



Standard Practice for Quality Systems for Conducting In Situ Measurements of Lead Content in Paint or Other Coatings Using Field- Portable X-Ray Fluorescence (XRF) Devices¹

This standard is issued under the fixed designation E2119; 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 the collection and documentation of quality control (QC) measurements for determining acceptable levels of instrumental performance when using field-portable energy-dispersive x-ray fluorescence spectrometry devices (XRFs) for the purposes of generating lead classification results from measurements on paint and other coating films within buildings and related structures.

1.2 QC procedures covered in this provisional practice include the performance of calibration checks, substrate bias checks, and specific instructions for documenting the collected data for later use in reporting the results.

1.3 No detailed operating instructions are provided because of differences among the various makes and models of suitable instruments. Instead, the analyst is to follow the instructions provided by the manufacturer of the particular XRF device or other relevant sources of information on XRF operation.

1.4 This practice contains notes which are explanatory and are not part of the mandatory requirements of this provisional practice.

1.5 The values stated in SI units are to be regarded as standard. No other units of measurement are included in this standard.

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 requirements prior to use.*

¹ This practice is under the jurisdiction of ASTM Committee E06 on Performance of Buildings and is the direct responsibility of Subcommittee E06.23 on Lead Hazards Associated with Buildings.

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2. Referenced Documents

2.1 ASTM Standards:²

E1583 Practice for Evaluating Laboratories Engaged in the Determination of Lead in Paint, Dust, Airborne Particulates, and Soil Taken From and Around Buildings and Related Structures (Withdrawn 1998)³

E1605 Terminology Relating to Lead in Buildings

E1613 Test Method for Determination of Lead by Inductively Coupled Plasma Atomic Emission Spectrometry (ICP-AES), Flame Atomic Absorption Spectrometry (FAAS), or Graphite Furnace Atomic Absorption Spectrometry (GFAAS) Techniques

E1645 Practice for Preparation of Dried Paint Samples by Hotplate or Microwave Digestion for Subsequent Lead Analysis

E1729 Practice for Field Collection of Dried Paint Samples for Subsequent Lead Determination

2.2 HUD Document:⁴

Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing, 2nd Edition, July 2012

3. Terminology

3.1 **Definitions**—For definition of terms not presented below, refer to Terminology E1605.

3.2 Definitions of Terms Specific to This Standard:

3.2.1 **building component, n**—part or element of a building that is made of an industry product that is manufactured as an independent unit and is capable of being joined with other elements. Examples include doors, walls, baseboard and exterior siding.

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.

³ The last approved version of this historical standard is referenced on www.astm.org.

⁴ Available from U.S. Department of Housing and Urban Development, 451 7th Street, SW, Washington, DC 20410, <http://www.hud.gov>.