KHP®194 (CuFe2P)

Standard Designation

EN CW107C / UNS C19400

Chemical Composition

Cu	Fe [%]	Zn [%]	P [%]
Balance	2.4	0.12	0.03

Description / Applications

KHP®194 is a copper iron alloy. KHP®194 has a high electrical conductivity combined with good mechanical properties.
Appplications: Leadframes, bus bars, contacts, switching elements, connectors

Physical Properties[1)]

Density	8.8 g/cm³	Thermal expansion coefficient	$17.6 \cdot 10^{-6}$/K
Electrical conductivity	35 m/Ω·mm² 60 % IACS[2)]	Modulus of elasticity	123 GPa[3)]
Thermal conductivity	260 W/m·K		

[1)] Guideline values for soft temper, measured at room temperature

[2)] IACS = International Annealed Copper Standard

[3)] 1 GPa = 1 kN/mm²

Processing information

Weldability	medium	Stress corrosion cracking	none
Solderability	medium		

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)]
R300/H80	300 - 340	max. 240	min. 20	80 - 100	0	0	0	0
R340/H100	340 - 390	min. 240	min. 8	100 - 120	0	0	0	1
R370/H120	370 - 430	min. 330	min. 6	120 - 140	1	2	1	2
R420/H130	420 - 480	min. 380	-	130 - 150	1.5	2	1.5	3
R470/H140	min. 470	min. 440	-	min. 140	2	4	2.5	4

[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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