

# Al Cast Plate G.AL® C250 precision milled

Alloy's Characteristics	
Alloy	EN AW 5083
Type of Alloy	non heat treatable
Temper	homogenized and stress relieved, O3
Surface	two surfaces precision milled, roughness $R_a$ 0.4 $\mu\text{m}$ , foiled on both sides

Mechanical Properties <sup>1)</sup>		Typical values
Yield strength $R_{p0,2}$	[MPa]	110 - 130
Ultimate tensile strength $R_m$	[MPa]	230 - 290
Elongation $A_5$	[%]	10 - 15
Hardness HBW	[2,5/62,5]	68 - 75

Physical Properties <sup>1)</sup>		Typical values
Density	[g/cm <sup>3</sup> ]	2.66
Module of elasticity	[GPa]	70
Electrical conductivity	[m/ $\Omega \cdot \text{mm}^2$ ]	16 - 18
Coefficient of thermal expansion	[K <sup>-1</sup> · 10 <sup>-6</sup> ]	23.3
Thermal conductivity	[W/m · K]	110 - 130
Specific heat capacity	[J/kg · K]	900

Processing Characteristics <sup>2)</sup>	
Dimensional stability	1
Machinability	2
Erodability	1
Weldability (Gas / TIG / MIG / Resistance / EB)	4/2/2/1
Corrosion resistance (seawater / weather/ stress cracking)	1/1/3
Use at temperatures (max °C long/short terms) <sup>3)</sup>	180 / 280
Anodising (technical / decorative / hard-) <sup>4)</sup>	2/4/2
Polishability	2-3
Etching	4-5
Contact with food (according to EN 602)	yes

Tolerances			
Thickness in [mm]	Flatness [mm] <sup>5)</sup>	Thickness [mm]	Width & Length [mm]
5	≤ 0.80	± 0.10	-0/+10 & -0/+20
6 - 12.7	≤ 0.40	± 0.10	-0/+10 & -0/+20
>12	≤ 0.13	± 0.10	-0/+10 & -0/+20
cuts			DIN ISO 2768-1(m)

Standard Stock Sizes			
Plate Dimension [mm]	1,520 × 3,020	in thickness of 5 - 100 mm	
	1,570 × 3,670		
	2,160 × 4,000	in thickness of 10 - 60 mm	
	.		
Plate Thickness [mm]	5   6   8   10   12   15   16   18   20   25   30   35   40   45		
	50   55   60   65   70   80   90   100		
	6.35   7.94   9.53   12.7   15.88   19.05   22.23   25.4   31.75   38.1   44.45   50.8		
Other dimension upon request			

Date: 29.07.2020

- 1) Typical values at room temperature.
- 2) Ratings evaluation rating from 1 (very good) to 6 (inapplicable).
- 3) Without loss of strength after cooling down.
- 4) Technical anodising only - no warranty towards optical demands.
- 5) Surface flatness for whole plates is measured with a special, 1 meter long, digital flatness ruler.

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