

Copper Nickel Silicon Alloy C19010

Standard

DIN: CuNiSiP
 UNS: C19010
 JIS: C1901

Applications

Fisheye terminals, switches and relays, contacts, connectors, semiconductor components, junction boxes.

Chemical Composition (%)

Cu: Remainder
 Ni: 0.8-1.8
 Si: 0.15-0.35

Physical Properties

Density (g/cm ³)	8.81
Electrical conductivity IACS%(20	50
Modulus of elasticity (KN/mm ²)	127
Coefficient of thermal expansion 10-	16.8
Thermal conductivity W/(m*K)	250

*value for the lowest temper class

Merit

C19010 is a precipitation-hardened copper alloy combining high electrical and thermal conductivity with elevated strength and good stress relaxation resistance. Due to the NiSi-precipitations the relaxation properties, even at temperatures up to 150 °C are excellent. Welding, soldering and brazing properties are good too.

Mechanical Properties

Temper		Tensile Strength	Yield Strength	Elongation	Hardness	Bending Test(90 °)	
		Mpa	Mpa	%	HV	GW	BW
R360	H02/TM03	360-450	min. 300	min. 12	100-130	0	0
R410	H03/TM04	410-515	min. 360	min. 9	125-155	0	0
R460	H04/TM06	460-545	min. 410	min. 7	135-165	0.5	1
R520	H08/TM08	520-590	min. 460	min. 5	145-175	1	2
R580	H10	580-685	min. 520	min. 9	160-210	1	1

Physical properties of the above materials are conventional performance indicators. If you have some special requirements, (for example property and tolerance), please contact Kinmachi Company directly, we will give you professional assessments and answers.

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