Chemical composition

%	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Al	Others
Minimum										
Maximum	0,25	0,40	0,05	0,05	0,05		0,07	0,05	99,5	0,03

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 1050A	1,050A	38.114 L-3051	A 5 57350	A 99.5 3.0255	1 B	4507 9000-P-2	4007	Al 99.5	A 1050 A1x1

Mechanical properties of sheets Standard: EN 485-2 Aluminium EN AW-1050A [Al 99,5]

Treatment state	Nominal thickness mm		R_m MPa		$R_{p0,2}$ MPa		Min. elongation %		Bending radius a)		Hardness HBS 1)
	Greater than	up to	min.	max.	min.	max.	A_{50mm}	A	180º	90º	
F	≥2,5	150,0	65								
O/H111	0,2	0,5	65	95	20		20		0 t	0 t	20
	0,5	1,5	65	95	20		22		0 t	0 t	20
	1,5	3,0	65	95	20		26		0 t	0 t	20
	3,0	6,0	65	95	20		29		0,5 *t*	0,5 *t*	20
	6,0	12,5	65	95	20		35		1,0 *t*	1,0 *t*	20
	12,5	50,0		95	20			32			20
H14	0,2	0,5	105	145	85		2		1,0 *t*	0 t	34
	0,5	1,5	105	145	85		3		1,0 *t*	0,5 *t*	34
	1,5	3,0	105	145	85		4		1,0 *t*	1,0 *t*	34
	3,0	6,0	105	145	85		5			1,5 *t*	34
	6,0	12,5	105	145	85		6			2,5 *t*	34
	12,5	25,0	105	145	85			6			34
H16	0,2	0,5	120	160	100		1			0,5 *t*	39
	0,5	1,5	120	160	100		2			1,0 *t*	39
	1,5	4,0	120	160	100		3			1,5 *t*	39
H18	0,2	0,5	140		120		1			1,0 *t*	42
	0,5	1,5	140		120		2			2,0 *t*	42
	1,5	3,0	140		120		2			3,0 *t*	42
H24	0,2	0,5	105	145	75		3		1,0 *t*	0 t	33
	0,5	1,5	105	145	75		4		1,0 *t*	0,5 *t*	33
	1,5	3,0	105	145	75		5		1,0 *t*	1,0 *t*	33
	3,0	6,0	105	145	75		8		1,5 *t*	1,5 *t*	33
	6,0	12,5	105	145	75		8			2,5 *t*	33
H26	0,2	0,5	120	160	90		2			0,5 *t*	38
	0,5	1,5	120	160	90		3			1,0 *t*	38
	1,5	4,0	120	160	90		4			1,5 *t*	38

a) Multiply the coefficient by the sheet thickness

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 %	$A_{50\ mm}$ %
	D[1]	S[2]	min.	max.	min.	max.	min	min.
F[4], H112	all	all	60	–	20	–	25	23
O, H111	all	all	60	95	20	–	25	23

Extruded tube

Treatment state	Measurements mm e[3]	R_m MPa		$R_{p0,2}$ MPa		A %	$A_{50\ mm}$ %
		mín.	máx. mín.		máx.	mín	mín.
F[4], H112	all	60	–	20	–	25	23
O, H111	all	60	95 20		–	25	23

Extruded profile

Estado de tratamiento	Medidas mm e[3]	R_m MPa		$R_{p0,2}$ MPa		A %	$A_{50\ mm}$ %
		mín.	máx. mín.		máx.	mín	mín.
F[4], H112	all	60	–	20	–	25	23

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.
4) Treatment state "F": the values of the characteristics are indicated merely for the sake of information.

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
69.000	2,70	646-657	23,5	229	2,9	59,5	-0,84

Technological suitabilities

Welding		Natural behaviour		Anodized		Mechanization	State F	State H14
Under flame	MB	In a rural environment	MB	For protection	MB	Chip fragmentation	M	M
At the arc under argon gas	MB	In an industrial environment	B	Decorative	B	Surface gloss	R	R
Owing to electrical resistance	MB	In a marine environment	B	Hard anodized	MB			
Brazed	MB	In sea water	B					

Stamping	State 0	State H-14	State H-18	Coating	
Owing to expansion	MB	B	M	Lacquered	MB
Deep stamping	MB	B	M	Galvanized	B
				Electroless nickel	B

Thermal treatments

Forging temperature interval: 350º - 500ºC
Total annealing: 340ºC
Partial annealing: 240ºC

Products

Wire rods, extruded profiles, tubes, sheets, plates.

Observations and applications

Excellent corrosion-proofing and conformability. Good electrical and thermal conductivity. Typical applications: tanks and boilers, roofs and rooftops, chemical industry, food equipment and containers, deformable tubes for pharmaceutical containers, condenser blades, nuclear applications, rivets etc.