Designation: A 483 – 04

Standard Specification for Silicomanganese[1]

This standard is issued under the fixed designation A 483; 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 grades of silicomanganese.

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

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.

TABLE 1 Chemical Requirements

Element	Composition, %		
	Grade A	Grade B	Grade C
Manganese	65.0–68.0	65.0–68.0	65.0–68.0
Silicon	18.5–21.0	16.0–18.5	12.5–16.0
Carbon, max	1.5	2.0	3.0
Phosphorus, max	0.20	0.20	0.20
Sulfur, max	0.04	0.04	0.04

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

4.3 Upon request of the purchaser, the manufacturer shall furnish an analysis for the elements specified in Table 2 on a cumulative basis over a period mutually agreed upon by the manufacturer and the purchaser.

5. Size

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

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.

TABLE 2 Supplemental Chemical Requirements

	Composition, max, % All Grades
Arsenic	0.10
Tin	0.010
Lead	0.030
Chromium	0.50
Nickel	0.20
Molybdenum	0.10

[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.

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[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.

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TABLE 3 Standard Sizes and Tolerances

Standard Sizes (All Grades)	Tolerances[A]	
8 in. by 4 in.	90 lb lump, max	10 % max passing 4 in. (100 mm) sieve
8 in. by 2 in.	90 lb lump, max	10 % max passing 2 in. (50 mm) sieve
4 in. by 1 in.	10 % max retained on 4 in. (100 mm) sieve	10 % max passing 1 in. (25.0 mm) sieve
2 in. by ¼ in.	10 % max retained on 2 in. (50 mm) sieve	10 % max passing ¼ in. (6.3 mm) sieve
2 in. by down.	10 % max retained on 2 in. (50 mm) sieve	15 % max passing No. 8 (2.36 mm) sieve

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

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