



PLANAL 5083 / 6082 / 7075

PLANAL materials are a range of rolled aluminium plates which are precision surface machined on both sides. High strength and high precision are the main features of this product group. PLANAL 5083 is given a thermal treatment to relieve any built-in stress before precision surface machining. PLANAL materials are available from 0.2362" in thickness, oversize width plates are also possible. Special requirements can always be considered. The range of material involves full plates, cut to size blanks and rings.

„Planal 6082 is, for example, used to manufacture coatings for operator keyboards in medicine.“



PLANAL 5083

Chemical Composition

EN AW-5083(AIMg4.5Mn0.7) acc. to DIN EN 573-3 / 3.3547

Material Condition 0/H111

Material Properties

Machinability good
Weldability (TIG, MIG) good (with S Al 5183)
Anodising Properties good, not decorative

Typical Mechanical Properties

Tensile Strength R_m min. 270 MPa (N/mm²)
0.2 % Yield Strength $R_p 0.2$ min. 115 MPa (N/mm²)
Elongation A 5 % min. 15
Brinell Hardness HB min. 73

Typical Physical Properties

Specific Weight 2.66 g/cm³
Thermal Conductivity 110 - 140 W/(mK)
Electrical Conductivity 16 - 19 MS/m (m/Ωmm²)
Modulus of Elasticity ~70,000 N/mm²
Coefficient of Thermal Expansion 24.2* 10⁻⁶/K

Thickness Range & Sizes

Thickness	max. Width*	max. Length*
≥ 6 mm x	1520 mm x	3020 mm

Tolerances

Surface precision surface machined
Surface Finish R_a ≤ 0.3 μm
Tolerance in Thickness +/- 0.0039"
Flatness 0.2362"-0.5906" thickness ≤ 0.0157"***
> 0.5906" thickness ≤ 0.0079"***
L/W-Tolerances for Plates DIN EN 485-3
L/W-Tolerances for pre-cut Sizes DIN ISO 2768-m (closer on request)

* Further dimensions on request. Subject to technical change.

** Linear measured section 39.37"

PLANAL 6082

Chemical Composition

EN AW-6082(AISi1MgMn) acc. to DIN EN 573-3 / 3.2315

Material Condition T651

Material Properties

Machinability good
Weldability (TIG, MIG) good (with S Al 5356/5183)
Anodising Properties very good, not decorative

Typical Mechanical Properties

Tensile Strength R_m min. 295 MPa (N/mm²)
0.2 % Yield Strength $R_p 0.2$ min. 240 MPa (N/mm²)
Elongation A 5 % min. 8
Brinell Hardness HB min. 89

Typical Physical Properties

Specific Weight 2.70 g/cm³
Thermal Conductivity 170-220 W/(mK)
Electrical Conductivity 24-32 MS/m (m/Ωmm²)
Modulus of Elasticity ~70,000 N/mm²
Coefficient of Thermal Expansion 23.4* 10⁻⁶/K

Thickness Range & Sizes

Thickness	max. Width*	max. Length*
≥ 10 mm x	1520 mm x	3020 mm

Tolerances

Surface precision surface machined
Surface Finish R_a ≤ 0.3 μm
Tolerance in Thickness +/- 0.0039"
Flatness on request
L/W-Tolerances for Plates DIN EN 485-3
L/W-Tolerances for pre-cut Sizes DIN ISO 2768-m (closer on request)

* Further dimensions on request. Subject to technical change.

PLANAL 7075

Chemical Composition

EN AW-7075(AlZn5.5MgCu) acc. to DIN EN 573-3 / 3.4365

Material Condition T651/T652

Material Properties

Machinability good
Weldability (TIG, MIG) not adequate
Anodising Properties adequate, not decorative

Typical Mechanical Properties

Tensile Strength R_m min. 495 MPa (N/mm²)
0.2 % Yield Strength $R_p 0.2$ min. 420 MPa (N/mm²)
Elongation A 5 % min. 6
Brinell Hardness HB min. 147

Typical Physical Properties

Specific Weight 2.80 g/cm³
Thermal Conductivity 130 - 160 W/(mK)
Electrical Conductivity 19 - 23 MS/m (m/Ωmm²)
Modulus of Elasticity ~70,000 N/mm²
Coefficient of Thermal Expansion 23.4* 10⁻⁶/K

Thickness Range & Sizes

Thickness	max. Width*	max. Length*
≥ 10 mm x	1520 mm x	3020 mm

Tolerances

Surface precision surface machined
Surface Finish R_a ≤ 0.3 μm
Tolerance in Thickness +/- 0.0039"
Flatness on request
L/W-Tolerances for Plates DIN EN 485-3
L/W-Tolerances for pre-cut Sizes DIN ISO 2768-m (closer on request)

* Further dimensions on request. Subject to technical change.