

Alloy Designation	
EN	CuSn6 / CW452K
DIN	CuSn6 / 2.1020 DIN EN 1652
UNS	C51900 ASTM B103
JIS	C5191

Chemical Composition		
Cu	remainder	%
Sn	5.0 - 7.0	%
P	0.03 - 0.4	%

Characteristics
C51900 CuSn6 (about 94% Cu–6% Sn) is a solid-solution strengthened bronze that combines high strength and good spring properties with adequate electrical conductivity and excellent cold formability. Thermal stability is good — thermal relaxation is negligible at 100 °C and acceptable up to about 120 °C — supporting use at elevated service temperatures.

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 Bourdon tubes

Physical Properties (Reference values at room temperature)		
Density	g/cm ³	8.85
Electrical conductivity	IACS%(20°C)*	16
Modulus of elasticity	KN/mm ²	117
Coefficient of thermal expansion	10 ⁻⁶ /K	18.3
Thermal conductivity	W/(m*K)	75

*value for the lowest temper class

Mechanical Properties							
TEMPER		Tensile Strength Mpa	Yield Strength Mpa	Elongation %	Hardness Hv	Bending Test(90°) GW BW	
R350	O60	350 - 435	max. 300	min. 44	80 - 120	0	0
R420	H02	420 - 545	min. 350	min. 17	120 - 170	0	0
R500	H03	500 - 590	min. 450	min. 8	160 - 190	0	0
R560	H04	560 - 660	min. 520	min. 5	180 - 210	0.5	1
R640	H08	640 - 730	min. 590	min. 3	200 - 230	1	3.5
R720	H10	min. 720	min. 650	-	min. 210	-	-

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