



Designation: B 834 – 95

Standard Specification for Pressure Consolidated Powder Metallurgy Iron-Nickel- Chromium-Molybdenum (UNS N08367) and Nickel- Chromium-Molybdenum-Columbium (Nb) (UNS N06625) Alloy Pipe Flanges, Fittings, Valves, and Parts¹

This standard is issued under the fixed designation B 834; 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 reapproval. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 This specification covers pressure consolidated powder metallurgy iron-nickel-chromium-molybdenum (UNS N08367) and nickel-chromium-molybdenum-columbium (Nb) (UNS N06625) pipe flanges, fittings, valves, and parts intended for general corrosion or heat-resisting service.

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

1.3 The following safety hazards caveat pertains only to test methods portions, Sections 7.3 and 13, of this specification: *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 establish appropriate safety and health practices and to determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 ASTM Standards:

E 8 Test Methods for Tension Testing of Metallic Materials²

E 1473 Test Methods for Chemical Analysis of Nickel, Cobalt, and High-Temperature Alloys³

G 28 Test Methods for Detecting Susceptibility to Intergranular Attack in Wrought, Nickel-Rich, Chromium-Bearing Alloys⁴

G 48 Test Method for Pitting and Crevice Corrosion Resistance of Stainless Steels and Related Alloys by the Use of Ferric Chloride Solution⁴

2.2 Manufacturer's Standardization Society of the Valve and Fittings Industry Standard:

SP-25 Standard Marking System for Valves, Fittings,

Flanges, and Unions⁵

2.3 ASME/ANSI Standard:

ASME/ANSI B16.5 Pipe Flanges and Flanged Fittings⁶

3. Terminology

3.1 Definitions of Terms Specific to This Standard:

3.1.1 *can, n*—the container used to encapsulate the powder during the pressure consolidation process; it is removed from the final part.

3.1.2 *compact, n*—the consolidated powder from one can; it may be used to make one or more parts.

3.1.3 *fill pin, n*—the part of the compact in the spout used to fill the can; it is not usually integral to the part produced.

3.1.4 *part, n*—a single item coming from a compact, either prior to or after machining.

3.1.5 *powder blend, n*—a homogeneous mixture of powder from one or more heats; it is limited to the amount that can be mixed in the same blender at one time.

3.1.6 *rough part, n*—the part prior to final machining.

4. Ordering Information

4.1 Orders for material under this specification should include the following information:

4.1.1 Quantity (weight or number of pieces),

4.1.2 Name of material or UNS number,

4.1.3 Microstructure examination, if required (5.1.4),

4.1.4 ASTM designation and year of issue,

4.1.5 Inspection (14.1),

4.1.6 Whether rough part or finish machined (7.2.2),

4.1.7 Supplementary requirements, when applicable, and

4.1.8 If possible, the intended end use.

5. Materials and Manufacture

5.1 Manufacturing Practice:

5.1.1 Compacts shall be manufactured by placing a single powder blend into a can, evacuating the can, and sealing it. The

¹ This specification is under the jurisdiction of ASTM Committee B-2 on Nonferrous Metals and Alloys and is the direct responsibility of Subcommittee B02.07 on Refined Nickel and Cobalt, and Alloys Containing Nickel or Cobalt or Both as Principal Constituents.

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² *Annual Book of ASTM Standards*, Vol 03.01.

³ *Annual Book of ASTM Standards*, Vol 03.06.

⁴ *Annual Book of ASTM Standards*, Vol 03.02.

⁵ Available from the Manufacturers' Standardization Society of the Value and Fittings Industry, 1815 N. Fort Myer Dr., Arlington, VA 22209.

⁶ Available from American Society of Mechanical Engineers, 345 E. 47th St., New York, NY 10017, or from American National Standards Institute, 11 W. 42nd St., 13th Fl., New York, NY 10036.