

SM1220

Cu-DHP

Alloy 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. Main application:

Architecture: Downspouts, Gutters, Flashing, Roofing; **Building:** Heater Units, Condenser Sheets; **Consumer:** Air Conditioners, Refrigerators; **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	Temper condition			
	R220	R240	R290	R360
Tensile strength in N/mm ² ref only	220-260	240-300	290-360	≥ 360
0,2% yield strength in N/mm ²	< 140	≥ 180	≥ 250	≥ 320
Vickers hardness HV	40-65	65-95	90-110	≥ 110
Elongation A _{L50%}	min. 33	min. 8	min. 4	min. 2

Physical properties (Typical values in annealed temper at 20 °C)

Thermal expansion coefficient -191 ... 16°C	14.1	10 ⁻⁶ /K
0 ... 300°C	17.7	10 ⁻⁶ /K
Specific heat capacity	0.386	J/(g·K)
Density	8.9	g/cm ³
Thermal conductivity	330	W/(m·K)
Thermal coefficient of electrical resistance (0 ... 300°C)	3.4	10 ⁻³ /K
Modulus of elasticity (1 GPa = 1 kN/mm ²)	132	GPa
Electrical conductivity (1 MS/m = 1 m/(Ω mm ²))	≥47	MS/m
Electrical conductivity (IACS)	≥ 81	%

Material designation

EN	Cu-DHP (SF-Cu)
UNS	C12200
DIN CEN/TS 13388	CW024A
JIS	C1220

Chemical composition

Cu	≥ 99.90 %
P	0.0160-0.0380%

We can offer various types of copper rolled products to its industrial customers, all with a minimum 99.9% purity. Our assortment of copper rolled products vary in chemical composition, size and format, all suited to the many types of final processing.

This information was given with the best knowledge, but cannot guarantee any characteristics we describe listed above. The contract terms of Sofia Med agreed with any individual customer and our general conditions of sales describe the liability of these conditions. In any case do we reserve the right by technical development or any other reason to modify this sheet according to our needs. This data sheet is part of a technical modification service done case by case.