Data Sheet

EN AW 6063 - Profiles

Alumeco A/S

Internal alloy name:	**6063**
International alloy name:	**EN AW 6063**
Chemical Symbol:	**EN AW – AlMg0,7Si**
DIN-Werkstoff no.:	**3.3208**
Alloy type:	**Heat treatable alloy**

Main usage

- Constructions
- Anodizing in general
- Automotive
- Forgings
- Marine and offshore

Main properties

- Very good atmospheric corrosion resistance
- Very good workability
- Decoration anodisation
- Heat treatable alloys (Soft T4 temper)

Important norms and literature

Extrusion:
EN 755-1: Technical conditions for inspection and delivery
EN 755-2: Mechanical properties
Series EN 755-3 to EN 755-9: Tolerances on dimensions and forms for different extrusions

Chemical composition:
EN 573-3: Chemical composition

Usages:
EN 13195: Specifications for wrought products for marine applications
EN 602: Usage in the food industry

Chemical composition (%) EN 573-3

Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Other elements Each	Other elements together
0.20-0.60	0.35	0.10	0.10	0.45-0.90	0.10	0.10	0.10	0.05	0.15

Typical mechanical properties EN 755 - 2

Product group Dimension (mm)	Temper	Rm MPa	$Rp_{0,2}$ MPa	A % min.	Hardness* HB
Rod/Bar ≤ 150	T4	Min. 130	Min. 65	14	50
Rod/Bar ≤ 150	T6	Min. 215	Min. 170	10	75
Tubes Wall thickness ≤ 25	T6	Min. 215	Min. 170	10	75
Profiles Wall thickness ≤ 25	T4	Min. 130	Min. 65	14	50
Profiles Wall thickness ≤ 10	T6	Min. 215	Min. 170	8	75

* 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)
2.70	615-655	52	201	23.5	350-400	69,500

Typical Alumeco products with this alloy

- Bars in various dimensions and form
- Angle profiles
- Tubes
- Profiles
- Customized profiles

Properties and information (3 high/good; 2 medium; 1 poor/bad)

Resistance
Corrosion index, general: 3
Marine atm. corr. index: 3

Hot workability
Extrusion: 3
Forging: 3

Cold formability
Cold formability general: 2
Deep drawing: 1
Bending: 2 – 3 (Depending on the temper)

Weldability
TIG welding: 2
MIG welding: 2

Solderability
2

Machinability
Machinability index: 1

Anodizing
Decorative anodizing surface treatment: 3
Protective anodizing index: 3
Hard anodizing: 3
Color anodizing: 3