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Standard Specification for Ferrotungsten[1]

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1. Scope

1.1 This specification covers four grades of ferrotungsten.

2. Referenced Documents

2.1 *ASTM Standards:* [2]

A 1025 Specification for Ferroalloys, General Requirements

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 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. The manufacturer shall supply on request the results of an analysis for the elements in Table 2, on a cumulative basis over a period mutually agreed upon between the manufacturer and the purchaser.

5. Size

5.1 The various grades are available in the sizes listed in Table 3.

6. Keywords

6.1 ferroalloy; ferrotungsten

[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.

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TABLE 1 Chemical Requirements[A]

Grade	Composition, max, %, Unless Otherwise Shown						
	Tungsten	Carbon	Phosphorus	Sulfur	Silicon	Molybdenum	Aluminum
A	85.0–95.0	0.050	0.010	0.020	0.10	0.20	0.10
B	75.0–85.0	0.10	0.020	0.020	0.50	0.35	0.10
C	75.0–85.0	0.60	0.060	0.050	1.0	1.0	...
D	75.0–85.0	0.60	0.060	0.050	1.0	3.0	...

[A] For purposes of determining the tungsten content of any shipment, tungsten shall be reported to the nearest 0.1 %.

TABLE 2 Supplementary Chemical Requirements[A]

	Manganese	Copper	Nickel	Arsenic	Antimony	Tin	Bismuth	Total: Arsenic, Antimony, Tin	Total: Arsenic Antimony, Tin, Bismuth
A	0.10	0.50	0.05	0.010	0.010	0.010	0.010	...	0.040
B	0.30	0.07	0.05	0.020	0.020	0.020	0.030	...	0.090
C	0.75	0.10	...	0.10	0.080	0.10	...	0.20	...
D	0.75	0.10	...	0.10	0.080	0.10	...	0.20	...

[A] An analysis of each lot is not required.

TABLE 3 Size Tolerance

Size	Tolerance
¼ in. (6.3 mm) by down	5 % max retained on 6.3 mm (¼ in.) sieve, 20 % max under 70 mesh
⅜ in. (9.5 mm) by down	5 % max over 9.5 mm (⅜ in.) sieve, 20 % max under 70 mesh

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