



Designation: E 1282 – 98

# Standard Guide for Specifying the Chemical Compositions and Selecting Sampling Practices and Quantitative Analysis Methods for Metals, Ores, and Related Materials<sup>1</sup>

This standard is issued under the fixed designation E 1282; 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 ( $\epsilon$ ) indicates an editorial change since the last revision or reapproval.

## 1. Scope

1.1 This guide covers procedures for specifying compositional requirements and identifying appropriate sampling and quantitative analysis methodologies to be referenced in product specification standards for metals, ores, and related materials. It is not intended to replace or conflict with either individual product specifications or standards covering broad classifications of products such as Test Methods A 751.

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 and health practices and determine the applicability of regulatory limitations prior to use.*

## 2. Referenced Documents

### 2.1 ASTM Standards:<sup>2</sup>

A 276 Specification for Stainless and Heat-Resisting Steel Bars and Shapes<sup>3</sup>

A 751 Test Methods, Practices, and Terminology for Chemical Analysis of Steel Products<sup>4</sup>

E 34 Test Methods for Chemical Analysis of Aluminum and Aluminum-Base Alloys<sup>5</sup>

E 135 Terminology Relating to Analytical Chemistry for Metals, Ores, and Related Material<sup>5</sup>

E 255 Practice for Sampling Copper and Copper Alloys for Determination of Chemical Composition<sup>5</sup>

E 342 Test Method for Chromium Oxide in Chrome Ores<sup>5</sup>

E 350 Test Methods for Chemical Analysis of Carbon Steel, Low-Alloy Steel, Silicon Electrical Steel, Ingot Iron, and Wrought Iron<sup>5</sup>

<sup>1</sup> This guide is under the jurisdiction of ASTM Committee E-1 on Analytical Chemistry for Metals, Ores, and Related Materials and is the direct responsibility of Subcommittee E01.20 on Fundamental Practices and Measurement Traceability.

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<sup>2</sup> The documents referenced in this guide were selected only as examples of the types of standards used to specify the composition and define sampling and analysis methodology. Numerous other documents from Vols 01.01 through 03.06 of the *Annual Book of ASTM Standards* apply as well.

<sup>3</sup> *Annual Book of ASTM Standards*, Vol 01.05.

<sup>4</sup> *Annual Book of ASTM Standards*, Vol 01.03.

<sup>5</sup> *Annual Book of ASTM Standards*, Vol 03.05.

E 1061 Practice for Conducting an Interlaboratory Study to Evaluate the Performance of an Analytical Method<sup>6</sup>

## 3. Significance and Use

3.1 This guide is intended to assist those writing or revising compositional specification, sampling practice, and analysis method standards for ferrous and non-ferrous metals, ores, and related materials. It is directed toward those areas which must be addressed to properly coordinate compositional specification, sampling practice, and analytical method standards. Its use will help ensure that compositional requirements are clearly defined and that sampling practices and analytical methods are available to meet product specifications.

3.2 This guide does not attempt to define which elements should be controlled, where samples should be taken, or how they should be analyzed. These items are addressed in standards such as Specification A 276, Methods, Practices and Terminology A 751, Test Method E 34, Practice E 255, Test Method E 342, and Test Methods E 350.

3.3 A primary purpose for ASTM sampling practices and analytical method standards is to provide widely-accepted and tested methodology for use in meeting ASTM product specifications. Although it is recognized that individual laboratories are free to use other methods, the availability of ASTM approved methodology is essential for referee purposes and to demonstrate that properly equipped laboratories can make the required measurements.

3.4 Sampling practices and analysis methods to be recommended for use in testing a given product are most easily selected cooperatively by the specification-writing and the methods-writing committees which have jurisdiction for the product. When existing sampling or analysis standards do not meet the needs of the new product specification standard, the specification-writing committee should request that the methods-writing committee develop the required standards. ASTM Committee E-1 is responsible for methods and practices covering the sampling and analysis of most metals, ores, and related materials.

<sup>6</sup> *Annual Book of ASTM Standards*, Vol 03.06.