Datasheet:

EN AW 6012
Rods, Bars & Profiles - Aluminium

Alumeco ApS
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Internal alloy name:	**6012**
Chemical Symbol:	**AW-Al MgSiPb**
International alloy name:	**EN AW-6012**
UNS:	**A96101**
DIN-Werkstoff no.:	**3.0615**
Alloy type:	**High conductivity alloy**

Main usage:

- Machined construction
- Turned parts
- Heatsinks/exchangers
- Hydraulic valve blocks

Main properties:

- Relative high conductivity
- Good corrosion resistance
- Great machinability

Important norms and literature:

General Standards:
EN 573-3:2013: Aluminium and aluminium alloys – Chemical composistion and form of wrought products – Part 3: Chemical composition and form of products.

Product standards:
EN 755-2:2016: Aluminium and aluminium alloys – Extruded rod/bar, tube and profiles – Part 2: Mechanical properties.

Geometric Tolerance:
EN 755-3: Aluminium and aluminium alloys – Extruded rod/bar, tube and profiles – Part 3: Round bars, tolerances on dimensions and form

EN 755-4: Aluminium and aluminium alloys – Extruded rod/bar, tube and profiles – Part 4: Square bars, tolerances on dimensions and form

EN 755-9: Aluminium and aluminium alloys – Extruded rod/bar, tube and profiles – Part 9: Profiles, tolerances on dimensions and form

Chemical composition in %: EN 573-3:2013

Al	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Remarks	Others Max.	
										Each	Total
Remainder	0,6 – 1,4	Max. 0,50	Max. 0,10	0,4 – 1,0	0,6 – 1,2	Max. 0,10	Max. 0,30	Max. 0,20	0,7 Bi; 0,40 – 2,0 Pb	0,05	0,15

Mechanical properties: EN 755-2:2016

Temper	Dimensions mm			Tensile Stress R_m MPa	Proof Stress $R_{p0,2}$ MPa	Elongation % Min.		Hardness* HBW
	Diameter	Width across- flats	Wall thickness			A	$A_{50\ mm}$	
T6, T6510, T6511	≤ 150	≤ 150	≤ 30	Min. 310	Min. 260	8	6	105
	150 < *D* ≤ 200	150 < *S* ≤ 200	-	Min. 260	Min. 200	8	-	105

*** Information values only;**

Physical properties:

Density g/cm³	Solidification range °C	Electrical conductivity %IACS	Thermal conductivity W/m K	Thermal expansion (µm m^{-1} K^{-1})	Annealing temperature °C	E - modulus (N / mm²)
2,75	585 – 650	41 – 55	200	23,4	380	70.000

Properties and information's (3 high/good; 2 Middle; 1 Poor/bad)

Resistance:
Corrosion index, general: 3
Marine Atm. Corr index: 2

Hot workability:
Extrusion: 2
Forging: -

Cold formability:
Cold formability general: 2
Deep drawing: 1
Bending: 2

Weldability:
TIG welding: 1
MIG welding: 1

Solderability:
Brazability index: 1
Solderability index: 1

Machinability:
Machinability index: 2

Anodizing:
Decorative anodizing surface treatment: -
Protective anodizing index: 2
Hard anodizing: 2
Color anodizing: 2