SOFIA MED

SM1030

Cu-PHC (Cu-Se)

Alloy characteristics

Cu-PHC is a high purity, low level residual phosphorus, deoxidized copper. It has a very high electrical and thermal conductivity, good welding and soldering properties as well as resistance to hydrogen. It has excellent hot and cold forming properties, and a good corrosion resistance in water and especially in atmosphere (including industrial atmosphere). Cu-PHC has a higher conductivity than Cu-HPC. The alloy is registered US EPA antimicrobial.

Main application: High frequency cable, Submarine cable strip, Commutators, Electrical conductors, Bus bars, Terminals, Pressure vessels, Billet mold tube.

Mechanical properties	Temper condition			
	R200	**R240**	**R290**	**R360**
Tensile strength in N/mm^2 ref only	200-260	240-300	290-360	>360
0,2% yield strength in N/mm^2	<100	>180	>250	>320
Vickers hardness HV	45-65	65-95	90-110	>110
Elongation $A_{L50\%}$	-	> 8	>4	>2

Physical properties (Typical values in annealed temper at 20 ºC)		
Thermal expansion coefficient 20 … 300 ºC	17.7	10^{-6}/K
Specific heat capacity	0.385	J/(g·K)
Density	8.94	g/cm^3
Thermal conductivity	385	W/(m·K)
Thermal coefficient of electrical resistance (0 … 100 ºC)	3.7	10^{-3}/K
Modulus of elasticity (1 GPa = 1 kN/mm^2) cold formed	132	GPa
Electrical conductivity (IACS)	100	%

Material designation	
DIN EN	CW020A
UNS	C10300

Chemical composition	
Cu	99.95 %
P	0.001-0.005 %

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.

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