

**Alloy B3 Corrosion Resistant Alloy**

**Trade name  
Hastelloy B3**

**UNS  
N10675**

**DIN  
W2.4600**

**EN  
NiMo29Cr**

**Chemical Composition %**

Ni	Mo	Fe	C	Co	Cr	Mn	Si	Ti	W	Al	Cu
65.0 min	27-32	1-3	.01 max	3.0 max	1-3	3.0 max	.10 max	.2 max	3.0 max	.50 max	.20 max

**Recommended Welding Consumables**

Wire ER NiMo-10  
Rod E NiMo-10

Form	Smls Pipe/Tub	Weded Pipe	Welded Tube	Fittings	Plate	Bar	Forgings
Standard	ASTM B622	ASTM B 619	ASTM B 626	ASTM B 366	ASTM B333	ASTM B335	ASTM B564

**Properties**

Extremely high resistance to pure hydrochloric, hydrobromic, and sulfuric acids.

**Applications**

Chemical process industry applications, especially in the construction of reaction vessels for pure, reducing acid service.

**Physical Properties**

Ultimate Tensile Strength: 125 KSI (860 MPa)

Yield Strength: (0.2% offset) 60 KSI (420 MPa)

Elongation: 50%

Density: 0.333 lbs/in<sup>3</sup>, 9.22 g/cm<sup>3</sup>

Electrical Resistivity: microhm-in, (microhm-cm):

70 ° F (21 °C)- 53.8 (137)

Specific Heat: BTU/lb<sup>1</sup> ° F (J/kg•K):

32 - 212 ° F (0 - 100 °C): 0.089 (373)

Mean Coefficient of Thermal Expansion: in/in<sup>1</sup> ° F (mm/ml<sup>1</sup> °C):

70 - 212 °F (20 - 100 °C): 5.7 x 10<sup>-6</sup> (10.6)

Thermal Conductivity: BTU-in/h-ft-° F (W/m-° K):

70 ° F (21 °C): 78 (11.2)

Modulus of Elasticity: ksi (MPa)

31.4 x 10<sup>3</sup> (216 x 10<sup>3</sup>) in tension

Melting Point: 2500 - 2585 °F (1370 - 1418°C)