

Aircraft and aerospace

Alloys characterized by corrosion, wear, and impact resistance as well as the high-strength characteristics that are required for the aircraft and aerospace industry.

Aircraft and aerospace alloys

AMS 4640-C63000	AMS 4634-C64200	AMS 4598-C72900
AMS 4590-C63020	AMS 4596-C72900	AMS 4880-C95510
AMS 4633-C64200	AMS 4597-C72900	AMS 4881-C95520

Wieland Concast certifications

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

Industry-specific applications:

- Landing gear bushings and bearings
- Door hardware control surface and actuator bearings and bushings
- Wheel bearings
- Brakes valves
- Hydraulic actuators
- Wing flap bearings
- Steering joints
- Electronic system connectors
- Compression fit airframe fasteners



Aerospace-related alloy properties

General information

AMS	Material description	Tempers
4640-C63000*	Aluminum bronze	HR50 drawn and stress relieved (3/8" to 3" O.D.). TQ50 temper annealed (> 3" O.D.)
4590-C63020*	Nickel aluminum bronze	TQ50 quenched and tempered
4633-C64200	Silicon aluminum bronze	HR50 drawn and stress relieved
4634-C64200*	Silicon aluminum bronze	Stress relieved
4596-C72900* ¹	Copper nickel-tin bronze	TX00 solution annealed and spinodal hardened
4597-C72900* ¹	Copper nickel-tin bronze	TX TS solution annealed, cold finished and spinodal hardened
4598-C72900* ¹	Copper nickel-tin bronze	TX00 solution annealed and spinodal hardened
4880-C95510*	Nickel aluminum bronze	TQ50 quench hardened and temper annealed
4881-C95520	Nickel aluminum bronze	Quench hardened and temper annealed

*standard-stocked alloy. ¹Wieland Concast is a North American supplier of Hardial® C72900 produced by Lebronze alloys.

Chemical composition														
AMS	Cu (%)	Pb (%)	Sn (%)	Zn (%)	Fe (%)	Ni (%)	Al (%)	Co (%)	Cr (%)	Mn (%)	Si (%)	Mg (%)	As (%)	Cb (%)
4640-C63000	remain.		0.20	0.30	2.00-4.00	4.00-5.50	9.00-11.00			1.50	0.25			
4590-C63020	remain.	0.03	0.25	0.30	4.00-5.50	4.20-6.00	10.00-11.00	0.20	0.05	1.50	0.15			
4633-C64200	remain.	0.05	0.20	0.50	0.30	0.25	6.30-7.60			0.10	1.50-2.20		0.15	
4634-C64200	remain.	0.05	0.20	0.50	0.30	0.25	6.30-7.60			0.10	1.50-2.20			
4596-C72900	remain.	0.02	7.50-8.50	0.50	0.50	14.50-15.50				0.30		0.15		0.10
4597-C72900	remain.	0.02	7.50-8.50	0.50	0.50	14.50-15.50				0.30		0.15		0.10
4598-C72900	remain.	0.02	7.50-8.50	0.50	0.50	14.50-15.50				0.30		0.15		0.10
4880-C95510	78.00 min		0.20	0.30	2.00-3.50	4.50-5.50	9.70-10.90			1.50				
4881-C95520	74.50 min	0.03	0.25	0.30	4.00-5.50	4.20-6.00	10.50-11.50	0.20	0.05	1.50	0.15			

Note: Unless otherwise noted, single values represent maximums.

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