



Al Cast Plate G.AL® C210R

Alloy's Characteristics	
Alloy	EN AW 5083 (special type)
Type of Alloy	non heat treatable
Temper	homogenized & stress relieved, O3
Surface	six-sides sawed, roughness $R_a < 15 \mu\text{m}$

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 / 2 / 1
Corrosion resistance (seawater / weather/ stress cracking)	1 / 1 / 4
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]
≤ 150		-0/+2.5	-0/+10 & -0/+ 20
> 150		-0/+5	-0/+10 & -0/+ 20
cuts < 150			DIN ISO 2768-1m
cuts > 150			-0/ +5

Standard Stock Sizes	
Plate Dimension [mm]	1,520 × 3,020
	1,570 × 3,670
	2,160 × 4,000
Plate Thickness [mm]	20 – 150 mm – in 5 mm steps
	160 – 220 mm – in 10 mm steps
	220 – 1.070 mm – upon request
Other dimension upon request	

Date: 12.07.2016

- 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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