CuSn4

ALLOY NAME

AMW31	IS/ISO	DIN CEN/TS 13388	UNS	JIS	KMW
CuSn4	CuSn4	CW450K	C51100	C51100	CuSn4

Chemical Composition	(% By Weight)
P	0.02 - 0.40 %
Sn	3.5 - 4.5 %
Pb	0.02 Max %
Zn	0.30 Max
Fe	0.10 Max %
Cu	Remainder %

Main Applications	
Electrical	Contact Springs, Relais Springs, Terminals, Switch Parts Fuse Clips,Electronic Connectors
Fasteners	Lock Washers, Fasteners
Industrial	Textile Machinery, Perforated Sheets, Springs, Sleeve Bushing, Clutch Disks.
General	Stamped Parts, Connectors, Contact Springs, Spring Elements, Ultra High Strength Spring Elements, Fixed contacts.

Physical Properties Typical values in annealed temper at 20 °C

Density	8.85	g/cm3
Thermal expansion coefficient -191 .. 16 / 0 .. 300°C	17.8 / 18.1	10-6/K / 10-6/K
Specific heat capacity	0.377	J/(g•K)
Thermal conductivity	100	W/(m•K)
Electrical conductivity (1 MS/m = 1 m/(O mm²)	≥ 11	MS/m
Electrical conductivity (IACS)	≥ 19	%
Thermal coefficient of electrical resistance (0 .. 200 C)	0.10	10-3/K
Modulus of elasticity (1 GPa = 1 kN/mm²) cold formed	110 / 120	GPa / GPa

Mechanical Properties (EN 1652)

Temper	Tensile Strength Rm MPa (N/mm2)	Yield Strength Rp0.2 MPa (N/mm2)	Elongation Minimum A50mm %	Hardness HV
O (SOFT)	295 Min	≤ 190*	40 Min	80 Max
HA (Quater Hard)	340 Min	≥ 320	30 Min	100 Min
HB (Half Hard)	430 Min	≥ 440	8 Min	150 Min
HD (Hard)	510 Min	≥ 480	4 Min	175 Min
HE (Extra Hard)	620 Min	≥ 560	2 Min	180 Min
HS (Spring Hard)	650 Min	≥ 620		200 Min

Fabrication Properties	
Cold formability	Excellent
Hot formability	Not Recommended
Soldering	Excellent
Brazing	Excellent
Oxyacetylene welding	Fair
Gas shielded arc welding	Good

kmwindia.com
kmwkrishnametal@gmail.com