



Ningbo Yaoyi Stainless Steel., Ltd

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TYPE 316 STAINLESS STEEL STRIP

Alloy 316 is molybdenum-bearing austenitic stainless steel. The higher nickel and molybdenum content in this grade allows it to demonstrate better overall corrosion resistant properties than 304.

Stainless Steel Grade Comparison:

NATION	CHINA	JAPAN	USA	GERMANY	ENGLAND
STANDARD	GB	JIS	AISI/SAE	DIN	BS
NO.	0Cr17Ni11Mo2	SUS 316	316	X5CrNi1810	58J

316 stainless steel strip the requirements of ASTM A182, ASTM A479 and ASTM A276. Good oxidation resistance in intermittent service to 1600° F (870° C) and in continuous service to 1700° F (925° C). Excellent weldability by all standard fusion methods, both with and without filler metals.

Mechanical Behavior:

The mechanical properties of 316 stainless steel vary with the content of C, Cr, Ni, and Mo chemical elements.

At room temperature, the tensile properties of 316 stainless steel strip:

Standard	Yield Strength, 0.2% Offset psi (Mpa)	Ultimate Tensile Strength psi (Mpa)	Percent Elong. 2 in. Or 51mm	Hardness, Max. Brinell(Rb)
ASTM A240	30,000 (205)	75,000 (515)	40.0	217 (95)

Chemical Composition%	
Carbon(C)	0.051
Manganese(Mn)	1.62
Molybdenum(Mo)	2.02
Chromium(Cr)	17.33
Nickel(Ni)	13.79

Percent Cold Reduction	Yield Strength 0.2% Offset		Ultimate Tensile Strength		Elongation, Percent in 2 in. (51 mm)
	psi	Mpa	40.0	217 (95)	
Annealed temperature	38,500	265	84,600	583	61.0
10	71,300	492	94,500	652	40.0
20	98,600	680	111,600	769	21.0
31	119,500	824	133,000	917	11.0
49	135,800	936	148,000	1,020	6.0
60	150,300	1,036	169,600	1,170	3.5

Chemical Composition%	
Carbon(C)	0.080
Manganese(Mn)	1.50
Molybdenum(Mo)	2.46
Chromium(Cr)	17.78
Nickel(Ni)	12.50

Temperature C	Yield Strength 0.2% Offset		Ultimate Tensile Strength		Elongation, Percent in 2 in. (51 mm)
	Psi	Mpa	Psi	Mpa	
20	42,400	292	82,400	568	68.0
93			75,600	521	54.0
205			71,400	492	51.0
317			71,150	491	48.0
420	26,500	183	71,450	493	47.0
539	23,400	161	68,400	472	55.0
650	22,600	156	50,650	349	24.0
763			30,700	212	26.0
870			18,000	124	47.0

Applications

- Food preparation equipment, especially in chloride environments.
- Chemical processing, equipment
- Laboratory benches and equipment
- Pharmaceutical and textile industries