



*Proven Integrity. Delivering Value.*

## Aircraft | Aerospace and Concast



*The aircraft and aerospace industry requires alloys to provide corrosion, wear, and impact resistance as well as high-strength characteristics.*

*At Concast Metal Products Co., our unparalleled experience, service, and quality are at the foundation of our success in meeting the demand for alloys utilized in various aerospace and aircraft-related applications. These include bushings and bearings utilized in landing gear along with other industry-specific applications.*

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### **Standard-Stocked Alloys**

AMS 4640-C63000 | AMS 4590-C63020 | AMS 4634-C64200  
AMS 4596-C72900 | AMS 4597-C72900 | AMS 4598-C72900  
AMS 4880-C95510

### **Other Available Alloys**

AMS 4631-C64200 | AMS 4633-C64200 | AMS 4881-C95520

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■ Concast Metal Products Co. is certified to ISO 9001 and AS9100

# Aerospace-Related Alloys Overview

## General Information

AMS	Material Description	Temper	Applications
AMS 4640-C63000*	Aluminum Bronze	HR50 Drawn and Stress Relieved (3/8" to 3" O.D.) TQ50 Temper Annealed (over 3" O.D.)	landing gear bushings and bearings, control surface and actuator bushings and bearings, wing flap bearings, wheel bearings, brakes, door hardware, hydraulic actuators, valves, steering joints, helicopter controls, compression fit airframe fasteners, electronic system connectors
AMS 4590-C63020*	Nickel Aluminum Bronze	TQ50 Quenched and Tempered	
AMS 4631-C64200	Aluminum Bronze	Stress Relieved	
AMS 4633-C64200	Silicon Aluminum Bronze	HR50 Drawn and Stress Relieved	
AMS 4634-C64200*	Silicon Aluminum Bronze	Stress Relieved	
AMS 4596-C72900**	Copper Nickel-Tin Bronze	TX00 Solution Annealed and Spinodal Hardened	
AMS 4597-C72900**	Copper Nickel-Tin Bronze	TX TS Solution Annealed, Cold Finished and Spinodal Hardened	
AMS 4598-C72900**	Copper Nickel-Tin Bronze	TX00 Solution Annealed and Spinodal Hardened	
AMS 4880-C95510*	Nickel Aluminum Bronze	TQ50 Quench Hardened and Temper Annealed	
AMS 4881-C95520	Nickel Aluminum Bronze	Quench Hardened and Temper Annealed	

\*standard-stocked alloy.    <sup>1</sup>Concast is the exclusive 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%
AMS 4640-C63000*	remainder <sup>1</sup>		0.20	0.30	2.00-4.00	4.00-5.50	9.00-11.00			1.50	0.25			
AMS 4590-C63020*	remainder	0.03	0.25	0.30	4.00-5.50	4.20-6.00 <sup>2</sup>	10.00-11.00	0.20	0.05	1.50	0.15			
AMS 4631-C64200 <sup>†</sup>	89.00 min						6.50-8.50				1.60-2.25			
AMS 4633-C64200	remainder	0.05	0.20	0.50	0.30	0.25 <sup>2</sup>	6.30-7.60			0.10	1.50-2.20		0.15	
AMS 4634-C64200*	remainder <sup>1</sup>	0.05	0.20	0.50	0.30	0.25 <sup>2</sup>	6.30-7.60			0.10	1.50-2.20			
AMS 4596-C72900*	remainder	0.02	7.50-8.50	0.50	0.50	14.50-15.50 <sup>2</sup>				0.30		0.15		0.10
AMS 4597-C72900*	remainder	0.02	7.50-8.50	0.50	0.50	14.50-15.50 <sup>2</sup>				0.30		0.15		0.10
AMS 4598-C72900*	remainder	0.02	7.50-8.50	0.50	0.50	14.50-15.50 <sup>2</sup>				0.30		0.15		0.10
AMS 4880-C95510*	78.00 min		0.20	0.30	2.00-3.50	4.50-5.50 <sup>2</sup>	9.70-10.90			1.50				
AMS 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			

<sup>1</sup>Cu value includes Ag.    <sup>2</sup>Ni value includes Co.    <sup>†</sup>Other elements, each, 0.05%; Other elements, total, 0.50%  
\*standard-stocked alloy.    Note: Unless otherwise noted, single values represent maximums.

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