

3.10 CuSn5 - C51000 - CW451K

Application Range												
Contact springs, connectors, membranes, switch elements, fixed contacts. Ultra-high strength spring elements												
Physical Properties							Chemical Position (reference value) %					
Density *	g/cm ³		8.85		Cu		余量					
Thermal conductivity *	W/(m·k)		96		Sn		4.5 - 5.5					
Electr. conductivity ***	MS/m		9		P		0.01 - 0.4					
Electr. conductivity ***	IACS (%)		15									
Thermal expansion c. **	10 ⁻⁶ K		17.8									
Modulus of elasticity *	Gpa		120									
Condition	Temper class	Tensile strength T.S. min. - max. MPa	Yield strength Rp 0.2 min. min. MPa MPa		Elongation A50 min. %		Hardness (reference value) HV	Electr. Conductivity MS/m	Bendability 90° ^{1) 2) 3)} Strip thickness ≤0.5mm R/t			
			3)	4)	3)	4)			GW		BW	
								Stretch leveled	Thermal stress relieved	Stretch leveled	Thermal stress relieved	
Cold rolled	R310	310 - 390	max. 250		45		70 - 105	9	0	0	-	-
Cold rolled	R400	400 - 500	340	-	17	-	120 - 160	9	0	0	-	-
Cold rolled	R490	490 - 580	450	440	12	19	160 - 190	9	0	0	0	0
Cold rolled	R550	550 - 640	500	480	5	13	180 - 210	9	0	0	1	0.5
Cold rolled	R630	630 - 720	570	560	3	7	200 - 230	9	1	0	2	1
Cold rolled	R690	min. 690	630	600	2	4	min. 220	9	2.5	2	3.5	3

*Reference values at room temperature

**Between 20 and 300 °C

*** Values for the lowest temper class

¹⁾ $r = x \cdot t$ (strips up to $t = 0.50$ mm)

²⁾ Sample width = 10 mm / bending at smaller bending widths on request (Evaluation according to page 5.4.2. of Hand-Out)

³⁾ Valid only as thermal stress relieved qualities

⁴⁾ Thermal stress relieved

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