



CHEMICAL COMPOSITION

Aluminium and aluminium alloys

Alloy designation:

EN AW	Al Mg Si
Old designation	Al Mg Si0,5
Material no. according to DIN	3.3206
Great Britain BS	
Italy UNI	9006/1
Spain	L-3442
Sweden	144103
Norway	17310
France AFNOR	A-GS
Colour code	neutral

Typical physical properties:

Density [g/cm ³]	2,70	
Elastic modulus [GPa]	69,5	
Thermal conductivity [W/m*K]	200 – 220	
Thermal expansion coefficient [K ⁻¹ *10 ⁻⁶]	-50°C – 20°C	21,8
	20°C – 100°C	23,4
	20°C – 200°C	24,5
	20°C – 300°C	25,6
Specific heat J/(kg * K)	898	
Electrical conductivity [m/Ω*mm ²]	34 – 38	
Shear modulus [GPa]	26,1	

Chemical composition* (EN 573-3):

Specifications in %												Remainder: Aluminium		Other	
Si	Fe	Cu	Mn	Mg	Cr	Ni	Zn	Ti	Ga	V	Note	Individual	Total ²		
0,30 – 0,60	0,10 – 0,30	0,10	0,10	0,35 – 0,60	0,05	-	0,15	0,10	-	-	-	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 to sea water and a normal atmosphere
- Good cold forming ability in the T4 condition

Applications:

- Architecture
- Profiles of all kinds
- Air conditioning
- Trade fair construction
- Truck superstructure
- Piping

Heat treatment:

Soft annealing / recrystallisation annealing	
Annealing temperature	360°C – 400°C
Heating-up time	1 – 2 hours
Cooling conditions	Cooling conditions 30°C/h to 250°C, below 250°C in air

Other data:

Processing / machinability

Soft annealed	3 – 4
Work-hardened	-
Heat-treated	2
Dimensional stability	-
Erosion	1

Surface treatment

Anodising - (protective anodisation)	1
Special anodising quality (EQ) ^{FQ}	1
Anodising - decorative	1 – 2
Painting / coating	1
Polishing	1

Welding

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

Solder

Brazing with flux	1 – 3
Brazing without flux	2
Abrasion soldering	1
Soft soldering with flux	1

Legend:

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

Hardening	
Solution annealing	525°C – 540°C
Quenching	water · air
Natural ageing treatment	5 – 8 days
Artificial ageing treatment	155°C – 190°C · 4 – 16 hours

Corrosion resistance

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

Metal forming

Cold forming	Delivery condition
Bending	3 T3 · T4
Pressure forming	-
Deep drawing (condition-based)	-
Upsetting (condition-based)	2 O
Impact extrusion	2 O
Hot forming	
Drop forging	1
Extrusion moulding	1
Hammer forging	-

Suitable for food industry according to DIN EN 602	yes
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The specifications in our data sheets are subject to correction and are only valid as references. Liability is excluded in this regard. We reserve the right to make changes to the standards and informative values. The agreements of our order confirmation are always authoritative. With regard to anodic oxidisability, we point out that we accept no liability for the anodisation result and the colour formation for decorative applications. The same applies to the corrosion resistance. Special arrangements must be made in writing.

Available forms:

Bars · Tubes · Profiles · Wires · Parts from drawings

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