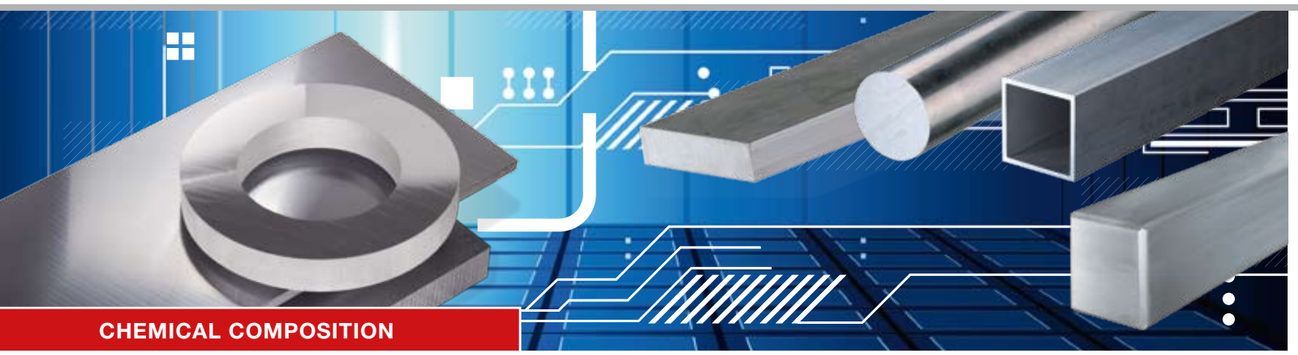
EN AW-5754



CHEMICAL COMPOSITION

Aluminium and aluminium alloys

Alloy designation:

EN AW	Al Mg3
Old designation	Al Mg3
Material no. according to DIN	3.3535
Great Britain BS	
Italy UNI	
Spain	L-3390
Sweden	144133
Norway	
France AFNOR	A-G3M
Colour code	RAL 1023 Traffic Yellow

Typical physical properties:

Density [g/cm³]		2,67
Elastic modulus [GPa]		70,5
Thermal conductivity [W/m*K]		140 – 160
Thermal expansion coefficient[$K^{-1}*10^{-6}$]	-50°C – 20°C	
	20°C – 100°C	23,9
	20°C – 200°C	
	20°C – 300°C	
Specific heat J/(kg * K)		
Electrical conductivity [m/Ω*mm²]		20 – 23
Shear modulus [GPa]		26,5

Chemical composition[x] (EN 573-3):

Specifications in % Remainder: Aluminium												Other	
Si	Fe	Cu	Mn	Mg	Cr	Ni	Zn	Ti	Ga	V	Note	Individual	Total[2]
0,40	0,40	0,10	0,50	2,6 – 3,6	0,30	-	0,20	0,15	-	-	0,10 – 0,60 Mn+Cr	0,05	0,15

x *Chemical specifications as perc. of weight. If no ranges are specified, the alloy content has the maximum value.*

2 *Includes all items listed for which no limit values are specified.*

Special features of this material:

- Very good welding properties
- Very good corrosion resistance
- Very good anodising properties for EQ
- Good formability

Applications:

- Container and apparatus construction
- Tank and boiler construction
- Shipbuilding
- Panelling

Available forms:

Sheets · Plates · Cuttings · Circular blanks · Rings · Bars · Tubes · Wires · Parts from drawings

Heat treatment:

Soft annealing / recrystallisation annealing	
Annealing temperature	360°C – 380°C
Heating-up time	1 – 2 hours
Cooling conditions	kiln - uncontrolled

Hardening	
Solution annealing	-
Quenching	-
Natural ageing treatment	-
Artificial ageing treatment	-

Other data:

Processing / machinability

Soft annealed	3
Work-hardened	2
Heat-treated	-
Dimensional stability	3
Erosion	1

Surface treatment

Anodising - (protective anodisation)	1
Special anodising quality (EQ)[EQ]	1
Anodising - decorative	2
Painting / coating	3
Polishing	1 – 2

Welding

		Filler metal
Gas	2	SG-Al Mg3 SG-Al Mg5
WIG	1	
MIG	1	
Resistance welding	3	

Solder

Brazing with flux	4 – 5
Brazing without flux	4
Abrasion soldering	3
Soft soldering with flux	4 – 5

Corrosion resistance

In a normal atmosphere/ weather conditions	1
Sea water atmosphere	1 – 2

Metal forming

Cold forming		Delivery condition
Bending	2	
Pressure forming	3	
Deep drawing (condition-based)	2	O
Upsetting (condition-based)	2	H12
Impact extrusion	4	
Hot forming		
Drop forging	3	
Extrusion moulding	4	
Hammer forging	2	

Suitable for food industry according to DIN EN 602	yes

Legend:

1	very good
2	good
3	moderate
4	poor
5	unsuited
EQ	anodising quality must be ordered separately and confirmed

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