

**Alloy X High Temperature Resistant Alloy**

**Trade name  
Hastelloy X  
Nickelvac HX  
Microfer 4722  
Altemp HX  
Inconel HX  
Pyromet 680**

**UNS      DIN      EN  
N06002   W2.4645   2.4645**

**Chemical Composition %**

Cr	Mo	Ni	Fe	Co	C	Mn	Si	P	S	W	Al	Cu	B	Ti
20.5-23	8-10	Balance	17-20	0.5-2.5	0.05-0.15	1max	1max	0.04max	0.08max	0.2-1	0.5max	0.03max	0.010max	0.15max

**Recommended Welding Consumables**

Wire      ER NiCrMo-2  
Rod      E NiCrMo-2

Form	Smls Pipe/Tu	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**

outstanding oxidation resistance, and exceptional strength at up to 2200°F (1200°C).

**Applications**

Combustion chambers, gas turbine engines, industrial furnaces,  
Nuclear engineering.

**Physical Properties**

Density: 0.297 lbs/in<sup>3</sup> , 8.22 g/cm<sup>3</sup>

Mean Coefficient of Thermal Expansion: in/in/ °F (mm/m/ °C):

70-212 °F (20- 100 °C): 7.1 x 10<sup>-6</sup> (12.8)

Thermal Conductivity: BTU-in/h-ft-°F (W/m-°K): 70 °F (21 °C): 71 (10.2)

Modulus of Elasticity: ksi (MPa) 29.3 x 10<sup>3</sup> (202 x 10<sup>3</sup>) in tension

Melting Point (approximate): 2550 °F (1399 °C)

Ultimate Tensile Strength: 85 KSI min (586 MPa min)

Yield Strength: (0.2% offset) 35 KSI min (241 MPa min)

Elongation: 30% min