

AMS4590

CuAl₁₁Ni₅Fe₅

Other designations:

CA34

Applications properties:

- High mechanical properties
- Oxidation resistant
- Corrosion resistant in saline mist area

Physical properties :

Specific gravity	7,5
Coefficient of expansion 20 to 300° C x 10 ⁻⁶	16
Young's modulus N/mm ²	125 000
Thermal conductivity W/(m K)	40
Resistivity micro ohm.cm	22
Electrical conductivity (%IACS)	8
Magnetic permeability	1,5

Alloy properties:

Two-phase aluminum copper alloy

Transformation by extrusion or forge, followed by quenching and hardening

Applications:

Aerospace industry:

Rings

Bushings and bearings for landing gears

Mechanical parts

Nominal composition :

Weight %

Al	11
Ni	5
Fe	5
Cu	Balance

International standards :

AMS 4590

ASTM B150: C63020

Available forms, mechanical properties:

Size/condition	forms/process				Mechanical properties								Available forms												
	Rods		Tubes		Tensile strength		Yield strength 0,2% offset or 0,5% E.U.L. (1)		Elongation 5.65 %IS	Hardness			Impact strength KCU (1) or IZOD (2)	Semi-finished products								parts			
	Extruded or forged	Drawn	extruded	Drawn																					
	Forgings or stamped parts				Mpa ≥ ; * = Mpa ≤	Ksi ≥ ; * = Mpa ≤	Mpa ≥	Ksi ≥	% ≥	HB	HRB	HV5		Rounds	Squares	Flats	Hexagones	Section	Tubes	Plates	Discs	Rings	Forged blanks	stamped	machined
19 ≤ Ø ≤ 25,4 - 0,75 in. ≤ Ø ≤ 1 in.					931	135	689	100	6	255				▼											
25,4 < Ø ≤ 50,8 - 1 in. < Ø ≤ 2 in.					896	130	655	95	6	255			▼												
50,8 < Ø ≤ 101,6 - 2 in. < Ø ≤ 4 in.					896	130	621	90	6	255			▼				▼				▼			▼	

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

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