Cu-HCP

KEMPER
DRIVING PROGRESS

Standard Designation

EN CW021A / UNS C10300

Chemical Composition

Cu [%]	P [%]		
min. 99.95	0,004		free of oxygen

Description / Applications

Cu-HCP is an oxygen-free, phosphorus-deoxidized copper. Strips made of Cu-HCP are very well suited for cold forming and soft and hard soldering. Due to its phosphorus content, this copper grade is ideally suited for many welding applications.
Applications: electrical devices, switching elements, connectors, longitudinal welded cables

Physical Properties[1)]

Density	8.9 g/cm³	Thermal expansion coefficient	$17.7 \cdot 10^{-6}$/K
Electrical conductivity	57 m/Ω·mm² 98 % IACS[2)]	Modulus of elasticity	127 GPa
Thermal conductivity	385 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.

Rev.: 04/2026

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