



Standard Specification for Nickel-Chromium-Molybdenum-Cobalt-Tungsten- Iron-Silicon Alloy (UNS N06333) Bar¹

This standard is issued under the fixed designation B 719; 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 reappraisal. A superscript epsilon (ε) indicates an editorial change since the last revision or reappraisal.

1. Scope

1.1 This specification covers wrought alloy UNS N06333 in the form of hot-finished and cold-finished bars and flats intended for heat resisting applications and general corrosive service.

1.2 The values stated in inch-pound units are to be regarded as the standard.

2. Referenced Documents

2.1 ASTM Standards:

B 880 Specification for General Requirements for Chemical Check Analysis Limits for Nickel, Nickel Alloys and Cobalt Alloys²

E 8 Test Methods for Tension Testing of Metallic Materials³

E 10 Test Method for Brinell Hardness of Metallic Materials³

E 18 Test Methods for Rockwell Hardness and Rockwell Superficial Hardness of Metallic Materials³

E 29 Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications⁴

E 140 Hardness Conversion Tables for Metals³

E 1473 Test Methods for Chemical Analysis of Nickel, Cobalt and High-Temperature Alloys⁵

3. Terminology

3.1 Definitions of Terms Specific to This Standard:

3.1.1 *bars*—material of round, hexagonal, octagonal, or square solid section, furnished in straight lengths, ¼ in. [6.35 mm] and over in diameter or size.

3.1.2 *flats*—material ¼ to 10 in. [6.35 to 254 mm], inclusive, in width and 120 in. [3.05 mm] and over in thickness.

¹ This specification is under the jurisdiction of ASTM Committee B02 on Nonferrous Metals and Alloys and is the direct responsibility of Subcommittee B02.07 on Refined Nickel and Cobalt and Their Alloys.

Current edition approved May 10, 2000. Published June 2000. Originally published as B 719-83. Last previous edition B 719-83 (1994)

² Annual Book of ASTM Standards, Vol 02.04.

³ Annual Book of ASTM Standards, Vol 03.01.

⁴ Annual Book of ASTM Standards, Vol 14.02.

⁵ Annual Book of ASTM Standards, Vol 03.06.

4. Ordering Information

4.1 It is the responsibility of the purchaser to specify all requirements that are necessary for the safe and satisfactory performance of material ordered under this specification. Examples of such requirements include, but are not limited to, the following:

4.1.1 Alloy name or UNS number.

4.1.2 Quantity.

4.1.3 ASTM Designation and year of issue.

4.1.4 Section (round, square, hexagonal, and so forth).

4.1.5 Dimensions, including length.

4.1.6 Finish, hot or cold.

4.1.7 *Certification*—state if certification is required (Section 16).

4.1.8 *Samples for Product (Check) Analysis*—State whether samples shall be furnished.

4.1.9 *Purchaser Inspection*—If a purchaser wishes to witness tests or inspections of material at the place of manufacture, the purchase order must so state indicating which tests or inspections are to be witnessed.

5. Material and Manufacture

5.1 All material shall be furnished in the annealed condition, except that cold-drawn hexagons may be given a cold draw sizing pass subsequent to the final anneal.

NOTE 1—Hot-finished rectangular bar in widths 10 in. [254 mm] and under may be furnished as hot-finished plate with sheared or cut edges.

6. Chemical Requirements

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

6.2 If a product (check) analysis is performed by the purchaser, the material shall conform to the product (check) analysis variations per B 880.

7. Mechanical and Other Requirements

7.1 The mechanical properties of the material at room temperature shall conform to those shown in Table 2.