

## **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.

*Information contained within this technical data sheet is based upon the general experience of IMI Scott Ltd and is believed to be correct at the time of issue. No warranty is given or is to be implied from the details above. Customers are advised to carry out independent tests in order to determine the suitability of any IMI Scott Ltd product for an application.*