

Alloy Designation	
EN	CuSn4 / CW450K
DIN	CuSn4 / 2.1016 DIN EN 1652
UNS	C51100 ASTM B103 B888
JIS	C5111

Chemical Composition		
Cu	Remainder	%
Sn	3.5 - 4.9	%
P	0.01 - 0.4	%

Characteristics
CuSn4 (about 96% Cu–4% Sn) is a solid-solution strengthened bronze that combines high strength with good electrical conductivity and excellent cold formability. It shows reliable thermal stability—thermal relaxation is negligible at 100 °C and acceptable up to about 120 °C—and offers good corrosion resistance plus excellent soldering and brazing properties. Its balanced properties make it well suited for electrical connectors and related stamped/bent parts.

Main Applications
Stamped parts press-fit connectors compliant pins
Contact springs Spring elements signal connectors
Ultra high strength spring elements clutch discs
Membranes Switch elements Fixed contacts.

Physical Properties (Reference values at room temperature)		
Density	g/cm ³	8.9
Electrical conductivity	IACS%(20°C)*	21
Modulus of elasticity	KN/mm ²	120
Coefficient of thermal expansion	10 ⁻⁶ /K	17.8
Thermal conductivity	W/(m*K)	86

*value for the lowest temper class

Mechanical Properties							
TEMPER		Tensile Strength Mpa	Yield Strength Mpa	Elongation %	Hardness Hv	Bending Test(90°) GW BW	
R290	H01	290 - 400	max. 190	min. 40	70 - 100	0	0
R390	H02	380 - 490	min. 320	min. 11	115 - 155	0	0
R480	H03	480 - 570	min. 440	min. 4	150 - 180	0	1
R540	H04	540 - 630	min. 510	min. 3	170 - 200	0.5	1.5
R610	H06/H08	min. 610	min. 580	-	min. 190	2	6

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