



CHANGZHOU DLX ALLOY CO., LTD.



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COPPER NICKEL ALLOY



CONTACT US

BUSINESS PHONE: 86-1895-2950-953

ADDRESS : NO.32 WEST TAIHU ROAD,
XINBEI DISTRICT, CHANGZHOU, JIANGSU





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Copper nickel alloy has low electric resistance, good heat-resistant and corrosion-resistant, easy to be processed and lead welded. It is used to make the key components in the thermal overload relay, low resistance thermal circuit breaker, and the electrical appliances. It is also an important material for electrical heating cable.

Size dimension range: Wire:0.05-10mm Ribbons: 0.05*0.2-2.0*6.0mm Strip: 0.05*5.0-5.0*250mm

CuNi series: CuNi1,CuNi2,CuNi6,CuNi8,CuNi10,CuNi14,CuNi19,CuNi23,CuNi30,CuNi34,CuNi44,6J8,6J11,6J12,6J13,6J40

Chemical Composition												
main property type		NC003	NC005	NC010	NC012	NC015	NC020	NC025	NC030	NC035	NC040	NC050
		CuNi1	CuNi2	CuNi6	CuNi8	CuNi10	CuNi14	CuNi19	CuNi23	CuNi30	CuNi34	CuNi44
main chemical composition	Ni	1	2	6	8	10	14.2	19	23	30	34	44
	Mn	/	/	/	/	/	0.3	0.5	0.5	1	1	1
	Cu	rest	rest	rest	rest	rest	rest	rest	rest	rest	rest	rest
max working temperature		/	200	220	250	250	300	300	300	350	350	400
density g/cm3		8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9
resistivity at 20 °c		0.03±10%	0.05±10%	0.10±10%	0.12±10%	0.15±10%	0.20±5%	0.25±5%	0.30±5%	0.35±5%	0.40±5%	0.49±5%
temperature coefficient of resistance		<100	<120	<60	<57	<50	<38	<25	<16	<10	0	<-6
tensile strength mpa		>210	>220	>250	>270	>290	>310	>340	>350	>400	>400	>420
elongation		>25	>25	>25	>25	>25	>25	>25	>25	>25	>25	>25
melting point°C		1085	1090	1095	1097	1100	1115	1135	1150	1170	1180	1280
coefficient of conductivity		145	130	92	75	59	48	38	33	27	25	23

Performance		Constantan 6J40	New Constantan 6J11	Manganin 6J12	Manganin 6J8	Manganin 6J13
Composition	Ni	1~2	10.5~12.5	11~13	8~10	11~13
	Cr	39~41		2~3		2~5
	Fe	REST	REST	REST	REST	REST
			Al2.5~4.5 Fe1.0~1.6		Si1~2	
Temperature Range for Components		5~500	5~500	5~45	10~80	10~80
Density g/cm3		8.88	8	8.44	8.7	8.4
Resistivity μ.m,20		0.48±0.03	0.49±0.03	0.47±0.03	0.35±0.05	0.44±0.04
Extensibility %φ0.5		≥15	≥15	≥15	≥15	≥15
Resistance Temperature Quotient Q.10.6		-40~+40	-80~+80	-3~+20	-5~+10	0~+40
Thermoelectromotive force to Copper μV/(0~100)		45	2	1	2	2

