CuZn33

CuZn33 | C26800

CuZn33 is a solid-solution strengthened copper alloy containing 33% zinc (brass). The alloy exhibits excellent cold working properties and can brazed and soldered.
Due to its elevated zinc content, the alloy offers economic advantages.
Application areas include metalware and deep-drawn parts, automotive components, heat exchangers, connectors, coolers, and electrical and mechanical components.

Comparable Standarts

EN	JIS	UNS
CW506L	C2680	C26000

Chemical Composition %

Cu	Zn	Ni	Sn	Fe	Pb	Al
66-68	rem	0.3 max	0.1 max	0.05 mx	0.05 max	0.02 max

Physical Properties

Melting Point	932	[°C]
Density	8.5	(g/cm³)
Cp @ 20°C	0.38	[kJ/kgK]
Thermal Conductivity	116	(W/mK)
Electrical Conductivity	≥28	%IACS
Modules of Elasticity	112	[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	not recommended
Soldering ability	excellent
Oxyacetylene welding	good
Gas shield arc welding	fair
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

Deep-drawn parts, screws, mechanical engineering components, automotive parts, electrical components, hardware, connectors, cases, chains, heat exchangers, coolers, springs, fittings, locks, watch industry components.

Corrosion Resistance

Brass demonstrates resistance to natural, industrial, and salt environments, potable water, and alkaline and neutral saline solutions. Brass exhibits low corrosion resistance to acids, ammonia, halogens, cyanide, and hydrogen sulfide solutions and atmospheres, as well as seawater (particularly under high flow rates).
Under certain conditions (e.g., high Cl content and low carbonate hardness), dezincification may be an issue for CuZn33 alloy. The alloy also exhibits some 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
R280	280-380	≤ 170	≥ 40	55-90	0	0	0	0
R350	350-430	≥ 170	≥ 23	95-125	0	0	0	0
R420	420-500	≥ 300	≥ 6	125-155	0	0	0	0
R500	≥ 500	≥ 450	-	≥ 155	0.5	0.5	1	1

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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