

## Brass Alloys

Alloy	Composition and Use
Admiralty brass	30% zinc and 1% tin, used to inhibit dezincification
Aich's alloy	60.66% copper, 36.58% zinc, 1.02% tin, and 1.74% iron. Corrosion resistance, hardness and toughness make it useful for marine applications.
Alpha brass	Less than 35% zinc, malleable, can be worked cold, used in pressing, forging, or similar applications. Alpha brasses have only one phase, with face-centered cubic crystal structure.
Prince's metal or Prince Rupert's metal	alpha brass containing 75% copper and 25% zinc. Named for Prince Rupert of the Rhine and used to imitate gold.
Alpha-beta brass or Muntz metal or duplex brass	35–45% zinc and is suited for hot working. It contains both $\alpha$ and $\beta'$ phase; the $\beta'$ -phase is body-centered cubic and is harder and stronger than $\alpha$ . Alpha-beta brasses are usually worked hot.
Aluminium brass	contains aluminium, which improves its corrosion resistance. Used for seawater service and in Euro coins (Nordic gold).
Arsenical brass	contains an addition of arsenic and frequently aluminium and is used for boiler fireboxes.
Beta brass	45–50% zinc content. Can only be worked hot producing a hard strong metal that is suitable for casting.
Cartridge brass	30% zinc brass with good cold working properties. Used for ammunition cases.
Common brass, or rivet brass	37% zinc brass, standard for cold working
DZR brass	dezincification resistant brass with a small percentage of arsenic
Gilding metal	95% copper and 5% zinc, softest type of common brass, used for ammunition jackets
High brass	65% copper and 35% zinc, has a high tensile strength and is used for springs, rivets, screws
Leaded brass	alpha-beta brass with an addition of lead, easily machined
Lead-free brass	as defined by California Assembly Bill AB 1953 contains "not more than 0.25 percent lead content"
Low brass	copper-zinc alloy containing 20% zinc, ductile brass used for flexible metal hoses and bellows
Manganese brass	70% copper, 29% zinc, and 1.3% manganese, used in making golden dollar coins in the United States
Muntz metal	60% copper, 40% zinc and a trace of iron, used as a lining on boats

Naval brass	40% zinc and 1% tin, similar to admiralty brass
Nickel brass	70% copper, 24.5% zinc and 5.5% nickel used to make pound coins in the pound sterling currency
Nordic gold	89% copper, 5% aluminium, 5% zinc, and 1% tin, used in 10, 20 and 50 cts euro coins
Red brass	an American term for the copper-zinc-tin alloy known as gunmetal, and an alloy which is considered both a brass and a bronze. Red brass usually contains 85% copper, 5% tin, 5% lead, and 5% zinc. Red brass may be copper alloy C23000, which is 14–16% zinc, 0.05% iron and lead, and the remainder copper. Red brass also may also refer to ounce metal, another copper-zinc-tin alloy.
Rich low brass (Tombac)	15% zinc, often used for jewelry
Tonval brass (also called CW617N or CZ122 or OT58)	copper-lead-zinc alloy
White brass	brittle metal containing more than 50% zinc. White brass may also refer to certain nickel silver alloys as well as Cu-Zn-Sn alloys with high proportions (typically 40%+) of tin and/or zinc, as well as predominantly zinc casting alloys with copper additive.
Yellow brass	American term for 33% zinc brass