

19 x 0.523mm (0.574mm king) Cromaloy 1 Stranded Wire

Scott Precision Wire concentric stranded resistance wires are specially manufactured to provide consistent resistance and heating characteristics. Cromaloy 1 is austenitic in character which provides better ductility when compared with the ferritic Iron Chrome Aluminium alloys.

Resistance 0.276 – 0.304 Ω /m

Construction

Centre	1 x 0.574mm
Layer 1	6 x 0.523mm Right Hand Lay
Layer 2	12 x 0.523mm Left Hand Lay

Cromaloy 1 Physical and Mechanical Properties

	Units	
Maximum continuous operating temperature in air	$^{\circ}\text{C}$	1150
Nominal composition	%	Ni 60 Cr 16 Fe 24
Density at 20 $^{\circ}\text{C}$	g/cm^3	8.2
Resistivity at 20 $^{\circ}\text{C}$	$\mu\Omega\text{cm}$	111
Thermal conductivity at 20 $^{\circ}\text{C}$	W/mK	13.4
Specific heat capacity at 20 $^{\circ}\text{C}$	kJ/kgK	0.460
Melting point (approx.)	$^{\circ}\text{C}$	1390

Temperature dependant Factors for Cromaloy 1

Reference temperature 20 $^{\circ}\text{C}$

Temp $^{\circ}\text{C}$	200	400	600	800	1000	1200
Temp $^{\circ}\text{F}$	392	752	1112	1472	1832	2192
Resistivity Factor	1.027	1.062	1.070	1.080	1.089	1.115
Coeff. of thermal expansion ($10^{-6}/\text{K}$)	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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