



Standard Specification for Ferrovanadium¹

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1. Scope

1.1 This specification covers one grade of ferrovanadium.

1.2 The values stated in inch-pound units are to be regarded as standard. The values given in parentheses are mathematical conversions to SI units that are provided for information only and are not considered standard.

2. Referenced Documents

2.1 *ASTM Standards*:²

[A1025 Specification for Ferroalloys and Other Alloying Materials, General Requirements](#)

[E365 Test Method for the Determination of Vanadium in Ferrovanadium and Vanadium Alloying Additives \(Withdrawn 2005\)](#)³

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.

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 The last approved version of this historical standard is referenced on www.astm.org.

In case of conflict between the requirements of this specification and Specification [A1025](#), this specification shall prevail.

3.2 Although ferrovanadium is ordered by total net weight, the customary basis of payment is per pound of contained vanadium.

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 grade is available in sizes as listed in [Table 2](#).

NOTE 1—The sizes listed in [Table 2](#) are typical as shipped from the manufacturer's plant. Ferrovanadium has a friability code number of "1". It is a tough material, susceptible to little, if any, breakage during shipment or handling.

6. Chemical Analysis

6.1 The chemical analysis of the material shall be made in accordance with the procedure for ferrovanadium as described in Test Methods [E365](#) or alternative methods which will yield equivalent results. For elements other than vanadium the chemical analysis shall be agreed upon by the purchaser and supplier.

6.2 If alternative methods of analysis are used, in case of discrepancy, Test Methods [E365](#) shall be used for referee.

6.3 Where no method is given for the analysis for a particular element, the analysis shall be made in accordance with a procedure agreed upon by the manufacturer and the purchaser.

TABLE 1 Chemical Requirements^A

Element	Composition, %
Vanadium, ^B	75-85
Carbon, max	0.75
Silicon, max	1.5
Aluminum, max	2.0
Sulfur, max	0.08
Phosphorus, max	0.08

^AFor the 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 A1025.

^BFor the purposes of determining the vanadium content of any shipment, vanadium shall be reported to the nearest 0.1 %, applying the same rounding procedure as prescribed in Footnote A.

TABLE 2 Sizing Requirements

Size Requirements
2 in. (50 mm) by down
1 in. (25 mm) by down
½ in. (12.5 mm) by down
No. 8 (2.36 mm) by down

SUPPLEMENTARY REQUIREMENTS

The composition shall be further limited to the requirements of [Table S1.1](#) in addition to those in [Table 1](#). An analysis of each lot is not required. The manufacturer shall supply, upon request, the results of an analysis for these elements on a cumulative basis over a period mutually agreed upon by the manufacturer and the purchaser.

TABLE S1.1 Supplementary Chemical Requirements

Element	Maximum Limits Allowable, %
Chromium	0.50
Copper	0.15
Nickel	0.10
Lead	0.020
Tin	0.050
Zinc	0.020
Molybdenum	0.75
Titanium	0.15
Nitrogen	0.20

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