

Alloy Designation	
EN	CuSn8 / CW453K
DIN	CuSn8 / 2.1030 DIN EN 1652
UNS	C52100 ASTM B103 B888
JIS	C5212

Chemical Composition		
Cu	remainder	%
Sn	7.0 - 9.0	%
P	0.03 - 0.4	%

Characteristics
CuSn8 is a high-tin phosphor bronze (about 92% Cu–8% Sn) offering superior strength, excellent spring properties, and good electrical conductivity. Compared with alloys of lower tin content, it provides higher wear and corrosion resistance, improved sliding properties, and good cold formability and solderability. Its strong thermal stability — with minimal relaxation at 100 °C and acceptable performance up to 120 °C

Main Applications
Automotive, Components of electrical engineering
Connectors, Frame Connectors,Relays and conductor Springs
Retaining Clamps, Spring rings, Slide bearings, Bushings
Ultra high strength spring elements,Fixed contacts

Physical Properties (Reference values at room temperature)		
Density	g/cm ³	8.85
Electrical conductivity	IACS%(20°C)*	13
Modulus of elasticity	KN/mm ²	110
Coefficient of thermal expansion	10 ⁻⁶ /K	18.2
Thermal conductivity	W/(m*K)	62

*value for the lowest temper class

Mechanical Properties							
TEMPER		Tensile Strength Mpa	Yield Strength Mpa	Elongation %	Hardness Hv	Bending Test(90°) GW BW	
R370	O61	370 - 450	max. 300	min. 50	80 - 120	0	0
R450	H01	450 - 550	min. 370	min. 20	120 - 175	0	0
R540	H03	540 - 635	min. 460	min. 13	170 - 200	0	1
R600	H04	585 - 690	min. 520	min. 5	180 - 220	0	1.5
R660	H06	660 - 770	min. 600	min. 3	210 - 240	1	2
R740	H08	min. 740	min. 680	min. 2	210 - 260	2	4

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