Designation: ~~B463 – 10 (Reapproved 2016)~~ B463 – 21

Standard Specification for UNS N08020 Alloy Plate, Sheet, and Strip[1]

This standard is issued under the fixed designation B463; 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.

This standard has been approved for use by agencies of the U.S. Department of Defense.

1. ~~Scope~~ Scope*

1.1 This specification[2] covers UNS N08020 alloy plate, sheet, and strip.

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~~ safety, health, and ~~health~~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]

A262 Practices for Detecting Susceptibility to Intergranular Attack in Austenitic Stainless Steels

B906 Specification for General Requirements for Flat-Rolled Nickel and Nickel Alloys Plate, Sheet, and Strip

3. Terminology

3.1 *Definitions of Terms Specific to This Standard:*

3.1.1 The terms plate, sheet, and strip as used in this specification are defined as follows:

3.1.2 *cold rolled plate, n*—material 3⁄16 to 3⁄8 in. (4.76 to 9.52 mm), inclusive in thickness and over 10 in. (254.0 mm) in width.

3.1.3 *hot rolled plate, n*—material 3⁄16 in. (4.76 mm) and over in thickness and over 10 in. (254.0 mm) in width.

3.1.4 *plate, n*—material 3⁄16 in. (4.75 mm) and over in thickness and over 10 in. (254.0 mm) in width.

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[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 ~~June 1, 2016~~Nov. 1, 2021. Published ~~June 2016~~December 2021. Originally approved in 1967. Last previous edition approved in ~~2010~~2016 as ~~B463~~B463 – 10 (2016).~~– 10.~~ DOI: ~~10.1520/B0463-10R16.~~10.1520/B0463-21.

[2] For ASME Boiler and Pressure Vessel Code applications, see related Specification SB – 463 in Section II of that Code.

[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.

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

3.1.5 *sheet, n*—material under 3⁄16 in. (4.75 mm) in thickness and 24 in. (609.6 mm) and over in width. Material under 3⁄16 in. (4.75 mm) in thickness and in all widths with No. 4 finish.

3.1.6 *strip, n*—material under 3⁄16 in. (4.75 mm) in thickness and under 24 in. (609.6 mm) in width.

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. Materials and Manufacture

5.1 *Heat Treatment*—UNS N08020 Alloy shall be furnished in the stabilize-annealed condition.

NOTE 1—The recommended annealing temperatures are 1800 to 1850°F (982 to 1010°C) for UNS N08020.

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6. Chemical Composition

6.1 The material shall conform to the composition limits specified in Table 1.

7. Mechanical Properties

7.1 *Mechanical Properties*—The material shall conform to the mechanical property requirements specified in Table 2.

8. Dimensions and Permissible Variations

8.1 The tolerances and permissible variations provided in Annex A1 of Specification B906 shall apply.

9. Keywords

9.1 N08020; plate; sheet; strip

TABLE 1 Chemical Requirements

Element	UNS N08020
Carbon, max	0.07
Manganese, max	2.00
Phosphorus, max	0.045
Sulfur, max	0.035
Silicon, max	1.00
Nickel	32.00–38.00
Chromium	19.00–21.00
Molybdenum	2.00–3.00
Copper	3.00–4.00
Columbium (Nb) + tantalum	8 × carbon–1.00
~~Nitrogen~~	~~...~~
Iron	remainder[A]

[A] By difference.