CuZn20

CuZn20 | C24000

CuZn20 offers excellent cold workability and good hot workability. The alloy has higher strength than pure copper.
CuZn20 possesses good corrosion resistance along with good welding and brazing properties, and is not susceptible to stress corrosion cracking or dezincification.
It is predominantly used in jewelry, metal goods, the watch industry, and for installation components in the electronics industry.

Comparable Standarts

EN	JIS	UNS
CW503L	C2400	C24000

Chemical Composition %

Cu	Zn	Ni	Sn	Fe	Pb	Al
79-81	rem	0.3 max	0.1 max	0.05 max	0.05 max	0.02 max

Physical Properties

Melting Point	965-1000	[°C]
Density	8.67	(g/cm³)
Cp @ 20°C	0.38	[kJ/kgK]
Thermal Conductivity	142	(W/mK)
Electrical Conductivity	≥32,8	%IACS
Modules of Elasticity	119	[GPa]
α @ 20°C	18.8	[10-6/K]

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

Cp specific heat

α thermal expansion coefficent

Fabrication Properties

Machinability	less suitable
Soft Soldering	excellent
Laser Welding	fair
Cold Formability	excellent
Gas shield arc welding	fair
Resistance welding	good
Electroplating Feature	excellent
Hot Dip Tinning Feature	excellent

Electrical Conductivity

Electrical conductivity is strongly influenced by chemical composition. High levels of cold deformation and small grain size moderately reduce electrical conductivity. The minimum conductivity level can be determined.

Typcial Uses

Architecture, decorative panels, watch industry, musical instrument parts, pump lines, tokens, jewelry and metal goods, deep-drawn parts.

Corrosion Resistance

CuZn20 generally exhibits good resistance to natural, marine, and industrial atmospheres, water, steam, various saltwater solutions, many organic liquids, and neutral and alkaline.
The susceptibility of CuZn20 to stress corrosion cracking is very low. To prevent stress corrosion as much as possible, the alloy should be used in a stress-relieved temper.
CuZn20 is not susceptible to dezincification, which can occur in water with high chloride content and low carbonate hardness.
It is not resistant to oxidizing acids and aqueous sulfur compounds.

Mechanical Properties

	Tensile Strength [MPa]	Yield Strangth [MPa]	Elongation A50 [%]	Hardness HV [-]
R270	270-320	≤ 150	≥ 38	55-85
R320	320-400	≥ 200	≥ 20	85-120
R400	400-480	≥ 320	≥ 4	120-155
R480	≥ 480	≥ 440	-	≥ 155

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	10-380
0.21-1.00	5-380
1.01-4.00	15-400
4.01-8.00	25-400

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