KHP®194 (CuFe2P)

KEMPER
DRIVING PROGRESS

Standard Designation

EN CW107C / UNS C19400

Chemical Composition

Cu	Fe [%]	Zn [%]	P [%]
Balance	2,1 - 2,6	0,05 - 0,20	0,015 - 0,15

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	17.6·10 -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	Stress corrosion cracking
Solderability	

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. 4	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

Rev.: 04/2019

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