

# C23000

## CuZn15

### Alloy Designation

EN	CuZn15
DIN CEN/TS 13388	CW502L
UNS	C23000

### Chemical Composition (Balance)

Weight percentage

Cu	85	%
Zn	Rest	%

### Characteristics

**CuZn15** has very good cold forming properties and is well suited for e.g. coinage, beating, embossing. This alloy has a higher strength as pure copper. It has good welding and brazing properties as well as a good corrosion resistant and is not fragile to stress corrosion and dezincification. **CuZn15** is principally used in jewellery, metal goods, watch industry and in electronic industry for installation parts.

### Main Applications

Jewellery and metal good, Components for the electrical industry, Cladding Panels.

### Mechanical Properties (EN 1652)

Temper	Tensile Strength	Yield Strength Minimum	Elongation Minimum	Hardness	Bending 90°	
	R <sub>m</sub>	R <sub>p0.2</sub>	A <sub>50mm</sub>	HV *	gw rel. Bending Radius R/T	bw
	MPa	MPa	%	HV	Strip Thickness ≤ 0.50mm	
R300	300 .. 370	≤ 170 *	16	85 .. 120	0	0
R350	350 .. 420	270 *	8	100 .. 150	0	0
R410	410 .. 490	360 *	3	125 .. 155	0	1
R480	480 .. 560	420 *	1	150 .. 180	1	3
R550	≥ 550	480 *	-	≥ 170	-	-

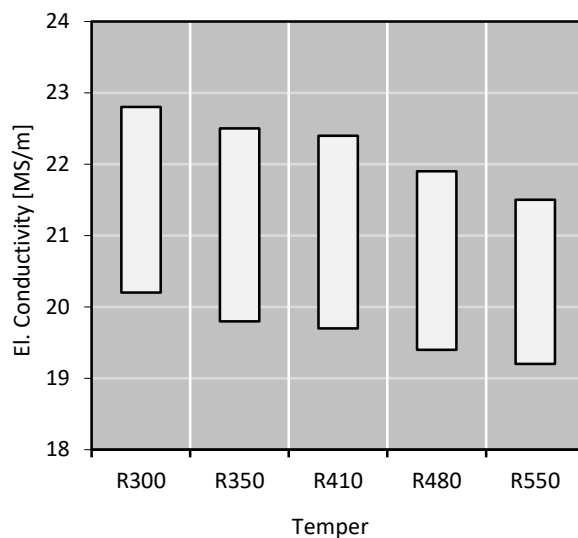
\* only for information

### Physical Properties

Typical values in annealed temper at 20 °C

Density		8.75	g/cm <sup>3</sup>
Thermal expansion coefficient	20 .. 300 °C	18.5	10 <sup>-6</sup> /K
Specific heat capacity		0.377	J/(g·K)
Thermal conductivity		159	W/(m·K)
Electrical conductivity	MS/m	20	MS/m
Electrical conductivity	IACS	34	%
Thermal coefficient of electrical resistance	(0 .. 100 °C)	2.6	10 <sup>-3</sup> /K
Modulus of elasticity	GPa	122	GPa

### Electrical Conductivity



#### Fabrication Properties \*

Cold Forming Properties	Good
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 \*

**CuZn15** 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.

**CuSn15** has a low sensitivity to stress corrosion cracking. To avoid stress corrosion as much as possible, the alloy should be used in a stress relieved temper.

**CuSn15** is not sensitive to dezincification, that could occur in water with high chlorine content and low carbonat-hardness.

*Not resistant to:* Oxidizing acids, hydrous sulphur components, hydrous ammonia in the non-stress-relieved condition.



#### 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

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