Power transmission and control alloys

wieland concast

High-performance bronze alloys engineered and manufactured to withstand the toughest stress and wear of PTC components.

PTC Alloys

Standard stocked			
C86300	C90300	C93200	C95400
C95500			
Also available			
C90700	C91100	C92900	C93700
C93800			

Wieland Concast certifications

- AS9100:2016-certified quality management system
- ISO 9001:2015-certified quality management system

Typical uses:

- Linear drives and gears
- Production equipment
- Bearings
- Hydraulics
- Compressed air

Power transmission and control-related alloy properties

General information

Copper alloy UNS no.	ASTM	Material description	Benefits
C86300*	B505	Manganese Bronze	hardness, good corrosion resistance, high wear resistance
C90300*	B505	Tin Bronze	hardness, good corrosion resistance, high wear resistance
C90700	B505	Tin Bronze	hardness, good corrosion resistance, high wear resistance
C91100	B22	High Tin Bronze	hardness, good corrosion resistance, high wear resistance
C92900	B505	Leaded Nickel-Tin Bronze	good corrosion resistance, high wear resistance
C93200*	B505	Leaded Tin Bronze	high wear resistance, semi-self-lubricating, good pressure tightness
C93700	B505	High-Leaded Tin Bronze	high wear resistance, semi-self-lubricating, good pressure tightness
C93800	B505	High-Leaded Tin Bronze	high wear resistance, semi-self-lubricating, good pressure tightness
C95400*	B505	Aluminum Bronze	high strength, tarnish resistant, good anti-frictional characteristics, good corrosion resistance
C95500*	B505	Nickel-Aluminum Bronze	high strength, tarnish resistant, good anti-frictional characteristics, good corrosion resistance

*standard-stocked alloy.

Chemical composition

Copper alloy UNS no.	Cu (%)	Pb (%)	Sn (%)	Zn (%)	Fe (%)	P (%)[3]	Ni (%)[4]	Al (%)	Mn (%)	S (%)	Sb (%)	Si (%)
C86300	60.00-66.00[1]	0.20	0.20	22.00-28.00	2.00-4.00		1.00	5.00-7.50	2.50-5.00			
C90300	86.00-89.00[1]	0.30	7.50-9.00	3.00-5.00	0.20	0.05	1.00	0.005		0.05	0.20	0.005
C90700	88.00-90.00[1]	0.50	10.00-12.00	0.50	0.15	0.30	0.50	0.005		0.05	0.20	0.005
C91100	82.00-85.00[1]	0.25	15.00-17.00	0.25	0.25	1.00	0.50	0.005		0.05	0.20	0.005
C92900	82.00-86.00[1]	2.00-3.20	9.00-11.00	0.25	0.20	1.50	2.80-4.00	0.005		0.05	0.25	0.005
C93200	81.00-85.00[1]	6.00-8.00	6.30-7.50	1.00-4.00	0.20	1.50	1.00	0.005		0.08	0.35	0.005
C93700	78.00-82.00	8.00-11.00	9.00-11.00	0.80	0.70[2]	1.50	0.50	0.005		0.08	0.50	0.005
C93800	75.00-79.00	13.00-16.00	6.30-7.50	0.80	0.15	1.50	1.00	0.005		0.08	0.80	0.005
C95400	83.00 min				3.00-5.00		1.50	10.00-11.50	0.50			
C95500	78.00 min				3.00-5.00		3.00-5.50	10.00-11.50	3.50			

[1]In determining Cu min., Cu may be calculated as Cu + Ni. [2]Fe shall be 0.35% max. when used for steel-backed bearings.
[3]For continuous castings, P shall be 1.5% max. [4]Ni value includes Co.
Note: Unless otherwise noted, single values represent maximums.

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