Technical Datasheet

EN AW-2017A / AlCu4MgSi(A)

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BRIEF DESCRIPTION

EN AW 2017A sheets and plates are used mainly for machine construction and apparatus subject to static or dynamic loading.

Typical applications of EN AW 2017A include various supports and structural parts of machines.

PROCESSING METHODS

Weldability

- TIG/MIG difficult
- by resistance difficult

Anodizing

- technical good
- decorative moderate

Machinability good

Corrosion Behaviour

- moderate in inland atmosphere
- critical in marine atmosphere

AVAILABILITY

EN AW 2017A plates are available in temper T451 (quenched - stretched - naturally aged) in the following dimensions :

Thickness	Max. Width
1.0 - 7.9 mm	1500 mm
8.0 - 70 mm	2020 mm
71 - 80 mm	1820 mm
81 - 90 mm	1520 mm
91 - 100 mm	1350 mm
101 - 110 mm	1150 mm
111 - 120 mm	1060 mm

CHEMICAL COMPOSITION (weight %)

Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti +Zr
0.20	max.	3.5	0.4	0.4	max.	max.	max.
0.80	0.7	4.5	1.0	1.0	0.10	0.25	0.25

PHYSICAL PROPERTIES (nominal values)

Density	2.78 g/cm^3
Elastic Modulus	72000 MPa
Lin. thermal expansion coefficient (20°-100°C)	23.6 10^{-6} K^{-1}
Thermal conductivity (Temper T451)	125 - 140 W/mK
Electrical conductivity at 20°C (Temper T451)	19 - 21 MS/m

MECHANICAL STRENGTH

Min. tensile properties (Temper T451 / EN Standard 485-2)

Thickness (over ... to)	Rm [MPa]	Rp0.2 [MPa]	A50 [%]
1.0 - 6 mm	390	245	14
6.0 -12.5 mm	390	260	13
12.5 - 40 mm	390	250	12
40 - 100 mm	385	240	10
100 - 120 mm	370	240	8

Typical strength for various thicknesses

Thickness (over ... to)	Rm [MPa]	Rp0.2 [MPa]	A50 [%]	HB
1.0 - 7.9 mm	430	285	14	110
8.0 - 25 mm	430	285	16	110
25 - 60 mm	430	275	16	110
60 - 120 mm	420	270	15	110