



ALUMINIUMS Alloys Aluminium - Magnesium 5754

Chemical composition

%	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Others
Minimum					2,6				
Maximum	0,40	0,40	0,10 0,50		3,6	0,30	0,20 0,15 0,15		

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 5754	5754	38.339 L-3390	A-G3M	AL Mg 3 33535	(N51)	3059/9005-P3	4130	AL Mg 3	

Mechanical properties of sheets Standard: EN 485-2 Aluminium EN AW-5754 [Al Mg3]

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°	
F	≥2,5	100,0	190								
O/H111	0,2	0,5	190	240	80		12		0,5 t	0 t	52
	0,5	1,5	190	240	80		14		0,5 t	0,5 t	52
	1,5	3,0	190	240	80		16		1,0 t	1,0 t	52
	3,0	6,0	190	240	80		18		1,0 t	1,0 t	52
	6,0	12,5	190	240	80		18			2,0 t	52
	12,5	100,0	190	240	80			17			52
H12	0,2	0,5	220	270	170		4				66
	0,5	1,5	220	270	170		5				66
	1,5	3,0	220	270	170		6				66
	3,0	6,0	220	270	170		7				66
	6,0	12,5	220	270	170		9				66
H14	0,2	0,5	240	280	190		3				72
	0,5	1,5	240	280	190		3				72
	1,5	3,0	240	280	190		4				72
	3,0	6,0	240	280	190		4				72
	6,0	12,5	240	280	190		5				72
H22/H32	0,2	0,5	220	270	130		7		1,5 t	0,5 t	63
	0,5	1,5	220	270	130		8		1,5 t	1,0 t	63
	1,5	3,0	220	270	130		10		2,0 t	1,5 t	63
	3,0	6,0	220	270	130		11			1,5 t	63
	6,0	12,5	220	270	130		10			2,5 t	63
H24/H34	0,2	0,5	240	280	160		6		2,5 t	1,0 t	70
	0,5	1,5	240	280	160		6		2,5 t	1,5 t	70
	1,5	3,0	240	280	160		7		2,5 t	2,0 t	70
	3,0	6,0	240	280	160		8			2,5 t	70
	6,0	12,5	240	280	160		10			3,0 t	70



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Mechanical properties

Standard: EN 755-2

Alloy: EN AW-5754 [Al Mg3]

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	≤ 150	≤ 150	180	–	80	–	14	12
	150 < D ≤ 250	150 < S ≤ 250	180	–	70	–	13	–
O, H111	≤ 150	≤ 150	180	250	80	–	17	15

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.
F ⁴⁾ , H112	≤ 25	180	–	80	–	14	12
O, H111	≤ 25	180	250	80	–	17	15

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.
F ⁴⁾ , H112	≤ 25	180	–	80	–	14	12

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/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
70.500	2,68	590-640	23,8	133	5,2	32,5	-0,85

Technological suitabilities

Welding		Natural behaviour		Anodized		Mechanization	State: 0	H24
Under flame	MB	In a rural environment	MB	For protection	MB	Chip fragmentation	R	R
At the arc under argon gas	MB	In an industrial environment	MB	Decorative	B	Surface gloss	MB	MB
Owing to electrical resistance	MB	In a marine environment	MB	Hard anodized	MB			
Brazed	R	In sea water	B					

Thermal treatments

Forging temperature interval: 350° - 500°C.

Total annealing: 340°C.

Partial annealing: 240°C.

Products

Bars, wires, extruded profiles, tubes, sheets, strips and plates.

Observations and applications

Alloy endowed with high mechanical resistance, very easy to weld using conventional methods with an excellent capacity to receive protection anodizing treatments and hard.

Its corrosion-proofing is good, comparable to that of pure aluminium as a whole and even better in a marine environment which is why it is highly suited to; shipbuilding as well as fridges, fish trays, proton floats etc.

It is also used in boiler-making, recipients for petrol, chemical industry, tanks for transport, the automobile industry, railway and underground wagons, buses etc.