Chemical composition

%	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Bi	Ti+Zr	Others	Al
Minimum	0,50		3,90	0,40	0,20							
Maximum	1,20	0,70	5,00	1,20	0,80	0,10	0,25	0,15		0,20	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 2014	2014	38.313 L-3130	A-U4SG	ALCuSi Mn 31255	H15	3581 9002/3		AlCu4SiMn	A 2014

Mechanical properties of sheets Standard: EN 485-2 Aluminium EN AW-2014 [Al Cu4SiMg]

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	180º	90º	
O	≥0,4	1,5		220		140	12		0,5 *t*	0 t	55
	1,5	3,0		220		140	13		1,0 *t*	1,0 *t*	55
	3,0	6,0		220		140	16			1,5 *t*	55
	6,0	9,0		220		140	16			2,5 *t*	55
	9,0	12,5		220		140	16			4,0 *t*	55
	12,5	25,0		220				10			55
T3	≥0,4	1,5	395		245		14				111
	1,5	6,0	400		245		14				112
T4	≥0,4	1,5	395		240		14		3,0 *t*	3,0 *t*	110
T451	1,5	6,0	395		240		14		5,0 *t*	5,0 *t*	110
	6,0	12,5	400		250		14			8,0 *t*	112
T451	12,5	40,0	400		250			10			112
	40,0	100,0	395		250			7			111
T42	≥0,4	6,0	395		230		14				110
	6,0	12,5	400		235		14				111
	12,5	25,0	400		235			12			111
T6 T651	≥0,4	1,5	440		390		6			5,0 *t*	133
	1,5	6,0	440		390		7			7,0 *t*	133
	6,0	12,5	450		395		7			10 *t*	135
T651	12,5	40,0	460		400			6			138
	40,0	60,0	450		390			5			135
	60,0	80,0	435		380			4			131
	80,0	100,0	420		360			4			126
	100,0	120,0	410		350			4			123
T62	≥0,4	12,5	440		390		7				133
	12,5	25,0	450		395			6			135

Mechanical properties

Standard: EN 755-2 **Alloy: EN AW-2014 [Al Cu4SiMg]**

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.	
O, H111	≤ 200	≤ 200	–	250	–	135	12	10	55
	≤ 25	≤ 25	370	–	230	–	13	11	-
T4, T4510, T4511	25 < *D* ≤ 75	25 < *S* ≤ 75	410	–	270	–	12	–	110
	75 < *D* ≤ 150	75 < *S* ≤ 150	390	–	250	–	10	–	110
	150 < *D* ≤ 200	150 < *S* ≤ 200	350	–	230	–	8	–	110
T6, T6510, T6511	≤ 25	≤ 25	415	–	370	–	6	5	140
	25 < *D* ≤ 75	25 < *S* ≤ 75	460	–	415	–	7	–	140
	75 < *D* ≤ 150	75 < *S* ≤ 150	465	–	420	–	7	–	140
	150 < *D* ≤ 200	150 < *S* ≤ 200	430	–	350	–	6	–	140
	200 < *D* ≤ 250	200 < *S* ≤ 250	420	–	320	–	5	–	140

1) D = Diameter of circular section bars.
2) S = Distance between faces for square-section and hexagonal bars, thickness for rectangular section bars.

Physical properties

Modulus of elasticity N/mm²	Specific weight g/cm³	Melting temperature ºC	Linear expansion coefficient 1/10⁶K	Thermal conductivity W/mK	Electrical resistivity at 20ºC - μΩ cm	Electrical conductivity% IACS	Dissolution potential V
73.000	2,80	500-640	22,7	T4-134 T6-155	T4-5,1 T6-4,3	T4-34 T6-40	-0,78

Technological suitabilities

Welding		Natural behaviour		Anodized		Mechanization :	State T4	State T6
Under flame	M	In a rural environment	R	For protection	R	Chip fragmentation	B	B
At the arc under argon gas	M	In an industrial environment	R	Decorative	M	Surface gloss	R	R
Owing to electrical resistance	MB	In a marine environment	R	Hard anodized	R			
Brazed	B	In sea water	M					

Thermal treatments

Forging temperature interval: 380º-460ºC.
Total annealing: 420ºC with long-term cooling up to 250ºC.
Annealing against acridity: 340ºC

Products

Bars, extruded profiles, tubes, sheets, plates.

Observations and applications

The high mechanical characteristics of this alloy, particularly in a T6 state makes it very suitable for the aeronautical industry, structural elements and construction in general, iron fittings, screws, bolts etc.