

ASTM B424 / ASME SB424

Standard Specification for Ni-Fe-Cr-Mo-Cu Alloy (UNS N08825, UNS N08221, and UNS N06845) Plate, Sheet, and Strip

This specification covers rolled nickel-iron-chromium-molybdenum- copper alloy (UNS N08825, UNS N08221, and UNS N06845) plate, sheet, and strip.

A. General Requirements :-

1. Material furnished under this specification shall conform to the applicable requirements of Specification B906.

B. Chemical Composition :-

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

Table 1^A

Element	UNS N08825	UNS N08221	UNS N06845
Nickel	38.0-46.0	39.0-46.0	44.0-50.0
Chromium	19.5-23.5	20.0-22.0	20.0-25.0
Iron	22.0 min ^B	Balance ^B	Remainder ^B
Manganese	1.0	1.0	0.5
Carbon	0.05	0.025	0.05
Copper	1.5-3.0	1.5-3.0	2.0-4.0
Silicon	0.5	0.5	0.5
Sulfur	0.03	0.03	0.01
Aluminum	0.2	0.2	...
Titanium	0.6-1.2	0.6-1.0	...
Molybdenum	2.5-3.5	5.0-6.5	5.0-7.0
Tungsten	2.0-5.0

^A Maximum unless range or minimum is given. Where ellipses (...) appear in this table, there is no requirement and analysis for the element need not be determined or reported.

^B Element shall be determined arithmetically by difference.

C. Mechanical Properties :-

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

Table 2

Alloy	Condition	Tensile Strength, min, ksi (MPa)	Yield Strength ^A (0.2 % Offset), min, ksi (MPa)	Elongation in 2 in. or 50 mm (or 4 D), min,%
Hot-Rolled Plate:				
UNS N08825	annealed	85 (586)	35 (241)	30
UNS N08221	annealed	79 (544)	34 (235)	30
UNS N06845	annealed	100 (690)	40 (276)	30
Cold-Rolled Plate:				
UNS N08825	annealed	85 (586)	35 (241)	30
UNS N08221	annealed	79 (544)	34 (235)	30
UNS N06845	annealed	100 (690)	40 (276)	30
Hot-Rolled Sheet:				
UNS N08825	annealed	85 (586)	35 (241)	30
UNS N08221	annealed	79 (544)	34 (235)	30
UNS N06845	annealed	100 (690)	40 (276)	30
Cold-Rolled Sheet:				

UNS N08825	annealed	85 (586)	35 (241)	30
UNS N08221	annealed	79 (544)	34 (235)	30
UNS N06845	annealed	100 (690)	40 (276)	30
Cold-Rolled Strip:				
UNS N08825	annealed	85 (586) ^B	35 (241)	30 ^B
UNS N08221	annealed	79 (544) ^B	34 (235)	30 ^B
UNS N06845	annealed	100 (690) ^B	40 (276)	30

^A Yield strength requirements do not apply to material under 0.020 in. (0.51 mm) in thickness.

^B Not applicable for thickness under 0.010 in. (0.25 mm).

D. Length :-

1. Sheet and strip of all sizes may be ordered to cut lengths, in which case a variation of 1/8 in. (3.2 mm) over the specified length shall be permitted.
2. Permissible variations in length of rectangular plate shall be as prescribed in Specification B906, Permissible Variations in Length of Sheared, Plasma, Torch-Cut, and Abrasive-Cut Rectangular Plate Table.

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