

## Cromaloy 1

Cromaloy 1 is austenitic in character providing good resistance to corrosion up to 1100°C whilst retaining the benefit of ductility when compared with the ferritic Iron/Chrome/Aluminium resistance alloys. The use of iron in the alloy reduces the density and produces an economical product for use in medium temperature applications.

Cromaloy 1 is available in sizes down to 0.08 mm.

### Physical and Mechanical Properties

	Units	
Maximum continuous operating temperature in air	°C	1150
Nominal composition	%	Ni 60 Cr 16 Fe Bal
Density at 20°C	g/cm <sup>3</sup>	8.2
Resistivity at 20°C	μΩcm	111
Thermal conductivity at 20°C	W/mK	13.4
Specific heat capacity at 20°C	kJ/kgK	0.460
Melting point (approx.)	°C	1390
Tensile strength R <sub>m</sub> , 0.5 mm wire – annealed	N/mm <sup>2</sup>	610
Elongation at break, 0.5 mm wire - annealed	%	> 25

### Temperature dependant Factors for Cromaloy 1

#### *Reference temperature 20°C*

Temp °C	200	400	600	800	1000	1200
Temp °F	392	752	1112	1472	1832	2192
Resistivity Factor	1.027	1.062	1.070	1.080	1.089	1.115
Coeff. of thermal expansion (10 <sup>-6</sup> /K)	14.0	16.5	15.5	16.0	17.0	

The figures given in these tables represent nominal or typical values.

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