



ALUMINIUMS Alloys Aluminium - Copper 2017 A

Chemical composition

%	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Bi	Ti+Zr	Others	Al
Minimum	0,20		3,50	0,40	0,40							
Maximum	0,80	0,70	4,50	1,00	1,00	0,10	0,25			0,25	0,15	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 2017	2017 A	38.312 L-3120	A-U4G	AlCuMg1 31325	H14	3579 9002/2			A2017

Mechanical properties of sheets Standard: EN 485-2 Aluminium EN AW-2017A [Al Cu4MgSi(A)]

Treatment state	Nominal thickness mm		R _m MPa		R _{p0,2} MPa		Min. elongation %		Bending radius		Hardness HBS
	Greater than	up to	min.	max.	min.	max.	A _{50mm}	A	180°	90°	
O	≥0,4	1,5		225		145	12		0,5 t	0 t	55
	1,5	3,0		225		145	14		1,0 t	1,0 t	55
	3,0	6,0		225		145	13			1,5 t	55
	6,0	9,0		225		145	13			2,5 t	55
	9,0	12,5		225		145	13			4,0 t	55
	12,5	25,0		225		145		12			55
T4	≥0,4	1,5	390		245		14		3,0 t	3,0 t	110
	1,5	6,0	390		245		15		5,0 t	5,0 t	110
	6,0	12,5	390		260		13			8,0 t	111
T451	12,5	40,0	390		250			12			110
	40,0	100,0	385		240			10			108
	100,0	120,0	370		240			8			105
	120,0	150,0	350		240			4			101
T42	≥0,4	3,0	390		235		14				109
	3,0	12,5	390		235		15				109
	12,5	25,0	390		235			12			109

For new applications of this alloy, which entails certain properties like corrosion-proofing, toughness, fatigue resistance, you are strongly recommended to consult us with a view to making a more thorough selection of the material.

1) Solely for information.

2) Far lower bending radii can be obtained immediately after the tempering.



Mechanical properties

Standard: EN 755-2

Alloy: EN AW-2017A [Al Cu4MgSi(A)]

Extruded bar

Treatment state	Measurements mm		R _m MPa		R _{p0,2} MPa		A %	A _{50 mm} %	Hardness HBS
	D ¹⁾	S ²⁾	min.	max.	min.	max.	min		
O, H111	≤ 200	≤ 200	–	250	–	135	12	10	55
T4, T4510, T4511 ⁵⁾	≤ 25	≤ 25	380	–	260	–	12	10	110
	25 < D ≤ 75	25 < S ≤ 75	400	–	270	–	10	–	110
	75 < D ≤ 150	75 < S ≤ 150	390	–	260	–	9	–	110
	150 < D ≤ 200	150 < S ≤ 200	370	–	240	–	8	–	105
	200 < D ≤ 250	200 < S ≤ 250	360	–	220	–	7	–	105

Extruded tube

Treatment state	Measurements mm e ³⁾	R _m MPa		R _{p0,2} MPa		A %	A _{50 mm} %
		min.	max. min.		max.	min	min.
O, H111	≤ 20	–	250	–	135	12	10
T4, T4510, T4511 ⁵⁾	≤ 10	380	– 260	–	–	12	10
	10 < e ≤ 75	400	–	270	–	10	8

Extruded profile

Treatment state	Measurements mm e ³⁾	R _m MPa		R _{p0,2} MPa		A %	A _{50 mm} %
		min.	max. min.		max.	min	min.
T4, T4510, T4511 ⁵⁾	≤ 30	380	–	260	–	10	8

- 1) D = Diameter of circular section bars.
 2) S = Distance between faces for square-section and hexagonal bars, thickness for rectangular section bars.
 3) e = Wall thickness.
 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	2,79	505-650	22,9	134	0-3,5 T4-5,1	T4-34	-0,69

Technological suitabilities

Welding		Natural behaviour		Anodized		Mechanization		State:T4
Under flame	B	In a rural environment	R	For protection	R	Chip fragmentation		B
At the arc under argon gas	M	In an industrial environment	M	Decorative	R	Surface gloss		B
Owing to electrical resistance	MB	In a marine environment	M	Hard anodized	B			
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, wire, extruded profiles, tubes, sheets and plates.

Observations and applications

Average mechanical resistance and easy machining, suitable for mechanical applications, structural elements, boiler-making, rail braking, aviation, iron fittings, screws, bolts, ultralight elements, blow moulds and footwear, tempered state rivets before maturation, machinery.