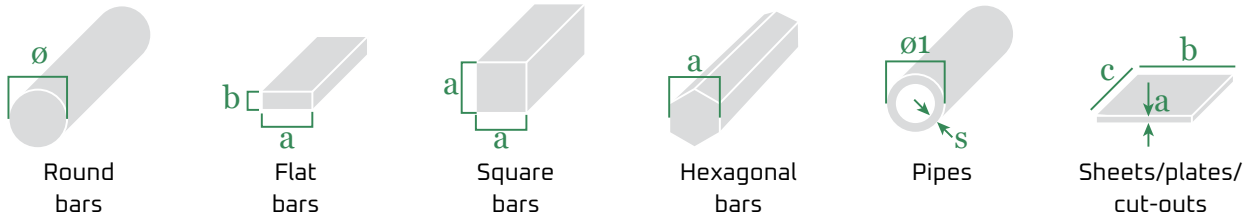
Brass

Brass and Special Brass

Alloys, international standards*, and examples of use

Supply program



Round bars | Flat bars | Square bars | Hexagonal bars | Pipes | Sheets/plates/ cut-outs

Production method: drawn, extruded, rolled, cast, forged.

ISO	ČSN/STN	EN	DIN	UNS	BS	Properties	Examples of use
CuZn39Pb3	423223	CW614N	2.0401	C38500	CZ121-Pb3	Easily machinable by chip removal on automatic machines – free-cutting brass. It forms short, brittle chips. It's very pliable when hot. Good resistance to atmospheric corrosion	Free-cutting brass suitable for fittings, screws, and other mass-produced items. Architecture, locksmithing.
CuZn40Pb2	423223	CW617N	2.0402	C38010	CZ122	Easily machinable by chip removal on automatic machines – free-cutting brass. It forms short, brittle chips. It's very pliable when hot.	Suitable for fittings, screws, and other mass-produced items.
CuZn39Pb2		CW612N	2.0380	C37700	CZ120	CuZn39Pb2 is the most commonly used alloy for machining operations. It has excellent processing and hot forging properties. Cold forming is possible only to a limited extent.	Jewelry, emblems, plaques, medallions, components for the electrical industry, connectors, rotor bars, AC motors
CuZn39Pb1	423222	CW610N	2.0372/ CuZn39Pb0,5	C36500	CZ123	This alloy has good cold and hot formability combined with moderate machinability.	Fittings for water distribution, especially in coastal areas.
CuZn37Mn3Al2PbSi		CW713R	2.0550/ SoMs58Al2/ CuZn40Al2	C67420	CZ135	Moderate machinability. Good resistance to atmospheric corrosion, mildly aggressive water and gases, and oil corrosion.	Sliding bearings, valve guides, transmission parts, piston rings.
CuZn36Pb2As		CW602N		C35330	CZ132	Increased resistance to dezincification.	Fittings for water distribution, especially in coastal areas.
CuZn28Sn1As	423239	CW706R	2.0470	C44300	CZ111	Good corrosion resistance.	Condenser tubes for thermal power plants (condenser brass, also known as admiralty brass).
CuZn35Ni3Mn2AlPb		CW710R	2.0540			Moderate machinability, resistant to seawater.	Shipbuilding.
CuZn21Si3P		CW724R				High corrosion resistance, high strength.	The material is approved for use in drinking water. Sanitary products, pumps, devices, and fittings, automotive and electrical industries.
CuZn31Si1		CW708R	2.0490			Bearing material for high loads.	Bearing bushings, guides, and other sliding elements.
CuZn25Al5Mn4Fe3-C		CC762S	2.0598			High strength.	Bearings with high loads and low sliding speed.

* The listed standards are equivalent but may not be identical and could differ.

ISO	ČSN/STN	EN	DIN	UNS	BS	Properties	Examples of use
CuZn20Al2As		CW702R	2.0460	C68700		Alloy with arsenic.	Condensers, seawater applications, welded pipes.
CuZn28Sn1			2.0470	C44300			Condensers, heat exchangers, instrumentation.
CuZn38AlFeNiPbSn		CW751R	2.0525	C47000		Alloy with higher strength combined with good machinability.	Instrumentation, condensers, heat exchangers.
CuZn38Sn1As		CW717R	2.0530	C46400		Alloy with good corrosion resistance.	Condensers, heat exchangers, instrumentation.
CuZn36Pb1	423214					Good cold workability, well machinable. Good resistance to atmospheric corrosion. Susceptible to stress corrosion cracking and dezincification in salt solutions and seawater. Not resistant to cyanides and ammonium salts.	Production of compasses and excavators.
CuZn36P3		CW603N	2.0375	C36000			
CuZn38Pb1		CW607N		C35000		It has good hot elasticity and excellent cold elasticity. Outstanding resistance to atmospheric corrosion. Dezincification occurs in seawater and saline solutions. Excellent solderability with soft solders and very good with hard solders.	For manufacturing components on automated thread-cutting production machines.
CuZn38Pb2		CW608N	2.0371	C37700	CZ128	Suitable for welding and soldering. Resistant to atmospheric corrosion, seawater, chlorides, and steam.	Clocks, measuring instruments, sliding components, and valve seats.
CuZn35Pb2		CW601N		C34200	CZ119		
CuZn37Pb2		CW606N		C35300			
CuZn40Mn	423234					Corrosion-resistant, cold-formable, well machinable.	Fittings with higher strength.
CuZn35Al5Fe3Mn2	423311					Excellent resistance to atmospheric corrosion. Not resistant to ammonium salts and acids. Susceptible to dezincification and stress corrosion cracking.	Highly stressed machine components, support screw nuts, and gears.
CuZn31Mn1Al	423322					Excellent resistance to atmospheric corrosion.	Common impellers of centrifugal pumps with higher peripheral speeds, valves, bushings, and rolling bearing cages.
CuZn38Sn1As	423237	CW717R		C46500			
CuZn38SnAl		CW715R	2.0525	C47000			
CuZn43Pb1Al		CW622N		C38000			
CuZn43Pb2Al		CW624N			CZ130		
CuZn33Pb1,5AlAs		CW626N					
CuZn37	423213	CW508L	2.0321	C27200	CZ108	Well-formable in cold bending, pressing, rolling, and drawing. It can be plated. Lower corrosion resistance.	For springs and other components in electronics, automotive radiator fins.

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ISO	ČSN/STN	EN	DIN	UNS	BS	Properties	Examples of use
CuZn5	423200	CW500L		C21000		CuZn5 is a solid solution alloy of copper strengthened with 5% zinc (brass). Its color resembles copper, as does its corrosion resistance, but it has better strength than copper or Cu-ETP. CuZn5 has excellent cold formability and is suitable for bending, stamping, and other cold-forming processes. The alloy can be soldered, brazed, or welded.	Components for the electrical, jewelry, and watch industries, stamping and minting, base for gold sheet and enameling, and cosmetic packaging.
CuZn10	423201	CW501L		C22000		CuZn10 has very good cold formability and is suitable for bending, stamping, and other cold-forming processes. The alloy can be soldered, brazed, or welded. As the zinc content increases, strength improves, but conductivity and ductility decrease.	Architectural, pressed, and deep-drawn products, jewelry, hardware, cosmetic packaging, and components for electrical engineering, mechanical engineering, and construction.
CuZn15	423202	CW502L		C23000		CuZn15 is a widely used alloy with an excellent combination of strength, ductility, and corrosion resistance.	Architectural, pressed, and deep-drawn products, jewelry, hardware, cosmetic packaging, and components for electrical engineering, mechanical engineering, and construction.
CuZn20	423203						
CuZn28		CW504L	2.0261	C25600		CuZn28, as well as CuZn30 and CuZn33, combine excellent cold-forming properties with good mechanical strength. CuZn28 offers good hot-forming properties and excellent soldering and brazing characteristics. Due to their outstanding deep-drawing capabilities, CuZn28 and the other two mentioned alloys are referred to as "deep-drawing" or "cartridge" brass.	Contacts for odometers, heater cores, thermostats, electrical connectors, radiator cores, radiator tubes, and radiator tanks.
CuZn30	423210	CW505L		C26000		CuZn28, as well as CuZn30 and CuZn33, combine excellent cold-forming properties with good mechanical strength. CuZn28 offers good hot-forming properties and excellent soldering and brazing characteristics. Due to their outstanding deep-drawing capabilities, CuZn28 and the other two mentioned alloys are referred to as "deep-drawing" or "cartridge" brass.	Deep-drawn and spun components, chains and fastening elements, heat exchanger tubes, and chemical processing plants.
CuZn32	423212						
CuZn33		CW506L	2.0280	C26800	CZ107	CuZn28, as well as CuZn30 and CuZn33, combine excellent cold-forming properties with good mechanical strength. CuZn28 offers good hot-forming properties and excellent soldering and brazing characteristics. Due to their outstanding deep-drawing capabilities, CuZn28 and the other two mentioned alloys are referred to as "deep-drawing" or "cartridge" brass.	Sockets, flashlight wire sockets, clamps, lamp holders, fixtures, screw housings, reflectors. Fastening grommets.
CuZn36		CW507L	2.0335	C27000		CuZn36 is the primary brass alloy for cold-forming processes. Although brasses with lower zinc content have better cold-forming properties, CuZn36 is the most commonly used alloy.	Fasteners: pins, rivets, bushings, eyelets, screws. Industrial: springs, chains, bead chains.
CuZn40	423220					Easily formable in cold processes such as bending, pressing, rolling, and drawing. Suitable for plating. Lower corrosion resistance.	

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