

## Hastelloy® C-22 alloy

UNS N06022  
W. Nr 2.4602

HASTELLOY® C-22 alloy is a versatile nickel-chromium-molybdenum-tungsten alloy with superior resistance to both uniform and localized corrosion than other Ni-Cr-Mo alloys available today. It has excellent resistance to a variety of mixed industrial chemicals. It exhibits superior weldability.

Applications include: Chemical processing, expansion bellows, nuclear fuel processing, industrial equipment.

### Nominal Composition

	C	Mn	Si	P	S	Cr	Co	Mo	V	Fe	Al	W	Ni
min	-	-	-	-	-	20.00	-	12.50	-	2.00	-	2.50	
max	0.015	0.50	0.08	0.020	0.020	22.50	2.50	14.50	0.35	6.00	-	3.50	BAL

### Physical Properties

	At 70°F	At 20°C
Density	0.314 lb/in <sup>3</sup>	8.69 g/cm <sup>3</sup>
Modulus of Elasticity (E)	29.9 x 10 <sup>3</sup> ksi	206 GPa
Modulus of Rigidity (G)	11.4 x 10 <sup>3</sup> ksi	78.6 GPa
Coefficient of Expansion	7.7 microinches/in.-°F (70-1000°F)	13.9 µm/m-°C (20-538°C)
Electrical Resistivity	44.8 µ ohm.in	1.14 µ ohm.cm
Thermal Conductivity	70 Btu-in./ft. <sup>2</sup> hr.-°F	10.1 W/m-K

### Applicable Specifications

Strip	ASTM B575, NACE MR0175
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### Typical Mechanical Properties – Spring Applications

Condition	Heat Treatment	Tensile Strength	Suggested Operating Conditions
Annealed	1950°F (1065°C)	100 ksi (690 MPa) min 125 ksi (860 MPa) typ	-300°F to 1650°F (-184°C to 900°C)

Hastelloy® is a registered trademark of Haynes International, Inc.

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