Data Sheet

EN AW 5083 – Rolled products

Alumeco A/S

Internal alloy name:	**5083**
International alloy name:	**EN AW 5083**
Chemical Symbol:	**EN AW – AlMg4,5Mn0,7**
DIN-Werkstoff no.:	**3.3547**
Alloy type:	**Non 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

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

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
0.4	0.4	0.10	0.40-1.0	4.0-4.9	0.05-0.25	0.25	0.15	0.05	0.15

Typical mechanical properties EN 485-2

Thickness range (mm)	Temper	Rm MPa	$Rp_{0,2}$ MPa	$A_{50\ mm}$ / A %	Hardness* HB	Bend radius* 180°	Bend radius* 90°
0.4 up to 1.5	H111	275 - 350	Min. 125	Min. 12	75	1.0t	1.0t
1.5 up to 3.0	H111	275 - 350	Min. 125	Min. 13	75	1.5t	1.0t
3.0 up to 6.3	H111	275 – 350	Min. 125	Min. 15	75		1.5t
6.3 up to 12.5	H111	275 – 345	Min. 115	Min. 16	75		2.5t
12.5 up to 50.0	H111	275 – 345	Min. 115	-	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)
2.66	580 - 640	28.5	117	23.8	350 – 400	71,000

Typical Alumeco products with this alloy

- Large selection different of sheet, strip and plates
- Bars and round bars

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

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

Hot workability
Extrusion: 2
Forging: 2

Cold formability
Cold formability general: 2
Deep drawing: 2
Bending: 2 – 3

Be aware that the formability categorizations depend on the temper of the alloy.

Weldability
TIG welding: 3
MIG welding: 3

Solderability
1

Machinability
Machinability index: 3

Tips regarding machining

Cast material can be machined without internal tensions.

Anodizing
Decorative anodizing surface treatment: 1
Protective anodizing index: 3
Hard anodizing: 3
Color anodizing: 2

General information
The chemical composition of the alloy is not suitable for decorative anodizing.