

### Alloy Designation

EN	Cu-DHP
DIN CEN/TS 13388	CW024A
UNS	C12200

### Characteristics

**Cu-DHP** is a phosphorus-deoxidized copper with a limited, high amount of residual Phosphorus. It has excellent welding and soldering properties and is resistant against hydrogen embrittlement. It can be deformed excellent, either hot or cold.

### Chemical Composition (Balance)

Weight percentage

Cu	≥ 99.90	%
P	0.015 - 0.040	%

### Main Applications

**Electrical:** Wire Connectors, Heater Elements

**Industrial:** Construction, Rotating Bands, Kettles, Anodes for Electroplating, Heat Exchanger Shells, Oil Coolers in Airplanes, Tanks, Casting Molds, LP Gas Service, Medical Gas-Oxygen, Plating Anodes, Plating Racks, Plating Hangers, Marine Oil Coolers

### Mechanical Properties (EN 1652)

Temper	Tensile Strength	Yield Strength Minimum	Elongation Minimum	Hardness	Bending 90°	
	Rm	Rp <sub>0.2</sub>	A <sub>50mm</sub>	HV *	gw rel. Bending Radius R/T	bw
	MPa	MPa	%	HV	Strip Thickness ≤ 0.50mm	
<b>R220</b>	220 .. 260	≤ 140 *	33	40 .. 65	0	0
<b>R240</b>	240 .. 300	180	8	65 .. 95	0	0
<b>R290</b>	290 .. 360	250	4	90 .. 110	0	0
<b>R360</b>	≥ 360	320	2	≥ 110	0	0.5

\* only for information

### Physical Properties

Typical values in annealed temper at 20 °C

Density		8.94	g/cm <sup>3</sup>
Thermal expansion coefficient	20 .. 300 °C	17.7	10 <sup>-6</sup> /K
Specific heat capacity		0.386	J/(g·K)
Thermal conductivity		330	W/(m·K)
Electrical conductivity	MS/m	47	MS/m
Electrical conductivity	IACS	81	%
Thermal coefficient of electrical resistance	(0 .. 100 °C)	3.4	10 <sup>-3</sup> /K
Modulus of elasticity	GPa	130	GPa

### Fabrication Properties \*

Cold Forming Properties	Excellent
Machinability (Rating 20)	Less suitable
Electroplating Properties	Excellent
Hot Tinning Properties	Excellent
Soft Soldering, Brazing	Excellent
Resistance Welding	Less suitable
Gas Shielded Arc Welding	Excellent
Laser Welding	Good

\* For more details call our technical service

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