Technical Information

Conversion Factors, Alloying Elements & Hardness Comparison

Conversion Factors

English to Metric			Metric to English		
Have	Need	Multiply	Have	Need	Multiply
in	mm	25.4	mm	in	0.03937
ft	m	0.3048	m	ft	3.2808
in^2	cm^2	6.4516	cm^2	in^2	0.155
ft^2	m^2	0.0929	m^2	ft^2	10.764
lb	kg	0.4356	kg	lb	2.2046
lb/ft	kg/m	1.4882	kg/m	lb/ft	0.672
psi	N/mm^2(MPa)	0.00689	N/mm^2(MPa)	psi	145.138
ksi	N/mm^2(MPa)	6.89	N/mm^2(MPa)	ksi	0.1451

Temperature

°F = (1.8 x °C) + 32 | **°C = (°F-32) x 5/9**

Nickel Alloy Hardness Comparison

Brinell BHN	Rockwell HRB	Rockwell HRC
450	-	50
403	-	46
363	-	42
329	-	38
298	-	32
258	-	25.5
241	100	22.5
228	98	20
204	94	-
184	90	-
168	86	-
155	82	-
144	78	-
139	76	-
134	74	-
129	72	-

Main Alloying Elements in Nickel Alloys

Cr	In the presence of oxygen, creates a passive protective film resistant to corrosion.
Cu	Improves the resistance to reducing acids and salts.
Mo	Improves the high temperature strength, pitting and crevice corrosion. Also improves resistance to reducing acids.
Fe	Influences passivation and controlled thermal expansion additon.
Si	Improves oxidation and carburization resistance.
Nb+Ta	Increase solid solution strength.
W	Improves high temperature strength, pitting and crevice corrosion resistance.