



Designation: A 99 – 03

Standard Specification for Ferromanganese¹

This standard is issued under the fixed designation A 99; 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.

This standard has been approved for use by agencies of the Department of Defense. This specification replaces Federal Specification QQ-F-145.

1. Scope

1.1 This specification covers ten grades of ferromanganese, designated as follows:

Standard ferromanganese	Grade A Grade B Grade C
Medium-carbon ferromanganese	Grades A,B,C, and D Nitrided
Low-carbon ferromanganese	Grade A Grade B

1.2 The values stated in inch-pound units are to be regarded as the standard. The values given in parentheses are for information only.

2. Referenced Documents

2.1 ASTM Standards:

A 1025 Specification for Ferrous Alloys, General Requirements²

E 11 Specification for Wire Cloth and Sieves for Testing Purposes³

E 29 Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications³

E 32 Practices for Sampling Ferrous Alloys and Steel Additives for Determination of Chemical Composition⁴

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 Sept. 10, 2003. Published October 2003. Originally approved in 1925. Last previous edition approved in 2000 as A 99 – 82 (2000).

² Annual Book of ASTM Standards, Vol 01.02.

³ Annual Book of ASTM Standards, Vol 14.02.

⁴ Annual Book of ASTM Standards, Vol 03.05.

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 material shall conform to the requirements as to chemical composition specified in Table 1.

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

5. Size

5.1 The various grades are available in sizes as listed in Table 2.

5.2 The sizes and friability ratings listed in Table 2 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 code system has been developed. Therefore, for this purpose, a number rating for each product type is shown in the last column of Table 2. Definitions applicable to these code numbers are given in Specification A 1025.

6. Keywords

6.1 ferrous alloy; ferromanganese