

G.AL® C330R – mold plate

Plate's Characteristics	
Alloy:	EN AW 7021 (special type)
Type of Alloy:	heat-treatable
Temper:	Hardened T79
Surface:	All sides sawn, roughness R _a <15 µm

Mechanical Properties ¹⁾		
Yield strength R _{p0.2}	[ksi]	42 – 49
Ultimate tensile strength R _m	[ksi]	46 – 55
Elongation A	[%]	2.5 – 4.5
Hardness HBW	[2.5/62.5]	110 – 120

Physical Properties ¹⁾		
Density	[lbs/cu in.]	0.101
Module of elasticity	[ksi · 10 ³]	10.2
Electrical conductivity	[% IACS]	38 - 43
Coefficient of thermal Expansion	[10-6/ °F]	13
Thermal conductivity	[BTU/ft · hr · °F]	72 – 90
Specific heat capacity	[BTU/ lb°F]	0.208

Processing Characteristics ²⁾	
Dimensional stability	Excellent – Very good
Machinability	Excellent - Very good
Erodability	Excellent
Weldability (Gas / TIG / MIG / Resistance / EB)	Good – Very good
Corrosion resistance (seawater / weather)	Satisfactory
Use at temperatures (max°F / long / short terms) ²⁾	284 / 284
Anodizing ³⁾	Satisfactory
Polishability	Very good - Good
Etching	Satisfactory
Contact with food (according to EN 602)	No

Tolerances			
Thickness in [in]	Flatness [in] ⁴⁾	Thickness [in]	Width & Length [in]
≤ 5.90	not specified	-0 / +0.100	-0 / + 0.375 / -0 / + 0.790
> 5.90	not specified	-0 / +0.200	-0 / + 0.375 / -0 / + 0.790
Cuts ≤ 5.90			DIN ISO 2768-1m
Cuts > 5.90			-0/ + 0.200

Standard Stock Sizes	
Plate Dimension [in]	Plate Thickness [in]
60.5 × 120.0	0.375 to 22.400
Other dimension upon request	

Characteristics:

- ✓ Low-stress properties
- ✓ Very stress relieved
- ✓ Very high strength and hardness
- ✓ Six-sides sawn surface

Applications:

- ✓ Toolmaking
- ✓ Mold-making
- ✓ Automation
- ✓ Mechanical engineering and special machine engineering
- ✓ Handling machines
- ✓ Thermal stresses

Date: October 27, 2023

1) Typical values at room temperature.

2) Without loss of strength after cooling down.

3) Technical anodizing only - no warranty towards optical demands

4) Surface flatness for whole plates is measured with a special, 1-meter long, digital flatness ruler

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