Ualloy 030
(Resistance heating wire and resistance wire)

Common Name: CuNi23,NC30,Curpothal30

Ualloy030 is a copper-nickel alloy (Cu77Ni23 alloy) with low resistivity for use at temperatures up to 300°C.

Ualloy030 is typically used for applications such as heating cables, fuses, shunts, resistors and various types of controllers.

Normal composition(%)

Nickel	23	Manganese	0.5
Copper	Bal.		

Typical Mechanical properties（1.0mm）

Yield strength	Tensile Strength	Elongation
Mpa	Mpa	%
170	350	25

Typical Physical properties

Density (g/cm^3)	8.9
Electrical resistivity at 20℃(Ωmm²/m)	0.30
Temperature factor of resistivity（20℃~600℃）X10^{-5}/℃	<16
Conductivity coefficient at 20℃ (WmK)	33
EMF vs Cu(μV/℃)(0~100℃)	-34

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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 (℃)	1150
Max continuous operating temperature in air (℃)	300
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
Ualloy030	good	general	general	general	bad	good

Style of supply

Alloys Name	Type	Dimension	
Ualloy030W	Wire	D= 0.06~8mm	
Ualloy030R	Ribbon	W= 0.4~40mm	T= 0.05~2.9mm
Ualloy030S	Strip	W= 8~200mm	T= 0.1~3.0
Ualloy030F	Foil	W= 6~120mm	T= 0.005~0.1
Ualloy030B	Bar	Dia= 8~100mm	L= 50~1000

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