KHP®10 (CuFe0.1P)

KEMPER
DRIVING PROGRESS

Standard Designation

EN not standardized / UNS C19210

Chemical Composition

Cu	Fe [%]	P [%]	
Balance	0.1	0.03	

Description / Applications

KHP®10 ranges among the CuFe alloys. KHP®10 has a very high electrical conductivity and a higher strength than pure copper.
Applications: lead frames, bus bars, tabs

Physical Properties[1)]

Density	8.9 g/cm³	Thermal expansion coefficient	$17 \cdot 10^{-6}$/K
Electrical conductivity	52 m/Ω·mm² 90 % IACS[2)]	Modulus of elasticity	125 GPa[3)]
Thermal conductivity	350 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	300 - 370	max. 300	min. 10	80 - 110	0	0	0.5	0.5
R350	350 - 420	min. 300	min. 4	100 - 130	0.5	0.5	1	1
R410	410 - 480	min. 350	min. 2	120 - 150	1	2	1.5	3
R440	min. 440	min. 400	min. 1	min. 125	1.5	3.5	2.0	3.5

[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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Gebr. Kemper GmbH + Co KG · Metallwerke · Harkortstr. 5, 57462 Olpe · Tel. 02761 891 0 · Fax. 02761 891 458 · info@kemper-group.com