

ASTM B463 / ASME SB463

SPECIFICATION FOR UNS N08020, UNS N08026, AND UNS N08024 ALLOY PLATE, SHEET, AND STRIP

This specification covers UNS N08020, UNS N08026, and UNS N08024 alloy plate, sheet, and strip.

A. Terminology :-

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

1. 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.
2. 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. Plate, n – material 3/16 in. (4.75 mm) and over in thickness and over 10 in. (254.0 mm) in width.
4. 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.
5. Strip, n – material under 3/16 in. (4.75 mm) in thickness and under 24 in. (609.6 mm) in width.

B. General Requirements :-

1. Material furnished under this specification shall conform to the requirements of Specification B 906 unless otherwise provided herein.

C. Heat Treatment :-

1. UNS N08020 Alloy shall be furnished in the stabilize-annealed condition. UNS N08026 Alloy shall be furnished in the solution-annealed condition.
2. UNS N08024 Alloy shall be furnished in the annealed condition.

NOTE 1 – The recommended annealing temperatures are 1800 to 1850° F (982 to 1010° C) for UNS N08020, 2050 to 2200° F (1 121 to 1204° C) for UNS N08026, and 1925 to 1975° F (1052 to 1079° C) for UNS N08024.

D. Chemical Composition :-

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

Table 1

Element	UNS N08026	UNS N08020	UNS N08024
Carbon, max	0.03	0.07	0.03
Manganese, max	1.0	2.0	1.0
Phosphorous, max	0.03	0.045	0.035
Sulphur, max	0.03	0.035	0.035
Silicon, max	0.5	1.0	0.5
Nickel	33.00–37.20	32.00–38.00	35.00–40.00
Chromium	22.00–26.00	19.00–21.00	22.50–25.00
Molybdenum	5.00–6.70	2.00–3.00	3.50–5.00
Copper	2.00–4.00	3.00–4.00	0.50–1.50
Columbium (Nb) + tantalum	...	8×carbon–1.00	0.15–0.35
Nitrogen	0.10–0.16
Iron	remainder ^A	remainder ^A	remainder

^A By difference.

E. Mechanical Properties :-

The material shall conform to the mechanical property requirements specified in Table 2.

Table 2

Tensile Strength, min		Yield Strength, ^A min		Elongation ^B in 2 in. or 50.8 mm, min, %	Hardness Number, max ^C	
ksi	MPa	ksi	MPa		Brinell	Rockwell B
80	551	35	241	30.0	217	95

^A Yield strength shall be determined by the offset method at 0.2% limiting permanent set in accordance with Test Methods E 8. An alternative method of determining yield strength may be based on a total extension under load of 0.5%.

^B Elongation for thickness, less than 0.015 in. (0.38 mm) shall be 20% minimum, in 1 in. (25.4 mm).

^C Either Brinell or Rockwell B hardness is permissible.

F. Supplementary Tests :-

1. Corrosion Tests:

One intergranular corrosion test per lot shall be performed by the manufacturer on a sensitized specimen and tested in accordance with Practices A 262.

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