Ualloy 025
(Resistance heating wire and resistance wire)

Common Name: CuNi19,NC25

Ualloy025 is a copper-nickel alloy (Cu81Ni19 alloy) with low resistivity for use at temperatures up to 300°C.

Ualloy025 is kind of low resistance heating alloy.It is one of the key materials of the low-voltage electrical products. It is widely used in low-voltage circuit breaker, electric blankets.thermal overload relay, and other low-voltage electrical product.

Ualloy025 is typically used for low-temperature applications such as heating cables.

Normal composition(%)

Nickel	19	Manganese	0.5
Copper	Bal.		

Typical Mechanical properties（1.0mm）

Yield strength	Tensile Strength	Elongation
Mpa	Mpa	%
155	340	25

Typical Physical properties

Density (g/cm^3)	8.9
Electrical resistivity at 20℃(Ωmm^2/m)	0.25
Temperature factor of resistivity（20℃~600℃）X10^{-5}/℃	<25
Conductivity coefficient at 20℃ (WmK)	38
EMF vs Cu(μV/℃)(0~100℃)	-32

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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 (℃)	1135
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
Ualloy025	good	general	general	general	bad	good

Style of supply

Alloys Name	Type	Dimension	
Ualloy025W	Wire	D= 0.06~8mm	
Ualloy025R	Ribbon	W= 0.4~40mm	T= 0.05~2.9mm
Ualloy025S	Strip	W= 8~200mm	T= 0.1~3.0
Ualloy025F	Foil	W= 6~120mm	T= 0.005~0.1
Ualloy025B	Bar	Dia= 8~100mm	L= 50~1000

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