

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 Rm	Yield Strength Minimum Rp0.2	Elongation Minimum A50mm	Hardness HV *	Bending 90°	
	MPa	MPa	%	HV	gw rel. Bending Radius R/T	bw
					Strip Thickness ≤ 0.50mm	
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

\* only for information

Physical Properties

Typical values in annealed temper at 20 °C

Density		8.94	g/cm³
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

Due to continuous improvements within our production process, the details given in our brochure cannot be guaranteed. We reserve the right to update or change our products without prior notice. We recommend that you seek confirmation of our product details / specifications before committing to specific alloys.