

KHP® 109 (CuNi1Sn0,9)

Standard Designation

EN not standardised /UNS C19025

Chemical Composition

Cu	Ni [%]	Sn [%]	P [%]
Balance	0,80 - 1,20	0,70 - 1,10	0,03 - 0,07

Description / Applications

KHP® 109 is a CuNiSn alloy. KHP® 109 provides an excellent combination of high electrical conductivity and good strength.
 Applications: Connectors, contact springs, switches, relays, IC leadframes

Physical Properties¹⁾

Density	8,9 g/cm ³	Thermal expansion coefficient	17·10 ⁻⁶ /K
Electrical conductivity	23 m/Ω·mm ² 40 % IACS ²⁾	Modulus of elasticity	130 GPa ³⁾
Thermal conductivity	161 W/m·K		

¹⁾ Guideline values for soft temper, measured at room temperature³⁾ 1 GPa = 1 kN/mm²²⁾ IACS = International Annealed Copper Standard

Processing information

Weldability	good	Stress corrosion cracking	none
Solderability	good		

Mechanical properties

Temper	Tensile Strength Rm [MPa]	Yield Strength Rp0,2 [MPa]	Elongation A50 [%]	Hardness HV	Bendability ¹⁾			
					90° r/t ²⁾		180° r/t ²⁾	
					GW ³⁾	BW ⁴⁾	GW ³⁾	BW ⁴⁾
R335	335 - 470	min. 315	min. 15	120 - 155	0	0	0	0,5
R440	440 - 520	min. 420	min. 9	135 - 170	0	1	0	1
R500	500 - 570	min. 480	min. 5	155 - 180	0,5	1	0,5	2
R540	540 - 610	min. 520	min. 4	160 - 195	1	2	1,5	3
R580	580 - 650	min. 560	-	175 - 210	1	5	2	-
R630	630 - 730	min. 610	-	min. 190	1,5		-	-
0	0	0	0	0	0	0	0	0

¹⁾ The r/t values are valid for a strip thickness up to 0.6 mm (without crack). The data refer to rolled-to-temper material and a width of the bending area of 5 mm.
 V-shape bend test according to ISO 7438

²⁾ r = inner radius, t = thickness³⁾ GW = good way⁴⁾ BW = bad way

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