Type J Bare Wire

TYPE J (Iron vs Constantan) is used in vacuum, oxidizing, inert or reducing atmospheres. Iron element oxidizes rapidly at temperatures exceeding 538'C, and therefore heavier gauge wire is recommended for longer life at these temperatures.

1. Chemical Composition

Material	Chemical composition (%)				
	Ni	Cr	Si	Iron	Al
JP(Iron)				100	
JN(Constantan)	45	55			

2. Physical properties and Mechnical properties

Material	Density(g/cm3)	Melting point(℃)	Tensile Strength(Mpa)	Volume resistivity (μΩ.cm)	Elongation rate (%)
JP(Iron)	7.8	1402	>240	12.0(20℃)	>20
JN(Constantan)	8.8	1220	>390	49.0(20℃)	>25

3. EMF Value range at different temperature

Material	EMF value Vs Pt(μ V)					
	100℃	200℃	300℃	400℃	500℃	600℃
JP-JN	5187~5351	10696~10862	16244~16410	21760~21936	27281~27505	32962~33242

EMF value Vs Pt(μV)					
700℃	750℃	760℃	800℃	900℃	1000℃
38958~39306	42089~42473	42725~43113			

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