

# Hydraulics

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concast

Wieland Concast manufactures a wide range of cast copper alloys engineered for the hydraulics industry.

## Products

Standard stocked	Also available	
C93200	C92900	C93700
	C93800	

## Wieland Concast certifications

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

## Industry-specific applications:

- Piston pumps
- Gear pumps
- Thrust plates
- Seal rings
- Piston seals



## Hydraulics-related alloy properties

### General information

Copper alloy UNS no.	ASTM	Material description	Applications
C92900	B505	Leaded Nickel-Tin Bronze	gears, pump bodies, worm gears
C93200*	B505	Leaded Tin Bronze	bushings, general-purpose bushings, hydraulic press main lining, hydraulic press stuffing box, pump fixtures, pump impellers, pumps, thrust washers
C93700	B505	High-Leaded Tin Bronze	applications requiring acid resistance to sulphite fluids, bearing plates, bushings, bushings for high speed/heavy pressure, corrosion-resistant castings, crank shafts, impellers, pumps
C93800	B505	High-Leaded Tin Bronze	acid resisting applications, bearings, general service bearings for moderate pressure, low-friction/moderate pressure bushings

\*standard-stocked alloy.

### Chemical composition

Copper alloy UNS no.	Cu (%)	Pb (%)	Sn (%)	Zn (%)	Fe (%)	P (%) <sup>3</sup>	Ni (%) <sup>4</sup>	Al (%)	S (%)	Sb (%)	Si (%)
C92900	82.00-86.00 <sup>1</sup>	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 <sup>1</sup>	6.00-8.00	6.30-7.50	2.00-4.00	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 <sup>2</sup>	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

<sup>1</sup>In determining Cu min., Cu may be calculated as Cu + Ni. <sup>2</sup>Fe shall be 0.35% max. when used for steel-backed bearings.

<sup>3</sup>For continuous castings, P shall be 1.5% max. <sup>4</sup>Ni value includes Co.

Note: single values represent maximums.

### Mechanical properties

Copper alloy UNS no.	Tensile strength, min		Yield strength, at 0.5% extension under load, min		Elongation, in 2 in. or 50 mm min	Brinell Hardness (500 kg load)
	ksi	MPa	ksi	MPa		
C92900	45	310	25	172	8	75
C93200	35	241	20	138	10	65
C93700	35	241	20	138	6	60
C93800	25	172	16	110	5	55

For further information please contact us here:

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