CuZn30

CuZn30 | C26000

CuZn30 is a solid-solution strengthened copper alloy containing 30% zinc (brass). The alloy exhibits excellent cold working properties, can be welded, and is solderable.
Due to its elevated zinc content, the alloy offers economic advantages.
Application areas include metalware and deep-drawn parts, automotive components, heat exchangers, connectors, chains, cooling units, and electrical and mechanical components.

Comparable Standarts

EN	JIS	UNS
CW505L	C2600	C26000

Chemical Composition %

Cu	Zn	Ni	Sn	Fe	Pb	Al
69-71	rem	0.3 max	0.1 max	0.05 max	0.05 max	0.02 max

Physical Properties

Melting Point	954	[°C]
Density	8.53	(g/cm³)
Cp @ 20°C	0.377	[kJ/kgK]
Thermal Conductivity	121	(W/mK)
Electrical Conductivity	≥28	%IACS
Modules of Elasticity	110	[GPa]
α @ 20°C	20	[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	fair
Soldering ability	excellent
Oxyacetylene welding	good
Gas shield arc welding	good
Resistance welding	fair
Machining	fair
Weld	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

Deep-drawn parts, screws, machine components, automotive parts, electrical components, case cups, hardware, connectors, enclosures, chains, heat exchangers, coolers, springs, fittings, locks, watch industry, jewelry.

Corrosion Resistance

Brass is resistant to natural, industrial, and salt environments, potable water, and alkaline and neutral saline solutions.
Brass has low corrosion resistance to acids, ammonia, halogens, cyanide, and hydrogen sulfide solutions and atmospheres, as well as seawater (especially at high flow rates).
Under certain conditions (e.g., high Cl content and low carbon hardness), dezincification may be an issue for CuZn30 alloy. The alloy also exhibits some susceptibility to stress corrosion cracking when exposed to specific environments (e.g., ammonia, amines, or mercury compounds). If stress corrosion cracking might be an issue, the alloy should be stress-relieved.

Mechanical Properties

	Tensile Strength [MPa]	Yield Strangth [MPa]	Elongation A50 [%]	Hardness HV [-]	Bend ratio 90° [r]	
					GW	BW
R270	270-350	≤ 160	≥ 40	55-90	0	0
R350	350-430	≥ 170	≥ 21	95-125	0	0
R410	410-490	≥ 260	≥ 9	120-155	0	0
R480	480-560	≥ 430	≥ 4	150-180	0	1
R550	550-640	≥ 530	≥ 2	170-200	0.5	2
R630	≥ 630	≥ 610	-	≥ 190	1	3

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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Rev. | 10.2025