

## **Cu-DHP**

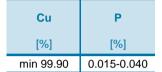
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Comparable standards: Aurubis designations: UNS C12200 • EN CW024A • JIS C1220 C122 • DHP • PNA 219

Description

Cu-DHP is a deoxidized, oxygen-free copper with a residual phosphorus content. It combines very good formability and joining properties, whereas the conductivity is reduced due to the residual phosphorus content.

## Composition



Composition of this alloy is in accordance with RoHS for electric & electronic components and ELV for the automotive industry.

Physical properties

Mechanical properties

Melting point	Density	с <sub>р</sub> @ 20°С	Young's modulus	Thermal cond.		trical nd.	α @20-300°C
[°C]	[g/cm <sup>3</sup> ]	[kJ/kgK]	[GPa]	[W/mK]	[MS/m]	[%IACS]	[10 <sup>-6</sup> /K]
1083	8.9	0.377	132	340	≥46	≥79	17.6

Note: The specified conductivity applies to the soft condition only.

 $c_{\rm p}$  specific heat capacity  $\alpha$  coefficient of thermal expansion

	Tensile Strength	Yield Strength	Elongation A <sub>50</sub>	Hardness HV	Bend 90°	l ratio ° [r]
	[MPa]	[MPa]	[%]	[-]	GW	BW
R220	220-260	≤ 140	≥ 33	40-65	0	0
R240	240-300	≥ 180	≥ 8	65-95	0	0
R290	290-360	≥ 250	≥ 4	90-110	0	0
R360	≥ 360	≥ 320	≥2	≥ 110	0	0.5

r = x \* t (thickness  $t \le 0.5 mm$ )

GW bend axis transverse to rolling direction. BW bend axis parallel to rolling direction.

Fabrication	Cold formability	excellent
properties	Hot formability	excellent
	Soldering	excellent
	Brazing	excellent
	Oxyacetylene welding	good
	Gas shielded arc welding	excellent
	Resistance welding	not recommended
	Machinability	not recommended

ElectricalThe electrical conductivity depends on chemical composition, the level of cold deformation and<br/>the grain size. A high level of deformation as well as a small grain size decrease the<br/>conductivity.



Corrosion	Copper is resistant to: Natural and industrial atmospheres as well as maritime air, drinking and
Resistance	service water (if the flow rate is not excessive), non oxidizing acids, alkaline solutions and
	neutral saline solutions.
	Copper is not resistant to: Ammonia, halogenide, cyanide and hydrogen sulfide solutions and atmospheres, oxidizing acids and sea water (especially at high flow rates).

**Typical uses** Architecture, roofing, apparatus engineering, components of electrical engineering, air-, hydraulic- and oil-pipes, flexible pipes, air conditioner, heat exchanger

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