Technical Datasheet

EN AW- 2024 0 / AlCu4Mg1

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BRIEF DESCRIPTION

EN AW 2024 sheets and plates are mainly used for machine construction and apparatus subject to static or dynamic loading.

Typical applications include various supports and structural parts of machines.

PROCESSING METHODS

Weldability

- TIG/MIG difficult
- By resistance difficult

Anodising

- technical good
- decorative moderate

Machinability good

Corrosion behaviour

- moderate in inland atmosphere
- critical in marine atmosphere

AVAILABILITY

EN AW 2024 plates are available in temper T0 (heat annealed) in the following dimensions :

Thickness	Max. width
0.4 – 6.0mm	1250 mm

CHEMICAL COMPOSITION (weight %)

Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti +Zr
max. 0.40	max. 0.45	4.0 4.6	0.5 0.8	1.3 1.7	max. 0.05	max. 0.18	max. 0.10

PHYSICAL PROPERTIES (nominal values)

Density	2.78 g/cm^3
Elastic modulus	73000 MPa
Lin. thermal expansion coefficient (20°-100°C)	23.2 10^{-6} K^{-1}
Thermal conductivity (Temper T351)	110 - 130 W/mK
Electrical conductivity (Temper T351, 20°C)	16 - 19 MS/m

MECHANICAL STRENGTH

Min. tensile properties (Temper T0 / EN Standard 485-2)

Thickness (over ... to)	Rm [MPa]	Rp0.2 [MPa]	A50 [%]
0.4 – 1.5 mm	220	140	12
1.5 – 6.0 mm	220	140	13

Typical strength for various thicknesses

Thickness (over ... to)	Rm [MPa]	Rp0.2 [MPa]	A50 [%]	HB
0.4 – 1.5 mm	200	125	14	55
1.5 – 3.0 mm	200	125	14	55
3.0 – 6.0 mm	200	125	14	55