



Standard Specification for Ferroboron¹

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1. Scope

1.1 This specification covers six grades of ferroboron, designated A1, A2, B1, B2, C1, and C2.

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

2. Referenced Documents

2.1 *ASTM Standards:*

E 29 Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications²

E 31 Methods for Chemical Analysis of Ferroalloys³

E 32 Practices for Sampling Ferroalloys and Steel Additives for Determination of Chemical Composition³

E 371 Test Methods for Chemical Analysis of Ferroboron⁴

3. Ordering Information

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

3.1.1 Quantity,

3.1.2 Name of material,

3.1.3 ASTM designation,

3.1.4 Grade,

3.1.5 Size (see 4.1), if appropriate, and

3.1.6 Special requirements for packing, inspection, analysis reports, etc., as appropriate.

NOTE 1—A typical ordering description follows: 10 000 lb (4500 kg) ferroboron, ASTM A 323, Grade B1, 2 in. (50.8 mm) by down, packed in sealed containers.

4. Sizing

4.1 Ferroboron is available in various sizes such as: 2 in. (50.8 mm) by down, 1 in. (25.4 mm) by down, 1/4 in. (6.35 mm) by down, and 20 mesh (0.841 mm) by down. The size shall be as specified in the order.

5. Chemical Analysis

5.1 The chemical analysis of the material shall be made in accordance with Methods E 31 and Test Methods E 371. Where no method is given in Methods E 31 and Test Methods E 371 for the analysis for a particular element, the analysis shall be made in accordance with a procedure agreed upon by the manufacturer and purchaser.

6. Sampling

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

6.2 Other methods of sampling mutually agreed upon by manufacturer and purchaser may be used. For referee purposes, Practices E 32 shall be used.

7. Inspection

7.1 The manufacturer shall afford the inspector representing the purchaser all reasonable facilities, to satisfy him that the material is being furnished in accordance with this specification.

8. Rejection

8.1 Any claims or rejections based upon check analysis shall be made to the manufacturer within 45 days from the purchaser's receipt of the material.

9. Packaging and Marking

9.1 *Packaging:*

9.1.1 Ferroboron shall be packed in such a manner as to be protected from loss or damage during shipment.

9.1.2 When shipment is required to be in containers under the provisions of Section 3, the containers shall be sound and capable of protecting the material from loss or damage during shipment and handling.

9.2 *Marking:*

9.2.1 When the shipment is made in bulk, it shall be accompanied by appropriate identification showing the material, grade, ASTM designation, size, lot number, and the name, brand, or trademark of the manufacturer.

9.2.2 When the shipment is made in containers, each container shall be identified by an attached label or tag. The marking shall show the material, grade, ASTM designation,

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² *Annual Book of ASTM Standards*, Vol 14.02.

³ *Annual Book of ASTM Standards*, Vol 03.05.

⁴ *Annual Book of ASTM Standards*, Vol 03.06.

size, lot number, gross, tare and net weight, and name, brand, or trademark of the manufacturer.

10. Chemical Requirements

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

TABLE 1 Chemical Requirements^A

NOTE 1— An analysis report on each lot is required.

| Grade | Composition, % | | | | |
|-------|--------------------|------|--------|---------|----------|
| | Boron ^B | | Carbon | Silicon | Aluminum |
| | min | max | max | max | max |
| A1 | 12.0 | 14.0 | 1.5 | 2.0 | 0.5 |
| A2 | 12.0 | 14.0 | 1.5 | 2.0 | 4.0 |
| B1 | 17.5 | 19.0 | 1.5 | 2.0 | 0.5 |
| B2 | 17.5 | 19.0 | 1.5 | 2.0 | 4.0 |
| C1 | 19.0 | 24.0 | 1.5 | 2.0 | 0.5 |
| C2 | 19.0 | 24.0 | 1.5 | 2.0 | 4.0 |

^ATo determine conformance with this specification, the reported analysis shall be rounded off to the nearest unit in the last right-hand place of figures used in expressing the limiting value in accordance with Practice E 29.

^BTo determine the boron content of any shipment, boron shall be reported to the nearest 0.1 %, applying the same rounding-off procedure used in Footnote A.

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