



Designation: B536 – 19

Standard Specification for Nickel-Iron-Chromium-Silicon Alloys Plate, Sheet, and Strip¹

This standard is issued under the fixed designation B536; 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 nickel-iron-chromium silicon alloys (UNS N08330 and UNS N08332)² plate, sheet, and strip intended for heat resisting applications and general corrosive service.

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.

1.3 *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 Safety Data Sheet (SDS) for this product/material as provided by the manufacturer, to establish appropriate safety, health, and environmental practices, and determine the applicability of regulatory limitations prior to use.*

1.4 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

2. Referenced Documents

2.1 ASTM Standards:³

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 April 1, 2019. Published August 2019. Originally approved in 1970. Last previous edition approved in 2013 as B536 – 07 (2013). DOI: 10.1520/B0536-19.

² Designation established in accordance with ASTM E527 and SAE J1086, Practice for Numbering Metals and Alloys (UNS).

³ 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.

[B899 Terminology Relating to Non-ferrous Metals and Alloys](#)

[B906 Specification for General Requirements for Flat-Rolled Nickel and Nickel Alloys Plate, Sheet, and Strip](#)

3. Terminology

3.1 Terms shall be defined in accordance with Terminology [B899](#).

4. General Requirements

4.1 Material furnished under this specification shall conform to the requirements of Specification [B906](#) unless otherwise provided herein. In the case of conflict, the requirements of this specification shall take precedence.

5. Material and Manufacture

5.1 *Annealing Temperature*—Alloy UNS N08330 shall be annealed at 1900°F (1040°C) minimum. Alloy UNS N08332 shall be annealed at 2100°F (1150°C) minimum.

6. Chemical Composition

6.1 The material shall conform to the requirements as to chemical composition specified in [Table 1](#).

7. Mechanical and Other Properties

7.1 The tensile properties of the material at room temperature shall conform to those shown in [Table 2](#).

7.2 *Grain Size*—Annealed alloy UNS N08332 shall conform to an average grain size of ASTM No. 5 or coarser. There are no grain size requirements for UNS N08330.

8. Permissible Variations in Dimensions and Weight

8.1 The tolerances and permissible variations provided in Annex A1, Permissible Variations in Dimensions, Etc.—Inch-Pound (SI) Units, of Specification [B906](#) shall apply.

9. Keywords

9.1 N08330; N08332; plate; sheet; strip

*A Summary of Changes section appears at the end of this standard