HM Wire International, Inc.

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REQUEST A QUOTATION

Alloy 30 - CuNi2

Description:	Alloy 30 is specially characterized by low resistivity. It is used for low-value resistors, for heating wires and mats in heating cords and in heating cables with low conductor temperatures as well as for the tube weldings "electrical-welding-fittings". It provides a relatively high corrosion resistance. Max working temp in air is 200°C, for short term applications, up to 300°C.

Chemical Composition

Nominal Composition	Cu%	Ni%
	Balance	2

Electrical Resistance in Annealed Condition

Temperature Coefficient of electrical resistance between 20°C and 105°C - 10 /K	20°C	100°C	200°C	300°C	400°C	500°C	Reference Values
	Tolerance +/- 10%						
+1000 to +1600	5.0	5.7	6.4	–	–	–	Electrical Resistivity in : μΩx cm
	30	34	38	–	–	–	Electrical Resistivity in : Ω/CMF

Strength Properties at 20°C in Annealed Condition

Density at 20°C		Melting Point	Specific Heat at 20°C	Thermal Conductivity at 20°C	Avg Linear Thermal Expansion coefficient between 20°C and		Thermal EMF against Copper at 20°C
					100 °C	400 °C	
g/cm³	lb/cu.in.	20°C	J/g K	W/m K	10 /K	10 /K	μV/K
8.9	0.32	1090	0.38	130	16.5	17.5	-15

Physical Characteristics (Reference Values)

Tensile Strength[2]		Elongation (L_0 = 100 mm) % at nominal diameter in mm				
MPa	PSI	.02 - .063	> .063 - 0.125	> .125 - 0.5	> 0.5 - 1	> 1
220	32000	≈ 8	≈ 15	≈ 18	≥ 18	≥ 25

1) The Number "30" indicates the resistivity, expressed in Ohms/cir.mil ft.

2) This value applies to wires of 2 mm diameter, For thinner wires the minimum value will substantially increase, depending on the dimensions.

*To be used as a guideline only.