C24000

CuZn20

KME
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Alloy Designation	
EN	CuZn20
DIN CEN/TS 13388	
JIS	C 2400
BS	
UNS	C24000

Chemical Composition (Balance) Weight percentage		
Cu	79 .. 81	%
Zn	Rest	%
Ni	≤ 0.5	%
Sn	≤ 0.5	%
Fe	≤ 0.05	%

Characteristics

CuZn20 has excellent cold forming, good hot forming properties and is well suited for e.g. coinage, beating, embossing. This alloy has a higher strength than pure copper.
CuZn20 has good welding and brazing properties as well as a good corrosion resistant and is not fragile to stress corrosion and dezincification. It is principally used in jewellery, metal goods, watch industry and in electronic industry for installation parts.
We produce qualities with grain sizes below 5 µm if needed.

Main Applications

Architecture: Spandrels, Medallions, Ornamental Components.
Builders Hardware: Decorative Panels.
Consumer: Clock Dials, Plaques, Musical Instrument Parts.
Electrical: Battery Caps, Rotor Bars, AC Motors.
Industrial: Pump Lines, Welding Wire, Flexible Hose Bellows.
Other: Token. Jewellery and metal goods, Deep drawn parts.
Typical Application: Jewellery and metal goods, Deep drawn parts.

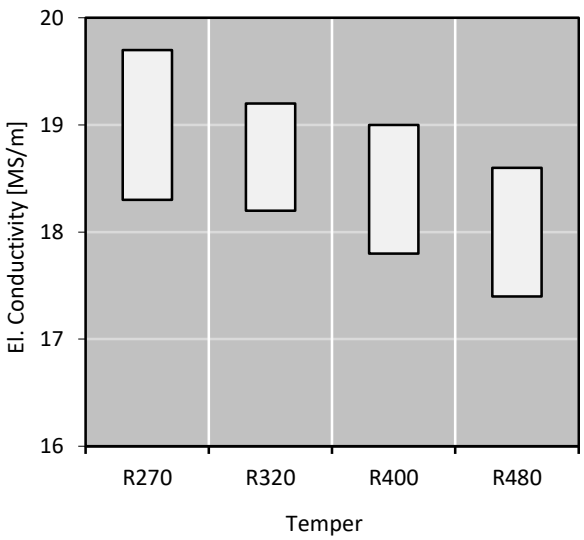
Mechanical Properties (EN 1652)

Temper	Tensile Strength Rm	Yield Strength Minimum $Rp_{0.2}$	Elongation Minimum A_{50mm}	Hardness HV *
	MPa	MPa	%	HV
R270 (annealed)	270 .. 320	≤ 150 *	38	55 .. 85
R320	320 .. 400	≥ 200 *	20	85 .. 120
R400	400 .. 480	≥ 320 *	5	120 .. 155
R480	≥ 480	≥ 440 *	-	≥ 155

* only for information

Physical Properties Typical values in annealed temper at 20 °C			
Density		8.87	g/cm³
Thermal expansion coefficient	20 .. 300 °C	18.8	10^{-6}/K
Specific heat capacity		0.38	J/(g·K)
Thermal conductivity		142	W/(m·K)
Electrical conductivity	MS/m	19	MS/m
Electrical conductivity	IACS	32.8	%
Thermal coefficient of electrical resistance	(0 .. 100 °C)	1.5	10^{-3}/K
Modulus of elasticity	GPa	119	GPa

Electrical Conductivity



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Fabrication Properties *	
Cold Forming Properties	Excellent
Machinability (Rating 20)	Less suitable
Electroplating Properties	Excellent
Hot Tinning Properties	Excellent
Soft Soldering, Brazing	Excellent
Resistance Welding	Good
Gas Shielded Arc Welding	Good
Laser Welding	Fair

* For more details call our technical service

Corrosion Resistance *

Resistant to:

CuZn20 has in general a good resistance to natural-, sea- and industrial atmosphere, water, water vapour, different saline solutions, many organic liquids, neutral- and alkaline bonds.

CuSn20 has a very low sensitivity to stress corrosion cracking. To avoid stress corrosion as much as possible, the alloy should be used in a stress relieved temper.

CuSn20 is not sensitive to dezincification, that could occur in water with high chlorine content and low carbonate-hardness.

Not resistant to:

Oxidizing acids, hydrous Sulphur components

Bend Fatigue (at room temperature)

The fatigue strength gives an indication about the resistance to variations in applied tension. It is measured under symmetrical alternating load. The maximum bending load for 10^7 load cycles without crack is measured. Dependent on the temper class it is approximately 1/3 of the tensile strength R_m.

Available delivery forms *

Strips in coils

Traverse-wound coils with drum weights up to 1.5 t

TECSTRIP®_multicoil up to 2.5 t

Hot-Dip-Tinned strips in thickness range 0.10 up to 1.20 mm

* For more details call our sales service