

YAMATO GOKIN CO., LTD.

ALLOY DATA SHEET **AMS4640**

1. Characteristics

- High mechanical properties
- Sea-water corrosion resistant
- Saline mist resistant
- Oxidation resistant

2. Related Specifications

- ASTM B124, B150 C63000
- AMS4640
- QQ-C-465B(1)C63000
- NF L14-705 CuAl10Ni5Fe4, UA10N
- EN 12163/5/7 CW307G
- DIN 17665/17672 CuAl10Ni5Fe4, WN 2.0966

3. Applications

- AEROSPACE : Landing gear Bushings & Bearings

4. Chemical Composition

Designation: CuAl10Ni5Fe4

Element	Al	Ni	Fe	Mn	Cu
Min	9.0	4.0	2.0	—	balance
Max	11.0	5.5	4.0	1.5	

5. Physical Properties

Density	g/cm ³	7.6
Young's modulus	N/mm ²	125,000
Coefficient of expansion 20 to 300° C	× 10 ⁻⁶ /° C	16
Thermal conductivity	W/m K	40
Electrical conductivity	IACS %	8

6. Available forms/Mechanical Properties

Size/condition	forms/process							Mechanical properties					Available forms																			
	Bars			Tubes				Tensile strength	Yield strength 0.5% offset	Elongation	Hardness			Semi-finished products										parts								
	Extruded or forged	Drawn	Continuous casting	Extruded	Drawn	Continuous casting	Forgings				Mpa	Mpa	%	HB	HRB	HV	Rounds	Squares	Flats	Hexagones	Section	Tubes	Plates	Discs	Rings	Forged blanks	stamped	machined				
								Extruded or forged	Drawn	Continuous casting																			Extruded	Drawn	Continuous casting	Forgings
Bars 12.7 ≤ φ ≤ 25.4mm HR50 temper	●	●						≥758	≥469	≥10	241 ~ 248			●																		
Bars 25.4 < φ ≤ 50.8mm HR50 temper	●							≥758	≥414	≥10	241 ~ 248			●																		
Bars 50.8 < φ ≤ 76.2mm HR50 temper	●							≥724	≥379	≥10	187 ~ 241			●																		
Bars 76.2 < φ ≤ 127.0mm HR50, TQ50 temper	●							≥689	≥345	≥10	187 ~ 241			●																		
Tubes φ ≥ 50mm Thickness ≥ 10mm HR50, TQ50 temper				●				≥621	≥330	≥10	183 ~ 241								●													
						●		≥621	≥330	≥10	183 ~ 241									●	●	●	●								●	

All information is intended as a guide to performance and application suitability.