

KHP® 109 (CuNi1Sn0.9)

Standard Designation

EN not standardised /UNS C19025

Chemical Composition

Cu	Ni [%]	Sn [%]	P [%]
Balance	1	0.9	0.05

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 temperature

³⁾ 1 GPa = 1 kN/mm²

²⁾ 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 = thickness

³⁾ GW = good way

⁴⁾ BW = bad way

The details in this datasheet are exclusively meant for general information only. They correspond to the state of knowledge at the time of issue and cannot replace the examination by our customers. Liability cannot be derived from the information.

Rev.: 07/2020

www.kemper-olpe.de