

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 <ul style="list-style-type: none"> • Machining • Machinery • Forgings • Tools • Heavy duty structures • Hydraulics systems • High pressure systems • Marine and offshore 	Main properties <ul style="list-style-type: none"> • 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	
0.4	0.4	0.10	0.40-1.0	4.0-4.9	0.05-0.25	0.25	0.15	Each	together
								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°	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/cm ³	Solidification range °C	Electrical conductivity %IACS	Thermal conductivity W/m K	Thermal expansion (µm m ⁻¹ K ⁻¹)	Annealing temperature	E - modulus (N / mm ²)
2.66	580 - 640	28.5	117	23.8	Fully anneal when delivered	71,000

Typical Alumeco products with this alloy
<ul style="list-style-type: none"> • 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)			
<u>Resistance</u> Corrosion index, general: 3 Marine atm. corr. index: 3 <u>Hot workability</u> Extrusion: 2 Forging: 2 <u>Cold formability</u> Cold formability general: 1 Deep drawing: 1 Bending: 1	<u>Weldability</u> TIG welding: 3 MIG welding: 3 <u>Solderability</u> 1	<u>Machinability</u> Machinability index: 3 <u>Tips regarding machining</u> Cast material can be machined with a minimum amount of internal tensions.	<u>Anodizing</u> Decorative anodizing surface treatment: 1 Protective anodizing index: 3 Hard anodizing: 3 Color anodizing: 2 <u>General information</u> 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.