

ASTM B729 / ASME SB729

SPECIFICATION FOR SEAMLESS UNS N08020, UNS N08026, AND UNS N08024 NICKEL-ALLOY PIPE AND TUBE

This specification covers UNS N08020, UNS N08026, and UNS N08024 seamless, cold-worked or hot finished pipe and tube intended for general corrosive service.

A. General Requirement :-

1. Material furnished under this specification shall conform to the applicable requirements of Specification B 829 unless otherwise provided herein.

B. 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	2	1
Phosphorus, max	0.03	0.045	0.035
Sulfur, max	0.03	0.035	0.035
Silicon, max	0.5	1	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

^A By difference.

C. Mechanical and Other Properties :-

1. 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 in 2 in. (50.8 mm) or 4D min, %
ksi	MPa	ksi	MPa	
80	550	35	240	30.0

^A Yield strength shall be determined by the offset method at 0.2% limiting permanent set in accordance with Test Methods E 8.

2. Pressure and Nondestructive Electric Test — Each pipe and tube shall be subjected to either a pressure test or the nondestructive electric test at the manufacturer's option. The purchaser may specify which test is to be used.

D. Hydrostatic Test :-

1. Each pipe or tube shall be hydrostatically tested, at a pressure not to exceed 2500 psi (17 MPa) for nominal sizes 3 in. (76 mm) and under, nor 2800 psi (19 MPa) for all nominal sizes over 3 in. (76 mm).
2. The allowable fiber stress for material in the condition (temper) furnished is 20000 psi (138 MPa).

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