Alloy 800HT **High performance alloy**

Trade name	UNS	DIN	EN
Incoloy 800HT	N08811	W1.4959	X8NiCrAlTi32-21
Nickelvac 800HT			
Ferrochronin 800HT			
Nicrofer 3220			

Chemical Composition %

Cr	Ni	Fe	C	Mn	Si	S	Ti	Al	Al+Ti
19-23	30-35	39.5 min	0.05-0.10	1.5max	1max	0.015max	0.25-0.6	0.25-0.6	0.5-1.2

Recommended Welding Consumables

Wire ER NiCr-3
Rod E NiCr-3

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

High creep-rupture strength.
Good resistance to oxidation and carburization at elevated temperatures

Applications

Radiant tubes, furnace parts
Manifolds

Physical Properties

Density: 0.27 lbs/in3, 7.94.g/cm3
Specific Heat, Btu/lb•° F, J/kg•°C:
32 - 212 °F (0 - 100 °C): 0.11 (460)
Mean Coefficient of Thermal Expansion: in/inl° F (mm/ml°C)
70 - 212 ° F (20 - 100 °C)- 7.9 x 10-s (14.2)
Thermal Conductivity: BTU/h-ft-° F (W/m-° K):
70 ° F (21 °C): 6.7 (11.6)
Modulus of Elasticity: ksi (MPa)
28.5 x 103 (196.5 x 103) in tension
Permeability at 70 ° F (21 °C) H = 200 Oersted :
Melting Point: 2525 ° F (1385 °C)
Ultimate Tensile Strength: 75 KSI min (420 MPa min)
Yield Strength (0.2% offset): 30 KSI (gauges ≥ 0.020 inches)
Elongation: 30% min
Hardness: Rb 84 nom