



ZA9

CuZn₁₉Al₆

29 63.546 Cu copper	30 65.38 Zn zinc	13 26.981 Al aluminum
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ZA9 is a high resistance brass (CuZn₁₉Al₆) alloy designed for Aerospace applications. With its high mechanical properties, good anti-friction properties and resistance to oxidation, this alloys meet the most stringent needs of this industry.



MATERIAL DESIGNATION

ISO	UNS	Other designations	Aerospace specifications	Other standards
CuZn19Al6	NA	NA	NFL 14-707	NA

CHEMICAL COMPOSITION (WEIGHT%)

Cu	Zn	Al	Mn	Fe
Balance	18%	7%	5.5%	3.5%

PHYSICAL PROPERTIES

General properties		
Density at 20 °C (68 °F)	7.6 g/cm³	0.27 lb/in³
Thermal conductivity	35 W/m.°C	20 BTU/(h.ft.°F)
Coefficient of thermal expansion from 20 to 300 °C (68 °C to 572 °F)	17 x 10 ⁻⁶ /°C	9.44 μin/in °F
Young's modulus	110 GPa	15 954 ksi
Magnetic permeability	1.2	
Electrical properties		
Resistivity at 20 °C (68 °F)	28 μΩ.cm	168.43 Ω. circ mil/ft
Electrical conductivity	6 %IACS	

TYPICAL APPLICATIONS

Aerospace industry
Rings (friction-guidance) for landing gears

COMPATIBLE DOWNSTREAM PROCESS

Extrusion, forging or die stamping
Hot forming
Machinability: 10% of free-cutting brass

KEY FEATURES

High mechanical properties
Good anti-friction properties
Oxidation resistant

MECHANICAL PROPERTIES

Size	Temper*	Yield Strength 0.2% MPa (ksi)	Tensile Strength MPa (ksi)	Elongation (%)	Hardness (HB)
For other dimensions and shapes, mechanical properties on demand					
Bars					
Section ≤ 2 000 mm ² (Section ≤ 3.1 in. ²)	F / H3	≥ 590 (≥ 86)	≥ 830 (≥ 120)	≥ 10	≥ 225
Section > 2 000 mm ² (Section > 3.1 in. ²)	F / H3	≥ 540 (≥ 78)	≥ 780 (≥ 113)	≥ 7	≥ 225
Hollow bars					
Section ≤ 2 000 mm ² (Section ≤ 3.1 in. ²)	F / H3	≥ 590 (≥ 86)	≥ 830 (≥ 120)	≥ 10	≥ 225
Section > 2 000 mm ² (Section > 3.1 in. ²)	F / H3	≥ 540 (≥ 78)	≥ 780 (≥ 113)	≥ 7	≥ 225

*F: as-manufactured
H3: as-manufactured and stress relieved

OTHER AVAILABLE FORMS

Plates, billets, strips, sheets, rods, wires, standard & complex profiles, machined blanks and parts