

KHP® 105 (CuNi1Sn0.5)

Standard Designation

EN not standardised /UNS C19020

Chemical Composition

Cu	Ni [%]	Sn [%]	P [%]
Balance	1	0.5	0.05

Description / Applications

KHP®105 is a copper-nickel-tin alloy. KHP®105 provides a high electrical conductivity combined with a good cold formability. Applications: Tabs, relays, switches, junction blocks, busbars, IC leadframes

Physical Properties¹⁾

Density	8.9 g/cm ³	Thermal expansion coefficient	17·10 ⁻⁶ /K
Electrical conductivity	29 m/Ω·mm ² 50 % IACS ²⁾	Modulus of elasticity	130 GPa ³⁾
Thermal conductivity	197 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⁾
R400	400 - 480	min. 380	min. 7	120 - 150	0	1	0	1
R450	450 - 510	min. 430	min. 5	130 - 155	0.5	1	0.5	2
R490	490 - 550	min. 470	min. 5	145 - 170	1	2	1.5	3
R530	min. 530	min. 510	min. 4	min. 155	1	5	2	-

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.

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