

G.AL® C210 - DYNAMIC

Alloy's characteristics

Alloy:	EN AW-5083 [AlMg4,5Mn0.7]
Type of Alloy:	non heat treatable
Temper:	homogenized and stress relieved, O3
Surface:	six-sides sawed, roughness Ra 15 µm

Mechanical Properties ¹⁾

Yield strength R _{p0,2}	[MPa]	110 – 130
Ultimate tensile strength R _m	[MPa]	230 – 295
Elongation A ₅₀	[%]	18 – 25
Hardness HBW		75 – 80

Physical Properties ¹⁾

Density	[g/cm ³]	2,66
Module of elasticity	[GPa]	70
Electrical conductivity	[M/Ω · mm ²]	16 – 18
Coeffic. 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	1 - 2
Erodability	1
Weldability (Gas / TIG / MIG / Resistance / EB)	4 / 2 / 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
Etching	3 – 4
Contact with food (according to EN 602)	yes

Tolerances

Thickness in [mm]	Flatness [mm/m]	Thickness [mm]	Length & width [mm]
≤ 150		-0/+2,5	DIN ISO 2768-1m
> 150		-0/+5	-0/+5

Characteristics:

- ✓ free of microporosity, diffusion resistance
- ✓ extremely low-stress properties
- ✓ very good dimensional stability
- ✓ very good machinability
- ✓ excellent damping characteristics
- ✓ very good polishability
- ✓ ideally suited for applications under dynamic loads

Applications:

- ✓ Vacuum Technology
- ✓ Pneumatics
- ✓ Medical technology
- ✓ Laser technology, optical industry

Date: 18.10.2023

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

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