



Designation: B 815 – 9702

Standard Specification for Cobalt-Chromium-Nickel-Molybdenum-Tungsten Alloy (UNS R31233) Rod¹

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¹ This specification is under the jurisdiction of ASTM Committee B-2 B02 on Nonferrous Metals and Alloys and is the direct responsibility of Subcommittee B02.07 on Refined Nickel and Cobalt and Their Alloys.

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1. Scope

1.1 This specification² covers cobalt-chromium-nickel-molybdenum-tungsten alloy UNS R31233 in the form of rod for wear applications and general corrosion service.

1.2 The following products are covered under this specification:

1.2.1 Rods $\frac{3}{16}$ to $\frac{3}{4}$ in. (9.76 to 19.05 mm) exclusive in diameter, hot or cold finished, solution-annealed, and pickled or mechanically descaled; and

1.2.2 Rods $\frac{3}{4}$ to $3\frac{1}{2}$ in. (19.05 to 88.9 mm) inclusive in diameter, hot or cold finished, solution annealed, ground, or turned.

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

1.4 This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to become familiar with all hazards including those identified in the appropriate Material Safety Data Sheet for this product/material as provided by the manufacturer, to establish appropriate safety and health practices, and determine the applicability of regulatory limitations prior to use.

2. Referenced Documents

2.1 ASTM Standards:

B 880 Specification for General Requirements for Chemical Analysis Limits for Nickel, Nickel Alloys and Cobalt Alloys³

E 8 Test Methods for Tension Testing of Metallic Materials⁴

E 29 Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications⁵

E 55 Practice for Sampling Wrought Nonferrous Metals and Alloys for Determination of Chemical Composition⁶

E 1473 Test Methods for Chemical Analysis of Nickel, Cobalt, and High-Temperature Alloys⁷

3. Terminology

3.1 Definitions of Terms Specific to This Standard:

3.1.1 rod—product of round solid section furnished in straight lengths.

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.

4.1.2 Dimensions—Nominal diameter and length. The shortest usable multiple length shall be specified (Table 1).

Annual Book

² For ASME Boiler and Pressure Vessel Code applications, see related Specification SB-815 in Section II of ASTM Standards, Vol 03.01; that code.

³ Annual Book of ASTM Standards, Vol 14.02; 02.04.

⁴ Annual Book of ASTM Standards, Vol 03.051.

⁵ Annual Book of ASTM Standards, Vol 03.06; 14.02.

⁶ Annual Book of ASTM Standards, Vol 03.05.

⁷ Annual Book of ASTM Standards, Vol 03.06.