CuDHP

CuDHP | C12200

Cu-DHP is a deoxidized, oxygen-free copper with a phosphorus content. It has excellent formability and joining properties. Its application areas include electrical components, pipe production, roofing, cladding, and equipment manufacturing.

Comparable Standarts

EN	JIS	UNS
CW024A	C1220	C12200

Chemical Composition %

Cu	P
min 99.90	0.015-0.040

Physical Properties

Melting Point	1083	[°C]
Density	8.9	(g/cm³)
Cp @ 20°C	0.377	[kJ/kgK]
Thermal Conductivity	340	(W/mK)
Electrical Conductivity	≥79	%IACS
Modules of Elasticity	132	[GPa]
α @ 20°C	17.6	[10-6/K]

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

Cp specific heat

α thermal expansion coefficent

Fabrication Properties

Cold Formability	excellent
Hot Formability	excellent
Soldering ability	excellent
Oxyacetylene welding	good
Gas shield arc welding	excellent
Resistance welding	not recomended
Machining	not recomended
Brazing	excellent

Electrical Conductivity

Electrical conductivity depends on chemical composition, the level of cold deformation, and grain size. A high degree of deformation and a small grain size reduce conductivity.

Typcial Uses

Architecture, roofing, electrical components, air, hydraulic, and oil pipes, flexible tubing, air conditioning (systems), heat exchangers.

Corrosion Resistance

Copper is resistant to natural and industrial atmospheres, as well as maritime air, potable and service water (if the flow rate is not excessive), non-oxidizing acids, alkaline solutions, and neutral saline solution environments.
Copper has low corrosion resistance to ammonia, halogenide, cyanide and hydrogen sulfide solutions and atmospheres, oxidizing acids, and seawater (especially at high flow rates).

Mechanical Properties

	Tensile Strength [MPa]	Yield Strangth [MPa]	Elongation A50 [%]	Hardness HV [-]	Bend ratio 90° [r]	
					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

Other tempers are available upon request.

r = x * t (thickness t ≤ 0.5mm)

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

Dimensional Specifications

Thickness (mm)	Width (mm)
0.04-0.20	10-400
0.21-0.50	5-400
0.51-1.00	5-600
1.01-4.00	15-600
4.01-7.00	25-600

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