Data Sheet

EN AW 6082 – Rolled products

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
- Forgings
- Tools
- Heavy duty structures
- Hydraulics systems
- Marine and offshore

Main properties

- Very good atmospheric corrosion resistance
- Very good workability
- Good machinability
- Heat treatable alloys (Soft T4 temper)

Important norms and literature

Rolled products:
EN 485-1: Technical conditions for inspection and delivery
EN 485-2: Mechanical properties
EN 485-3: Tolerances on dimensions and form hot rolled products
EN 485-4: Tolerances on dimensions and form cold rolled products

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

Chemical composition:
EN 573-3: Chemical composition

Chemical composition (%) EN 573-3

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 485 – 2

Thickness range (mm)	Temper	Rm MPa	$Rp_{0,2}$ MPa	A %	Hardness* HB	Bend radius* 180°	Bend radius* 90°
1.5 up to 3.0	T6	Min. 310	Min. 260	7	94		3.5t
3.0 up to 6.0	T6	Min. 310	Min. 260	10	94		4.5t
6.0 up to 12.5	T6	Min. 300	Min. 255	9	91		6.0t
12.5 up to 60.0	T6	Min. 295	Min. 240	8	89		-
60.0 up to 100.0	T6	Min. 295	Min. 240	7	89		-
100.0 up to 150.0	T6	Min. 275	Min. 240	6	84		-
150.0 up to 175.0	T6	Min. 275	Min. 230	4	83		
175.0 up to 350.0	T6	Min. 260	Min. 220	2	-		

* 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

- Bars in various dimensions and form
- Profiles
- Large selection different of sheet, strip and plates

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.