CuZn37

CuZn37 | C27200

CuZn37 is a solid-solution strengthened copper alloy containing 37% zinc (brass).
The alloy exhibits good cold working properties and is economically attractive due to its high zinc content. CuZn37 can be brazed and soldered.
Application areas include deep-drawn parts, metalware, electrical components, connectors, machinery components, decoration, and musical instruments.

Comparable Standarts

EN	JIS	UNS
CW508L	C2720	C27200

Chemical Composition %

Cu	Zn	Ni	Sn	Fe	Pb	Al
62-64.0	rem	0.3 max	0.1 max	0.1 max	0.1 max	0.05 max

Physical Properties

Melting Point	920	[°C]
Density	8.4	(g/cm³)
Cp @ 20°C	0.377	[kJ/kgK]
Thermal Conductivity	116	(W/mK)
Electrical Conductivity	≥28	%IACS
Modules of Elasticity	110	[GPa]
α @ 20°C	20.5	[10-6/K]

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

Cp specific heat

α thermal expansion coefficent

Fabrication Properties

Cold Formability	excellent
Hot Formability	not recomended
Soldering ability	excellent
Oxyacetylene welding	fair
Gas shield arc welding	fair
Resistance welding	good
Machining	fair
Brazing	excellent

Electrical Conductivity

Electrical conductivity depends on chemical composition, level of cold deformation, and grain size. High levels of deformation and small grain size reduce conductivity.

Typcial Uses

Metalware, electrical and mechanical components, connectors, electrical brackets, clips and contacts, radiator cores and tanks, lamps, bowls, trays, eyelets, fasteners, bead chain hardware items as knobs, roses, hinges, templates, springs, hose fittings, decorative items, and musical instruments.

Corrosion Resistance

Brass is resistant to natural, industrial, and salt environments, potable water, and alkaline and neutral saline solutions.
Brass exhibits low corrosion resistance to acids, ammonia, halides, cyanide, and hydrogen sulfide solutions and atmospheres, as well as seawater (especially under high flow rates).

Under certain conditions (e.g., high Cl content and low carbon hardness), dezincification can be an issue for alloys containing -phase. The alloy also shows susceptibility to stress corrosion cracking when exposed to specific environments (e.g., ammonia, amine, or sal ammoniac). If stress corrosion cracking might be an issue, the alloy should be stress-relieved.

Mechanical Properties

	Tensile Strength [MPa]	Yield Strength [MPa]	Elongation A50 [%]	Hardness HV [-]	Bend ratio 90° [r]		Bend ratio 180° [r]	
					GW	BW	GW	BW
R300	300-370	≤ 180	≥ 38	55-95	0	0	0	0
R350	350-440	≥ 170	≥ 19	95-125	0	0	0	0
R410	410-490	≥ 300	≥ 8	120-155	0	0	0	1
R480	480-560	≥ 430	≥ 3	150-180	0	0.5	1	2
R550	≥ 550	≥ 500	-	≥ 170	1	2	3	4

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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