

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 μm , foiled on both sides

Mechanical Properties ¹⁾		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 ¹⁾		Typical values
Density	[g/cm ³]	2.66
Module of elasticity	[GPa]	70
Electrical conductivity	[m/Ω · mm ²]	16 – 18
Coefficient of thermal expansion	[K ⁻¹ · 10 ⁻⁶]	23.3
Thermal conductivity	[W/m · K]	110 – 130
Specific heat capacity	[J/kg · K]	900

Processing Characteristics ²⁾	
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) ³⁾	180 / 280
Anodising (technical / decorative / hard-) ⁴⁾	2/4/2
Polishability	2-3
Etching	4-5
Contact with food (according to EN 602)	yes

Tolerances			
Thickness in [mm]	Flatness [mm] ⁵⁾	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 – 80 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	

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- 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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