Schlenk Metal Foils GmbH & Co. KG • Barnsdorfer Hauptstr. 5 • 91154 Roth-Barnsdorf Germany
www.schlenk.com • foils@schlenk.de

Cu-PHC

Designation	EN / Cu-PHC	EN / CW020A	UNS / C10300

This very pure copper has been deoxidized by a defined addition of Phosphorus and it finds its main usage brazing and welding (this material is immune against hydrogen embrittlement). Cu-PHC shows excellent performance in dynamic bend tests and is therefore well established as conductor material for flexible-flat-cables (FFC) for which thin copper foil is used.

COMPOSITION OF MATERIAL

- Cu: ≥ 99,9 %
- P: ≤ 0,006 %

PHYSICAL PROPERTIES

· Density	8,93 g/cm³
· Melting point	1083 °C
· Electrical conductivity	min. 58 m/Ω mm² (at 20 °C R200)
· Electrical resistivity	max. 0,017241 Ω mm²/m (at 20 °C R200)
· Temperature coefficient of electrical resistance	$3{,}7 \cdot 10^{-3}$/K (at 0 to 200 °C R200)
· Thermal conductivity	394 W/K m (at 20 °C)
· Thermal capacity	0,386 J/g K (at 20 °C)
· Coefficient of thermal expansion (linear)	$17{,}7 \cdot 10^{-6}$/K (at 20 to 300 °C)
· Modulus of elasticity (tensile)	110 GPa (at 20 °C R200)

MANUFACTURING PROGRAM	THICKNESS	WIDTH
Rolls, spools, sheets	0,006 - 0,4 mm	0,6 - 660 mm

not all combinations of thickness and width are available
or different dimensions please contact our technical service

TEMPER ACCORDING TO DIN EN 13599			TYPICAL VALUES (information only)
	Tensile strength Rm in MPa	Yield strength $Rp_{0,2}$ in MPa	Elongation in % L_0 = 100 mm
R200	200 - 250	≤ 100	> 15
R220	220 - 260	≤ 140	> 15
R240	240 - 300	≥ 180	< 35
R290	290 - 360	≥ 250	< 20
R360	≥ 360	≥ 320	< 5

The values in the table are valid only for foils with thickness > 0,1 mm.

For further information please visit our website: https://www.schlenk.com
You will find further information at: https://copperalliance.eu