Designation: A 482 – 05

Standard Specification for Ferrochrome-Silicon[1]

This standard is issued under the fixed designation A 482; 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 specification covers several grades of ferrochrome-silicon.

2. Referenced Documents

2.1 *ASTM Standards:* [2]

A 1025 Specification for Ferroalloys, General Requirements

E 11 Specification for Wire Cloth and Sieves for Testing Purposes

E 364 Test Methods for Chemical Analysis of Ferrochrome-Silicon

3. General Conditions for Delivery

3.1 Materials furnished to this specification shall conform to the requirements of Specification A 1025, including any supplementary requirements that are indicated in the purchase order. Failure to comply with the general requirements of Specification A 1025 constitutes nonconformance with this specification. In case of conflict between the requirements of this specification and Specification A 1025, this specification shall prevail.

4. Chemical Composition

4.1 The various grades shall conform to the requirements as to chemical composition specified in Tables 1 and 2.

4.2 The manufacturer shall furnish an analysis of each shipment showing the percentage of each element specified in Table 1.

TABLE 1 Chemical Requirements

Element	Composition, %	
	Grade A	Grade B
Chromium	34.0–38.0	38.0–42.0
Carbon, max	0.060	0.050
Silicon	38.0–42.0	41.0–45.0
Sulfur, max	0.030	0.030
Phosphorus, max	0.030	0.030

4.3 The values shown in Table 2 are expected maximums. Upon request of the purchaser, the manufacturer shall furnish an analysis for any of these elements on a cumulative basis over a period mutually agreed upon between the manufacturer and the purchaser.

5. Size

5.1 The various grades are available in sizes as listed in Table 3.

TABLE 2 Supplementary Chemical Requirements

Element	Composition, max, percent Ferrochrome-Silicon (Grades A and B)
Nitrogen	0.050
Manganese	0.75
Nickel	0.50
Vanadium	0.50
Copper	0.050
Molybdenum	0.050
Columbium	0.050
Tantalum	0.050
Cobalt	0.10
Aluminum	0.50
Titanium	0.50
Zirconium	0.050
Arsenic	0.005
Lead	0.005
Tin	0.005
Zinc	0.005
Boron	0.005
Antimony	0.005
Silver	0.005
Bismuth	0.005

[1] This specification is under the jurisdiction of ASTM Committee A01 on Steel, Stainless Steel, and Related Alloys and is the direct responsibility of Subcommittee A01.18 on Castings.

Current edition approved May 2005. Published May 1, 2005. Originally approved in 1963. Last previous edition approved in 2004 as A 482 – 93 (2004).

[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.

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

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TABLE 3 Standard Sizes and Tolerances

Product	Standard Sizes	Tolerances[A]	
Ferrochrome-Silicon	75 lb by down	90 lb lump, max	
	75 lb by 1 in. (25.4 mm)	90 lb lump, max	10% max, passing 1-in. (25.0-mm) sieve
	75 lb by 2 in. (50.8 mm)	90 lb lump, max	10% max, passing 2-in. (50-mm) sieve
	40 lb by down	50 lb lump, max	
	25 lb by down	30 lb lump, max	
	4 in. (101.6 mm) by down	10% max, retained on 4-in. (100-mm) sieve	
	3 in. (76.2 mm) by down	10% max, retained on 3 in. (75-mm) sieve	
	3 by ½ in. (76.2 by 12.7 mm)	10% max, retained on 3-in. (75-mm) sieve	10% max, passing ½ in. (12.5 mm) sieve
	2 in. (50.8 mm) by down	10% max, retained on 2-in. (50-mm) sieve	
	2 by ¼ in. (50.8 by 6.35 mm)	10% max, retained on 2-in. (50-mm) sieve	10% max, passing ¼ in. (6.3-mm) sieve
	¾ in. (19.05 mm) by down	10% max, retained on ¾ in. (19.0-mm) sieve	

[A] Specifications of sieve sizes used to define tolerances herein are as listed in Specification E 11.

5.2 The sizes listed in Table 3 are typical as shipped from the manufacturer's plant. These alloys exhibit varying degrees of friability; therefore, some attrition may be expected in transit, storage, and handling. A quantitative test is not available for rating relative friability of ferroalloys. A code system has been developed, therefore, for this purpose, and a number rating each product type is shown in the last column of Table 3. Definitions applicable to these code numbers are given in Specification A 1025.

6. Chemical Analysis

6.1 The chemical analysis of the material shall be made in accordance with the procedure for the ferroalloys as described in Test Methods E 364, or alternative methods, agreed upon by the purchaser and supplier, that will yield equivalent results.

6.2 If alternative methods of analysis are used, in case of discrepancy, Test Methods E 364 shall be used for reference.

6.3 Where a method is not given in Test Methods E 364 for the analysis of a particular element, the analysis shall be made in accordance with a procedure agreed upon between the manufacturer and the purchaser.

7. Keywords

7.1 ferrochrome; ferrochrome silicon

SUMMARY OF CHANGES

Committee A01 has identified the location of selected changes to this standard since the last issue, A 482 - 93(2004), that may impact the use of this standard. (Approved May 1, 2005.)

(1) Sections 1-10 were either modified or deleted.

(2) Appendix X1 was deleted.

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