Cu-PHC

KEMPER
DRIVING PROGRESS

Standard Designation

EN CW020A / UNS C10300

Chemical Composition

Cu [%]	P [%]		
min. 99.95	0.003		free of oxygen

Description / Applications

Cu-PHC is an oxygene-free copper, desoxidyzed with phosphorous. Strips made of Cu-PHC are very well suited for cold forming and soft and hard soldering.
Applications: electrical devices, switching elements, connectors

Physical Properties[1)]

Density	8.9 g/cm³	Thermal expansion coefficient	$17.7 \cdot 10^{-6}$/K
Electrical conductivity	58 m/Ω·mm² 100 % IACS[2)]	Modulus of elasticity	127 GPa
Thermal conductivity	390 W/m·K		

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

[2)] IACS = International Annealed Copper Standard

Processing information

Weldability	very good	Stress corrosion cracking	none
Solderability	very 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)]
R220/H40	220 - 260	max. 140	min. 33	40 - 65	0	0	0	0
R240/H65	240 - 300	min. 180	min. 8	65 - 95	0	0	0.5	0.5
R290/H90	290 - 360	min. 250	min. 4	90 - 110	0	0	0.5	1.5
R360/H110	min. 360	min. 320	min. 2	min. 110	0	0	1	3

[1)] The r/t values are valid for a strip thickness up to 0.5 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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