Average Property Value (FPAPV) for a Collected Batch of Process Stream Material Using Stream Analyzer Data
- D6708 Practice for Statistical Assessment and Improvement of Expected Agreement Between Two Test Methods that Purport to Measure the Same Property of a Material
- D7235 Guide for Establishing a Linear Correlation Relationship Between Analyzer and Primary Test Method Results Using Relevant ASTM Standard Practices
- D7278 Guide for Prediction of Analyzer Sample System Lag Times
- D7453 Practice for Sampling of Petroleum Products for Analysis by Process Stream Analyzers and for Process Stream Analyzer System Validation
- D7808 Practice for Determining the Site Precision of a Process Stream Analyzer on Process Stream Material
- D8321 Practice for Development and Validation of Multivariate Analyses for Use in Predicting Properties of Petroleum Products, Liquid Fuels, and Lubricants based on Spectroscopic Measurements
- D8340 Practice for Performance-Based Qualification of Spectroscopic Analyzer Systems
- D8470 Practice for Development and Implementation of Instrument Performance Tests for Use on Multivariate Online, At-Line and Laboratory Spectroscopic Based Analyzer Systems
- E1655 Practices for Infrared Multivariate Quantitative Analysis
- E2617 Practice for Validation of Empirically Derived Multivariate Calibrations

3. Terminology

3.1 *Definitions*—Please refer to the individually cited ASTM standards for definitions.

3.2 Acronyms:

3.2.1 *ATM(s)*—Alternative Test Method(s)

¹ This practice is under the jurisdiction of ASTM Committee D02 on Petroleum Products, Liquid Fuels, and Lubricants and is the direct responsibility of Subcommittee D02.25 on Performance Assessment and Validation of Process Stream Analyzer Systems.

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² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at www.astm.org/contact. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

*A Summary of Changes section appears at the end of this standard