Technical Datasheet

EN AW- 2007 / AlCu4PbMgMn

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Euralco Europe BV
www.euralco.com

BRIEF DESCRIPTION

EN AW 2007 bars, rods and profiles are mainly used for machined parts of medium to high strength.
General applications are hydraulic valves, fittings, small mechanical components..

The machining characteristics are excellent, under any condition of machining the chips are very small and the machined surface smooth

PROCESSING METHODS

Weldability

- TIG/MIG difficult
- By resistance difficult

Anodising

- technical good
- decorative moderate

Machinability excellent

Corrosion behaviour

- moderate in inland atmosphere
- critical in marine atmosphere

AVAILABILITY

EN AW 2007 rod bar and profiles are available in temper T4 (Solution heat-treated (quenched) and strengthened by naturally aging to a substantially stable condition) in the following dimensions :

Size	Max. length
Max 400 * 400mm	5500 mm

CHEMICAL COMPOSITION (weight %)

Si	Fe	Cu	Mn	Mg	Cr	Zn	Pb	Bi	Ni	Sn	Ti
max. 0.3	max. 0.4	3.3 4.0	0.5 0.7	0.4 0.7	max. 1.0	max. 0.4	0.8 1.1	max 0.1	max 0.1	max 0.2	max 0.1

PHYSICAL PROPERTIES (nominal values)

Density	2.80 g/cm^3
Elastic modulus	73000 MPa
Lin. thermal expansion coefficient (20°-100°C)	23.2 10^{-6} K^{-1}
Thermal conductivity (Temper T351)	150 - 180 W/mK
Electrical conductivity (Temper T351, 20°C)	21 - 25 S/m

MECHANICAL STRENGTH

Min. tensile properties (Temper T4 / EN Standard 755-2) (Rod & bar)

Dimension (over ... to)	Rm [MPa]	Rp0.2 [MPa]	A50 [%]
<= 80 mm	370	250	>6
80 – 200 mm	340	220	-
200 – 250 mm	330	210	

Typical strength for various thicknesses

Thickness (over ... to)	Rm [MPa]	Rp0.2 [MPa]	A50 [%]
<= 80 mm	390	300	8
80 – 200 mm	360	270	-
200 – 250 mm	350	250	