



Designation: A 601 – 96 (Reapproved 2000)

Standard Specification for Electrolytic Manganese Metal¹

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1. Scope

1.1 This specification covers six grades of electrolytic manganese designated as follows:

	Grade
Regular	A
Intermediate Hydrogen	B
Low Hydrogen	C
4.5 % Nitrogen Bearing	D
6 % Nitrogen Bearing	E
Weld Grade Powder	F

2. Referenced Documents

2.1 ASTM Standards:

- E 11 Specification for Wire-Cloth Sieves for Testing Purposes²
- E 29 Practice for Using Significant Digits in Test Data to Determine Conformance With Specifications²
- E 32 Practices for Sampling Ferrous Alloys and Steel Additives for Determination of Chemical Composition³

3. Ordering Information

3.1 Orders for material to this specification shall include the following information:

- 3.1.1 Quality,
- 3.1.2 Name of material,
- 3.1.3 ASTM designation and year of issue,
- 3.1.4 Grade (see 1.1),
- 3.1.5 Sizing, if appropriate (Section 6), and
- 3.1.6 Special requirements for packaging, inspection, analysis reports, etc., as appropriate.

4. Chemical Requirements

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

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

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² Annual Book of ASTM Standards, Vol 14.02.

³ Annual Book of ASTM Standards, Vol 03.05.

4.2 The manufacturer shall furnish an analysis of each shipment showing the elements specified in the applicable table.

5. Size

5.1 The various grades are available in the sizes 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 (see 5.3).

5.3 *Friability Ratings* (see Appendix):

Grades A, B, C	No. 6
Grades D, E	No. 5

6. Sampling

6.1 The material shall be sampled in accordance with Practices E 32.

6.2 Other methods of sampling that have been agreed upon between the manufacturer and the purchaser may be used. In case of discrepancy, Practices E 32 shall be used for referee.

7. Chemical Analysis

7.1 Chemical procedures for analysis of ferroalloy components are not standardized. The chemical content procedures must be mutually agreed upon between the purchaser and the manufacturer if there are differences in results.

7.2 *Special Analysis Requirements*—Analysis for additional elements other than those listed in Table 1 and Table 2 shall be agreed upon between the purchaser and the manufacturer. Such elements in trace quantities shall be reported as less than "<" the limit of analytical equipment. This shall be mutually agreed upon between the purchaser and the manufacturer.

7.3 For purposes of determining conformance with this specification, the reported analysis shall be rounded to the nearest unit in the last right-hand place of figures used in expressing the limiting value, in accordance with the rounding method of Practice E 29.