



## OHMALLOY MATERIAL CO., LTD.

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### Type N Bare Wire

TYPE N (NiCrSi Vs. NiCrMg) is used in oxidizing, inert or dry reducing atmospheres. Exposure to vacuum limited to short time periods. Must be protected from sulfurous and marginally oxidizing atmospheres. Reliable and accurate at high temperatures.

#### 1. Chemical Composition

Material	Chemical composition (%)				
	Ni	Cr	Si	Mg	Al
NP(NiCrSi)	bal	13.7-14.7	1.2-1.6	<0.01	
NN(NiCrMg)	bal	<0.02	4.2-4.6	0.5~1.5	

#### 2. Physical properties and Mechanical properties

Material	Density(g/cm <sup>3</sup> )	Melting point(°C)	Tensile Strength(Mpa)	Volume resistivity(μΩ.cm)	Elongation rate (%)
NP(NiCrSi)	8.5	1410	>620	100.0 (20°C)	>30
NN(NiCrMg)	8.6	1340	>550	33.0(20°C)	>35

#### 3. EMF Value range at different temperature

Material	EMF value Vs Pt(μV)					
	100°C	200°C	300°C	400°C	500°C	600°C
NP(NiCrSi)	1755~1813	3910~3976	6313~6383	8880~8959	11552~11654	14307~14433
NN(NiCrMg)	975~1005	1954~1986	2975~3011	4035~4075	5120~5170	6212~6274

EMF value Vs Pt(μV)					
700°C	800°C	900°C	1000°C	1100°C	
17129~17275	20010~20178	22951~23139	25943~26149	28972~29194	
7288~7362	8318~8402	9281~9373	10159~10261	10948~11060	