



Standard Specification for Silicomanganese¹

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1. Scope*

1.1 This specification covers grades of silicomanganese.

1.2 *Units*—The values stated in either SI units or inch-pound units are to be regarded separately as standard. The values stated in each system may not be exact equivalents; therefore, each system shall be used independently of the other. Combining values from the two systems may result in nonconformance with the standard.

1.2.1 This specification is expressed in both inch-pound units and in SI units (within the text, the SI units are shown in brackets); however, unless the purchase order or contract specifies the applicable M specification designation (SI units), the inch-pound units shall apply.

2. Referenced Documents

2.1 *ASTM Standards*:²

A1025 Specification for Ferrous Alloys and Other Alloying Materials, General Requirements

E11 Specification for Woven Wire Test Sieve Cloth and Test Sieves

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.

3. General Conditions for Delivery

3.1 Materials furnished to this specification shall conform to the requirements of Specification A1025, including any supplementary requirements that are indicated in the purchase order. Failure to comply with the general requirements of Specification A1025 constitutes nonconformance with this specification. In case of conflict between the requirements of this specification and Specification A1025, 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.

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 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

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

TABLE 3 Standard Sizes and Tolerances

Standard Sizes (All Grades)	Tolerances ^A	
8 in. by 4 in. [200 mm by 100 mm]	90 lb [40 kg] lump, max	10 % max passing 4 in. [100 mm] sieve
8 in. by 2 in. [200 mm by 50 mm]	90 lb [40 kg] lump, max	10 % max passing 2 in. [50 mm] sieve
4 in. by 1 in. [100 mm by 25 mm]	10 % max retained on 4 in. [100 mm] sieve	10 % max passing 1 in. [25.0 mm] sieve
2 in. by ¼ in. [50 mm by 5 mm]	10 % max retained on 2 in. [50 mm] sieve	10 % max passing ¼ in. [5 mm] sieve
2 in. [50 mm] by down.	10 % max retained on 2 in. [50 mm] sieve	15 % max passing No. 8 [5 mm] sieve

^A Specifications of sieve sizes used to define tolerances in this specification are as listed in Specification E11.

SUMMARY OF CHANGES

Committee A01 has identified the location of selected changes to this standard since the last issue (A483 – 04 (2009)) that may impact the use of this standard. (Approved Oct. 1, 2010.)

(1) Converted designation to dual.

(3) Added and editorially corrected SI units in Table 3.

(2) Corrected 1.2.

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