Data Sheet

EN AW 6082 – Rods and bars

Alumeco A/S

Internal alloy name:	**6082**
International alloy name:	**EN AW 6082**
Chemical Symbol:	**EN AW – AlSi1MgMn**
DIN-Werkstoff no.:	**3.2315**
Alloy type:	**Heat treatable alloy**

Main usage

- Machining
- Machinery
- Heavy duty structures
- Marine and offshore

Main properties

- Very good atmospheric corrosion resistance
- Very good workability
- Good machinability
- Heat treatable alloys (Soft T4 temper)
- A special anodizing quality is available by request

Important norms and literature

Extrusion:
EN 755-1: Technical conditions for inspection and delivery
EN 755-2: Mechanical properties
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 573-3:2009

Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Other elements Each	Other elements together
0.7-1.3	0.5	0.1	0.4-1.0	0.6-1.2	0.25	0.2	0.1	0.05	0.15

Typical mechanical properties EN 755 – 2 (Extruded profiles)

Product group Dimension (mm)	Temper	Rm MPa	$Rp_{0,2}$ MPa	A %	Hardness* HB
Rod/bar ≤ 200	O, H111	Max. 160	Max. 110	14	35
Rod/bar ≤ 200	T4	Min. 205	Min. 110	14	70
Rod/bar ≤ 20	T6	Min. 295	Min. 250	8	95
Rod/bar 20 <D ≤ 150	T6	Min. 310	Min. 260	8	95
Rod/bar 150 <D ≤ 200	T6	Min. 280	Min. 240	6	95
Rod/bar 200 <D ≤ 250	T6	Min. 270	Min. 200	6	95

* 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	575-650	44	172	23.1	350-400	70,000

Typical Alumeco products with this alloy

- Profiles in various dimensions and form

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
1

Machinability
Machinability index: 3

Anodizing
Decorative anodizing surface treatment: 2
Protective anodizing index: 3
Hard anodizing: 3
Color anodizing: 2

General information
Decorative anodizing can be a challenge due to crystal growth in the material.

A special anodizing quality is available by request.