



ALUMINIUMS Alloys Aluminium - Copper 2007

Chemical composition

%	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Bi	Pb	Others	Al
Minimum			3,30	0,50	0,40	0,80				0,8		
Maximum	0,80	0,80	4,6	1,00	1,80	1,50	0,80	0,20	0,20	1,20		rest

International Equivalences

Europe	USA	Spain	France	Germany	G.B.	Italy	Sweden	Switzerland	Japan
E.N. 573	A.A.	U.N.E.	AFNOR	D.I.N.	B.S.	U.N.I.	S.I.S.	V.S.M.	J.I.S.
EN AW 2007	2007	38.139 L-31121		3.1645 AlCuMgPb		9007-P8	4335		

Mechanical properties

Standard: EN 755-2

Alloy: EN AW-1050A [Al 99.5]

Extruded bar

Treatment state	Measurements mm		R _m Mpa		R _{p0,2} MPa		A %	A _{50 mm} %	Hardness HB
	D ¹⁾	S ²⁾	mín.	máx.	mín.	máx.	mín	mín.	
T4, T4510, T4511 ⁵⁾	≤ 80	≤ 80	370	–	250	–	8	6	110
	80 < D ≤ 200	80 < D ≤ 200	340	–	220	–	8	–	110
	200 < D ≤ 250	200 < D ≤ 250	330	–	210	–	7	–	110

1) D = Diameter of circular section bars.

2) S = Distance between faces for square-section and hexagonal bars, thickness for rectangular section bars.

5) The characteristics can be obtained by means of cooling in a press.

Physical properties

Modulus of elasticity N/mm ²	Specific weight g/cm ³	Melting temperature °C	Linear expansion coefficient 1/10 ⁶ K	Thermal conductivity W/mK	Electrical resistivity at 20°C - μΩ cm	Electrical conductivity% IACS	Dissolution potential V
72.500	2,85	510-640	23	130	5,1	3,4	-0,87

Technological suitabilities

Welding	Natural behaviour	Anodized	Mechanization	State T-4
Under flame M	In a rural environment R	For protection B	Chip fragmentation	MB
At the arc under argon gas M	In an industrial environment R	Decorative M	Surface gloss	R
Owing to electrical resistance B	In a marine environment M	Hard anodized R		
Brazed M	In sea water M			

Thermal treatments

Forging temperature interval: 380° - 460°C.
 Total annealing: 420°C with long-term cooling up to 250°C.
 Partial annealing: 340°C.

Products

Bars, tubes, extruded profiles.

Observations and applications

As with alloy 2011 and 2030, it is characterised by high mechanical resistance and ease of machining, making them appropriate for turning works, threaded rods, bushings, washers etc. Owing to machinability, it must be used whenever you need to work at high speeds with high performance and an excellent chip detachment.