Ualloy 15
(Resistance heating wire and resistance wire)

Common Name: CuNi10,Curpothal 15,NC15

Ualloy15 is a copper-nickel alloy (Cu90Ni10 alloy) with low resistivity for use at temperatures up to 250°C.

Curpothal 15 is typically used for applications such as heating cables, fuses, shunts, resistors and various types of controllers.

Normal composition(%)

Nickel	10	Manganese	-
Copper	Bal.		

Typical Mechanical properties（1.0mm）

Yield strength	Tensile Strength	Elongation
Mpa	Mpa	%
130	290	25

Typical Physical properties

Density (g/cm^3)	8.9
Electrical resistivity at 20℃($\Omega mm^2/m$)	0.15
Temperature factor of resistivity（20℃~600℃）$X10^{-5}$/℃	<50
Conductivity coefficient at 20℃ (WmK)	59
EMF vs Cu(μV/℃)(0~100℃)	-25

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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 (℃)	1100
Max continuous operating temperature in air (℃)	250
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
Ualloy015	good	general	general	general	bad	good

Style of supply

Alloys Name	Type	Dimension	
Ualloy015W	Wire	D= 0.06~8mm	
Ualloy015R	Ribbon	W= 0.4~40mm	T= 0.05~2.9mm
Ualloy015S	Strip	W= 8~200mm	T= 0.1~3.0
Ualloy015F	Foil	W= 6~120mm	T= 0.005~0.1
Ualloy015B	Bar	Dia= 8~100mm	L= 50~1000

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