Data Sheet

EN AC 5083 – Cast blocks

Alumeco A/S

Internal alloy name:	**5083**
International alloy name:	**EN AC 5083**
Chemical Symbol:	**EN AC – 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
- High pressure systems
- Marine and offshore

Main properties

- Very good atmospheric corrosion resistance
- Very good workability
- Good machinability
- Low internal tensions
- Does not have a higher porosity than normal rolled materials

Important norms and literature

Chemical composition:
EN 573-3: Chemical composition

Usages:
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

Thickness range (mm)	Temper	Rm MPa	$Rp_{0,2}$ MPa	$A_{50\ mm}$ %	Hardness* HB	Bend radius* 180°	Bend radius* 90°
All	O3 - Cast and homogenized	220 - 290	Min. 110 - 115	Min. 10 - 15	70 - 75	N/A	N/A

* 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	E - modulus (N / mm²)
2.66	580 - 640	28.5	117	23.8	Fully anneal when delivered	71,000

Typical Alumeco products with this alloy

- Large selection different of sheet, strip and plates
- Sawn plate and block
- Sawn and milled surface

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: 1
Deep drawing: 1
Bending: 1

Weldability
TIG welding: 3
MIG welding: 3

Solderability
1

Machinability
Machinability index: 3

Tips regarding machining

Cast material can be machined with a minimum amount of internal tensions.

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

General information
Decorative anodizing cannot be recommended due to the structure of the metal is cast and not rolled. Secondly is the chemical composition of the alloy not suitable for decorative anodizing.