Ualloy 010
(Resistance heating wire and resistance wire)

Common Name: Cuprothal 10,CuNi6,NC6

Ualloy 010 is a copper-nickel alloy (Cu94Ni6 alloy) with low resistivity for use at temperatures up to 220°C.

Ualloy 010 Wire is typically used for low-temperature applications such as heating cables.

Normal composition(%)

Nickel	6	Manganese	-
Copper	Bal.		

Typical Mechanical properties（1.0mm）

Yield strength	Tensile Strength	Elongation
Mpa	Mpa	%
110	250	25

Typical Physical properties

Density (g/cm^3)	8.9
Electrical resistivity at 20℃($\Omega mm^2/m$)	0.1
Temperature factor of resistivity（20℃~600℃）$X10^{-5}$/℃	<60
Conductivity coefficient at 20℃ (WmK)	92
EMF vs Cu(μV/℃)(0~100℃)	-18

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Coefficient of thermal expansion	
Temperature	Coefficient of Thermal Expansion x10^{-6}/℃
20 ℃- 400℃	17.5

Specific heat capacity	
Temperature	J/gK
20℃	0.380

Melting point (℃)	1095
Max continuous operating temperature in air (℃)	220
Magnetic properties	non-magnetic

Corrosion resistance performance

Alloys	Working In atmosphere at 20℃	Working at max temperature 200℃				
		Air and oxygen contain gases	gases with Nitrogen	gases with sulfur oxidability	gases with sulfur reductibility	carburization
Ualloy010	good	bad	bad	bad	bad	good

Style of supply

Alloys Name	Type	Dimension	
Ualloy010W	Wire	D= 0.06~8mm	
Ualloy010R	Ribbon	W= 0.4~40mm	T= 0.05~2.9mm
Ualloy010S	Strip	W= 8~200mm	T= 0.1~3.0mm
Ualloy010F	Foil	W= 6~120mm	T= 0.005~0.1mm
Ualloy010B	Bar	Dia= 8~100mm	L= 50~1000mm

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