

**ASTM B622/ASME SB622 SPECIFICATION FOR SEAMLESS NICKEL AND NICKEL COBALT ALLOY PIPE AND TUBE HASTELLOY B-2 = UNS N10665, HASTELLOY C-270 = UNS N10276**

1. Scope

1.1 This specification covers seamless pipe and tube of nickel and nickel-cobalt alloys (UNS N10001, UNS N10665, UNS N12160, UNS N10675, UNS N10276, UNS N06455, UNS N06007, UNS N08320, UNS N06975, UNS N06002, UNS N06985, UNS N06022, UNS N08315, UNS N06255, UNS N06059, UNS N06530, UNS N08031, UNS R30556, UNS N08535, UNS N06250, UNS N06060, UNS N06320, UNS N06686, UNS N10629, and UNS R20033) as shown in Table 1.

1.2 Pipe and tube shall be supplied in the solution annealed and decaled condition. When atmosphere control; is used, decaling is not necessary.

1.3 The values state in inch-pound units are to be regarded as the standard. The values given in parentheses are for information only.

2. Referenced Documents

2.1 ASTM Standards:

- E 8 Test Methods for Tension Testing of Metallic Materials
- E 29 Practice for Using Significant Digits in Test Data to Determine Conformance With Specifications
- E 55 Practice for Sampling Wrought Nonferrous Metals and Alloys for Determination of Chemical Composition
- E 354 Test Methods for Chemical Analysis of High-Temperature, Electrical, Magnetic, and Other Similar Iron, Nickel, and Cobalt Alloys

TABLE1  
CHEMICAL REQUIREMENTS

	Composition Limits, %									
	Ni	Cr	Mo	Fe	W	C	Si max	Co	Mn	V
Ni-Mo Alloys N10001	Remainder [Note(1)]	1.0max	26.0-30.0	4.0-6.0	...	0.05max	1.0	2.5max	1.0max	0.2-0.4
N10665	Remainder [Note(1)]	1.0max	26.0-30.0	2.0max	...	0.02max	0.10	1.0max	1.0max	...
N10675	65.0min	1.0-3.0	27.0-32.0	1.0-3.0	3.0max	0.01max	0.10	3.0max	3.0max	0.20max
N10629	Remainder	0.5-1.5	26.0-30.0	1.0-6.0	...	0.01max	0.05	2.5max	1.5max	...

	[Note(1)]									
Low C Ni-Mo-Cr Alloys N10276	Remainder [Note(1)]	14.5-16.5	15.0-17.0	4.0-7.0	3.0-4.5	0.010max	0.08	2.5max	1.0max	0.35max
N06022	Remainder [Note(1)]	20.0-22.5	12.5-14.5	2.0-6.0	2.5-3.5	0.015max	0.08	2.5max	0.50max	0.35max
N06455	Remainder [Note(1)]	41.0-18.0	14.0-17.0	3.0max	...	0.015max	0.01	2.0max	1.0max	...
Ni-Cr-Fe-Mo-Cu Alloys N06007	Remainder [Note(1)]	21.0-23.5	5.5-7.5	18.0-21.0	1.0max	0.05max	1.0	2.5max	1.0-2.0	...
N06975	47.0-52.0 Remainder [Note(1)]	23.0-26.0	5.0-7.0	Remainder [Note(1)]	...	0.03max	1.0	...	1.0max	...
N06985	Remainder [Note(1)]	21.0-23.0	6.0-8.0	18.0-21.0	1.5max	0.015max	1.0	5.0max	1.0max	...
N06030	Remainder [Note(1)]	28.0-31.5	4.0-6.0	13.0-17.0	1.5-4.0	0.03max	0.8	5.0max	1.5max	...
N06255	47.0-52.0 Remainder [Note(1)]	23.0-26.0	6.0-9.0	Remainder [Note(1)]	3.0max	0.03max	1.0	...	1.0max	...
N06250	50.0-54.0 Remainder [Note(1)]	20.0-23.0	10.1-12.0	Remainder [Note(1)]	0.25-1.25	0.020max	0.09	...	1.00max	....
Ni-Fe-Cr-Mo Alloy N08320	25.0-27.0 Remainder [Note(1)]	21.0-23.0	4.0-6.0	Remainder [Note(1)]	...	0.05max	1.0	...	2.5max	....
N08135	33.0-38.0 Remainder [Note(1)]	20.5-23.5	4.0-5.0	Remainder [Note(1)]	0.20-0.80	0.030max	0.75	...	1.00max	....
Ni-Cr-Mo-Fe Alloy N06002	Remainder [Note(1)]	20.5-23.5	8.0-10.0	17.0-20.0	0.20-1.0	0.05-0.15	1.0	0.5-2.5	1.0max	...
N06060	5.4-60.0 Remainder	19.0-22.0	12.0-14.0	Remainder	0.25-1.25	0.03max	0.50	...	1.50max	...

				[Note(1)]							
Ni-Fe-Cr-Mo Alloy R30556	19.0-22.5	21.0-23.0	2.5-4.0	Remainder [Note(1)]	2.0-3.5	0.05-0.15	0.20-0.80	16.0-21.0	0.50-2.00	...	
Ni-Cr-W-Mo Alloy N06230	Remainder [Note(1)]	20.0-24.0	1.0-3.0	3.0max	13.0-15.0	0.05-0.15	0.25-0.75	5.0max	0.30-1.00	...	
Ni-Cr-W-Mo-Cu Alloy N06059	Balance	22.0-24.0	15.0-16.5	1.5max	...	0.010max	0.10	0.3max	0.5max	...	
Ni-Fe-Cr-Mo-low Carbon Alloys N08031	30.0-32.0	26.0-28.0	6.0-7.0	Balance	...	0.015max	0.3	...	2.0max	...	
N08535	29.0-36.5	24.0-27.0	2.5-4.0	Remainder [Note(1)]	...	0.03max	0.50	...	1.0max	...	
Low C-Ni-Cr-Mo-W Alloy N06686	Remainder [Note(1)]	19.0-23.0	15.0-17.0	5.0max	3.0-4.4	0.010max	0.08	...	0.75max	...	
Ni-Co-Cr-Si Alloy N12160	Remainder [Note(1)]	26.0-30.0	1.0max	3.5max	1.0max	0.15max	2.4-3.0	27.0-33.0	1.5max	...	
Cr-Ni-Fe-N Alloy R20033	30.033.0	31.0-35.0	0.50-2.0	Balance	...	0.15max	0.50	...	2.0max	...	