

CuZn_{0.5}

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CuZn0.5 is a deoxidized copper alloy with a zinc addition. The alloy offers good electrical conductivity (min 82% IACS) and enhanced durability compared to pure copper. The alloy features excellent welding and soldering properties.

Comparable Standarts	
EN	JIS
CW119C	-

Chemical Composition %		
Cu	Zn	Pb
rem.	0.1-1.0	0.02 max.

Physical Properties		
Melting Point	1081	[°C]
Density	8.92	(g/cm³)
Cp @ 20°C	0.386	[kJ/kgK]
Thermal Conductivity	350	(W/mK)
Electrical Conductivity	≥83	%IACS
Modules of Elasticity	127	[GPa]
@20-300°C	17.7	[10-6/K]

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

Cp specific heat

 $\boldsymbol{\alpha}$ thermal expansion coefficent

Fabrication Properties		
Cold Formability	excellent	
Hot Formability	excellent	
Machinability	not recommended	
Oxyacetylene welding	fair	
Gas shield arc welding	good	
Resistance welding	not recommended	
Brazing	good	
Soldering	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

It is used in electrical, architectural, and metalware applications.

Corrosion Resistance

Copper is resistant to natural and industrial atmospheres, marine air, potable and service water, non-oxidizing acids, alkaline solutions, and neutral saline solutions.

Copper has low corrosion resistance in environments containing ammonia, halogenide, cyanide and hydrogen sulfide solutions and atmospheres, oxidizing acids, and seawater (especially at high flow rates).

Mechanical Properties Bend ratio 90° [r] Tensile Strength [MPa] Yield Strangth [MPa] Elongation A50 [%] Hardness HV [-] GW BW R220 220-260 ≤ 140 40-65 0 R240 240-300 ≥ 180 65-95 R290 290-360 ≥ 250 85-115 R360

Other tempers are available upon request.

r = x * t (thickness $t \le 0.5$ mm)

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

Dimensional Specifications		
Thickness (mm)	Width (mm)	
0.10-0.20	10-420	
0.21-1.00	5-450	
1.01-4.00	15-450	
4.01-5.00	25-450	