



CHEMICAL COMPOSITION

Aluminium and aluminium alloys

Alloy designation:

EN AW	Al Cu4 Mg Si(A)
Old designation	Al Cu Mg1
Material no. according to DIN	3.1325
Great Britain BS	-
Italy UNI	9002/2
Spain	L-3120
Sweden	-
Norway	-
France AFNOR	A-U4G
Colour code	RAL 6002 Leaf Green

Typical physical properties:

Density [g/cm ³]	2,80	
Elastic modulus [GPa]	72,5	
Thermal conductivity [W/m*K]	130 – 200	
Thermal expansion coefficient [K ⁻¹ *10 ⁻⁶]	-50°C – 20°C	
	20°C – 100°C	23,0
	20°C – 200°C	
	20°C – 300°C	
Specific heat J/(kg * K)		
Electrical conductivity [m/Ω*mm ²]	18 – 28	
Shear modulus [GPa]	27,2	

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		
0,20 – 0,80	0,70	3,5 – 4,5	0,40 – 1,0	0,40 – 1,0	0,10	-	0,25	-	-	-	0,25 Zr+Ti	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 machinability
- High strength
- High fatigue strength
- Curable

Applications:

- Machine construction
- High-strength constructions
- Aerospace
- Military technology

Available forms:

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

Heat treatment:

Soft annealing / recrystallisation annealing	
Annealing temperature	380°C – 420°C
Heating-up time	2 – 3 hours
Cooling conditions	Cooling conditions 30°C/h to 250°C, below 250°C in air

Other data:

Processing / machinability

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

Surface treatment

Anodising - (protective anodisation)	2
Special anodising quality (EQ) ^{EQ}	-
Anodising - decorative	5
Painting / coating	3
Polishing	1

Welding

	Filler metal
Gas	5
WIG	5
MIG	5
Resistance welding	1

Solder

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

Legend:

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

Hardening	
Solution annealing	495°C – 505°C
Quenching	water
Natural ageing treatment	5 – 8 days
Artificial ageing treatment	-

Corrosion resistance

In a normal atmosphere/ weather conditions	4
Sea water atmosphere	4 – 5

Metal forming

Cold forming	Delivery condition	
Bending	2	O
Pressure forming	3	O
Deep drawing (condition-based)	3	O
Upsetting (condition-based)	3	O
Impact extrusion	3	O

Hot forming

Drop forging	3
Extrusion moulding	4
Hammer forging	3

Suitable for food industry according to DIN EN 602	no
Working temperatures	approx. 135 °C – 145 °C (long-term), approx. 180 °C – 190 °C (short-term)

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.