

# Al Cast Plate G.AL® C330R

Alloy's Characteristics	
Alloy	EN AW 7021 (special type)
Type of Alloy	heat treatable
Temper	solution heat treated, quenched & artificially aged, T79
Surface	6-sides sawed, roughness $R_a < 15\mu\text{m}$

Mechanical Properties <sup>1)</sup>		Typical values
Yield strength $R_{p0,2}$	[MPa]	290 – 340
Ultimate tensile strength $R_m$	[MPa]	320 – 380
Elongation $A_5$	[%]	2.5 – 4.5
Hardness HBW	[2,5/62,5]	110 – 120

Physical Properties <sup>1)</sup>		Typical values
Density	[g/cm <sup>3</sup> ]	2.80
Module of elasticity	[GPa]	70
Electrical conductivity	[m/Ω · mm <sup>2</sup> ]	21 – 24
Coefficient of thermal expansion	[K <sup>-1</sup> · 10 <sup>-6</sup> ]	23.0
Thermal conductivity	[W/m · K]	125 – 155
Specific heat capacity	[J/kg · K]	875

Processing Characteristics <sup>2)</sup>		Typical values
Dimensional stability		1 – 2
Machinability		1 – 2
Erodability		1
Weldability (Gas / TIG / MIG / Resistance / EB)		6 / 5 / 2 / 6 / 1
Corrosion resistance (seawater / weather/ stress cracking)		4 / 3 / 4
Use at temperatures (max °C long/short terms) <sup>3)</sup>		120 / 140
Anodising (technical / decorative / hard-) <sup>4)</sup>		3 / 6 / 2
Polishability		1 – 2
Etching		2 – 3
Contact with food (according to EN 602)		no

Tolerances			
Thickness in [mm]	Flatness [mm] <sup>5)</sup>	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]	1,540 × 3,048 mm
Plate Thickness [mm]	20 – 150 mm – in 5 mm steps
	160 – 220 mm – in 10 mm steps
	220 – 570 mm – upon request
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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