Designation: E372 – 13

Standard Test Method for Determination of Calcium and Magnesium in Magnesium Ferrosilicon by EDTA Titration[1]

This standard is issued under the fixed designation E372; 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 test method covers the chemical analysis of magnesium ferrosilicon having chemical compositions within the following limits:

Element	Composition Range, %
Aluminum	2.0 max
Calcium	0.25 to 3.00
Carbon	0.50 max
Cerium	1.0 max
Chromium	0.50 max
Magnesium	2.00 to 12.00
Manganese	1.0 max
Silicon	40.00 to 55.00
Sulfur	0.025 max
Titanium	0.2 max

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.* For general precautions to be observed in this test method, refer to Practices E50.

2. Referenced Documents

2.1 *ASTM Standards:*[2]

E29 Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications

E32 Practices for Sampling Ferroalloys and Steel Additives for Determination of Chemical Composition

E50 Practices for Apparatus, Reagents, and Safety Considerations for Chemical Analysis of Metals, Ores, and Related Materials

E135 Terminology Relating to Analytical Chemistry for Metals, Ores, and Related Materials

E173 Practice for Conducting Interlaboratory Studies of Methods for Chemical Analysis of Metals (Withdrawn 1998)[3]

3. Terminology

3.1 For definitions of terms used in this test method refer to Terminology E135.

4. Significance and Use

4.1 This test method for the chemical analysis of metals and alloys is primarily intended to test such materials for compliance with compositional specifications. It is assumed that all who use this test method will be trained analysts capable of performing common laboratory procedures skillfully and safely. It is expected that work will be performed in a properly equipped laboratory.

5. Hazards

5.1 For precautions to be observed in the use of certain reagents and equipment in this test method, refer to Practices E50.

5.2 Specific hazard statements are given in 13.7.1 and 14.1.

6. Sampling

6.1 For procedures for sampling the material, refer to Practices E32.

7. Rounding Calculated Values

7.1 Calculated values shall be rounded to the desired number of places as directed in Practice E29.

8. Interlaboratory Studies

8.1 This test method has been evaluated in accordance with Practice E173, unless otherwise noted in the precision and bias section.

[1] This test method is under the jurisdiction of ASTM Committee E01 on Analytical Chemistry for Metals, Ores, and Related Materials and are the direct responsibility of Subcommittee E01.01 on Iron, Steel, and Ferroalloys.

Current edition approved Nov. 15, 2013. Published January 2014. Originally approved in 1976. Redesignated E372 in 1980. Last previous edition approved in 2006 as E372 – 01 (2006). DOI: 10.1520/E0372-13.

[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.