



Quality, Flexibility, Knowledge, Experience, Excellence: Solutions in Aluminium Cast Plates.

alimex Product Information



Contents

ACP 5080	4-5
ACP 5080R	6-7
ACP 5080 GIANT / ACP 5080R GIANT	8-9
ACP 5080MF	10-11
ACP 5080S / ACP 5080RS	12-13
ACP 6000	14-15
PLANAL 5083 / 6082 / 7075	16-19
ROLLED MATERIAL 5083 / 6082 / 7075	21
AVIATION MATERIAL	21-22
CNC-Components-Production	23

Seeking. Understanding. Achieving Excellence.

If you want to achieve more, you have to seek, understand, plan and execute excellence. This has always been our credo at alimex; create and execute a customer service philosophy and strategy that emphasises product development, product improvement, and excellence in overall customer experience.

The exceptionally high quality of our materials' core structure as well as the excellence of our materials' surface condition become an asset to our customers, realized during further processing of our materials and equating to value added cost savings for the customer. Our knowledge, gathered from experience from our state-of-the-Art CNC Division, machining various technical and highly precision aluminium components for various markets and industries, including building prototype tooling and components, enables us to illustrate and communicate the enormous value added and cost saving possibilities our materials offer to customers and end-users. Our products' and company's state-of-the-art quality, technical service, technical application knowledge and experiences, material and manufacturing flexibility, and "Total Material Program Management" equates to market leading excellence for our customers and end users.

Being a proud family run corporation, we pride ourselves on our position as a major manufacturer, processor, and distributor in the global aluminium cast plate market. With our global footprint and a strong and aggressive distributor and trade partnership program worldwide, we can assure customers and end-users alike a reliable and seamless processing, technical, and global material support supply chain focusing on "Total Material Program Management".

Seeking, understanding, experience, knowledge, quality, excellence, how we continually make a difference for our customers - beyond cultures, countries, and continents... Achieving excellence with alimex!

ACP 5080

High precision aluminum cast plate, ACP 5080, is precision surface machined on both sides to industry leading close tolerance standards. Fine grain structure, low porosity and excellent machining characteristics all define the cost saving and value added attributes of ACP 5080. Superb industry leading material dimensional stability is inherent in every plate of ACP 5080, thanks to proprietary process- and manufacturing control, our flatness and tolerances are industry leading, predicable and precise.



"Heating plates made from ACP 5080 are used in machines for flock coating jerseys."

ACP 5080

Chemical Composition

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

Material Properties

Machinability Weldability (TIG, MIG) **Anodising Properties** Polishing **Corrosion Resistance Eroding Properties**

very good (HSC/HPS excellent) good (with S Al 5183) good, not decorative very good very good good

Typical Mechanical Properties

Tensile Strength R_m 0.2 % Yield Strength Rp 0.2 110-130 MPa (N/mm²) Elongation A 5 % Brinell Hardness HB

240-290 MPa (N/mm²) 15 70

Typical Physical Properties

Density
Thermal Conductivity
Electrical Conductivity
Modulus of Elasticity
Coefficient of Thermal
Expansion

96* 10⁻³ lb/in³ 63 - 81 Btu/(ft* h°F) ~35% IACS 10.3* 10³ksi 13.5* 10⁻⁶/°F

Thickness Range & Sizes

Plates and pre-cut sizes between 0.1969" and 3.94" are available in the following dimensions:

Thickness		max. Width*	¢	Length*
≥ 0.1969"	x	51.97"	x	118.90" (up to 236.22")
≥ 0.1969"	x	59.84"	x	118.90" (up to 236.22")
≥ 0.3937"	x	61.81"	x	144.49" (up to 236.22")
≥ 0.5906"	x	85.04"	x	157.48" (up to 236.22")

(Blanks, rings and pre-cut sizes on request.)

> 85.04" Width: Please see the product information for ACP 5080 GIANT / ACP 5080R GIANT

Tolerances

≤ 0.3 µm
+/- 0.0039"
0.2362 "- 0.4724 " thickness ≤ 0.0157 " **
> 0.4724 "- 3.94 " thickness ≤ 0.0051 " **
0/+0.3937"
0/+0.5906"

Tolerance (L/W) for Sized Cuts DIN ISO 2768-m (closer on request)

Further dimensions on request. Subject to technical change.

^{**} Linear measured section 39.37"

ACP 5080R

Fine grain structure, low porosity and excellent machining characteristics all define the cost saving and value added attributes of every block and plate of ACP 5080R. Outstanding industry leading material dimensional stability along with good mechanical and physical properties and an extraordinary range of sizes allow users of ACP 5080R to utilize alimex's material and knowledge expertise at its finest. Being an industry innovator and leader, alimex was the first to introduce aluminum cast plate (ACP 5080R) manufactured to AA 5083 alloy specifications. We take pride in every plate and block produced!



"Mouldings made from ACP 5080R are used in the manufacture of snowboards and skis."

ACP 5080R

Chemical Composition

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

Material Properties

Machinability Weldability (TIG, MIG) **Anodising Properties** Polishing **Corrosion Resistance Eroding Properties**

very good (HSC/HPS excellent) good (with S Al 5183) good, not decorative very good very good good

Typical Mechanical Properties

Tensile Strength R_m 0.2 % Yield Strength R_p 0.2 110-130 MPa (N/mm²) Elongation A 5 % **Brinell Hardness HB**

240-290 MPa (N/mm²) 15 70

Typical Physical Properties

Density	96* 10 ⁻³ lb/in ³
Thermal Conductivity	63 - 81 Btu/(ft* h°F)
Electrical Conductivity	~35% IACS
Modulus of Elasticity	10.3* 10 ³ ksi
Coefficient of Thermal	
Expansion	13.5* 10 ⁻⁶ /°F

Thickness Range & Sizes

Thickness between 0.3150" and 41.34". Plates and pre-cut sizes in every dimension depending on the block formats.

Thickness		max.Wid	th*	max. Length*
22.44"	x	51.97"	х	118.90" (up to 236.22")
22.44"	x	59.84"	х	118.90" (up to 236.22")
22.44"	x	61.81"	х	144.49" (up to 236.22")
22.44"	x	85.04"	х	157.48" (up to 236.22")
31.50"	x	61.81"	х	157.48"
41.34"	x	66.93"	х	118.11" (up to 157.48")
		d		upot)

(Blanks, rings and pre-cut sizes on request.)

> 85.04" Width: Please see the product information for ACP 5080 GIANT / ACP 5080R GIANT

Tolerances

Surface	sawn on all sides
Tolerance in Thickness	0/+0.1181" (closer on request)
Tolerance in Width for Plates	0/+0.3937"
Tolerance in Length for Plates	0/+0.5906"
Tolerance (L/W) for Sized Cuts	0/+0.1181" (closer on request)

Further dimensions on request. Subject to technical change. *

ACP 5080 GIANT / ACP 5080R GIANT

ACP 5080 GIANT and ACP 5080R GIANT allow our customers completely new design, construction and manufacturing possibilities, utilizing our industry leading GIANT plate dimensions up to 22.44" x 110.24" x 236.22". alimex is the only producer and manufacturer of cast aluminum sawn and surface machined plates in GIANT dimensions in the world. Customers benefit from more value added, cost saving, and design opportunities through utilization of our GIANT materials, which are produced with the same superior stability, ease of machining and physical and mechanical properties of ACP 5080 and ACP 5080R materials.



"Components made from ACP 5080 GIANT are utilized in the world-largest plastic pipe welding machine for manufacturing comprehensive irrigation systems."

ACP 5080 GIANT / ACP 5080R GIANT

Chemical Composition

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

Material Properties

Machinability Weldability (TIG, MIG) **Anodising Properties** Polishing **Corrosion Resistance Eroding Properties**

very good (HSC/HPS excellent) good (with S Al 5183) good, not decorative very good very good good

Typical Mechanical Properties

Tensile Strength R_m 0.2 % Yield Strength R_p 0.2 110-130 MPa (N/mm²) Elongation A 5 % **Brinell Hardness HB**

240-290 MPa (N/mm²) 15 70

Typical Physical Properties

Density	96* 10 ⁻³ lb/in ³
Thermal Conductivity	63 - 81 Btu/(ft* h°F)
Electrical Conductivity	~35% IACS
Modulus of Elasticity	10.3* 10 ³ ksi
Coefficient of Thermal	
Expansion	13.5* 10 ⁻⁶ /°F

Thickness Range & Sizes

ACP 5080 GIANT ≥ 0.5906" max. 110.24" max. 236.22" **ACP 5080R GIANT** ≥ 0.6693" max. 110.24" max. 236.22" Max. thinckness 22.44". (Blanks, rings and pre-cut sizes on request.)

Tolerances

ACP 5080 GIANT:

Surface Finish R _a	≤ 0.3 µm
Folerance in Thickness	+/- 0.0039"
Flatness	< 0.0197" **
Tolerance in Width for Plates	0/+0.3937"
Folerance in Length for Plates	0/+0.5906"
Folerance (L/W) for Sized Cuts	DIN ISO 2768-m (closer on request)

ACP 5080R GIANT:

sawn on all sides
0/+0.1181"
0/+0.3937"
0/+0.5906"
0/+0.1969" (closer on request)

ACP 5080MF

The main characteristic of the high precision aluminium cast plate ACP 5080MF is its mirror finished surface (max. R_a 0.15 µm) on one side. The other side is precision surface machined. ACP 5080MF extends the major advantages of the ACP products such as fine grain structure, extremly low porosity, low-stress, dimensional stability and excellent mechanical and physical properties with an optically perfect mirror surface finish, which is covered by a protective foil.



"Even with heavy equipment, ACP 5080MF ensures troublefree contact in rotary motion."

ACP 5080MF

Chemical Composition

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

Material Properties

Machinability Dimensional Stability

very good very good

Typical Mechanical Properties

 Tensile Strength R_m
 240-290 MPa (N/mm²)

 0.2 % Yield Strength R_p 0.2
 110-130 MPa (N/mm²)

 Elongation A 5 %
 15

 Brinell Hardness HB
 70

Typical Physical Properties

Density	96* 10 ⁻³ lb/in ³
Thermal Conductivity	63 - 81 Btu/(ft* h°F)
Electrical Conductivity	~35% IACS
Modulus of Elasticity	10.3* 10 ³ ksi
Coefficient of Thermal	
Expansion	13.5* 10⁻ ⁶ /°F

Thickness Range & Sizes

Pre-cut sizes from 0.3937" thickness available according to specification. (Protective foil on one side.

Tolerances

Surface	exc
Surface finish A-side R _a	max
Surface finish B-side R _a	≤ 0

excellent optical max. 0.15 µm ≤ 0.30 µm

This unique product won the European Aluminium Award. See more here: http://awardvideo.alimex.de

ACP 5080S / ACP 5080RS

Developed for innovative, high-end industries like the Electronics, Semiconductor, Solar, and Display Panel industries, ACP 5080S and ACP 5080RS provide material solutions for the most challenging and critical applications. Through decades of practical application experience, continuous material research, development, and testing, ACP 5080S and ACP 5080RS provide good mechanical and physical properties as compared with similar competitors' cast and rolled aluminum plates. Material excellence and superiority is achieved through the proprietary smelting, manufacturing, processing and handling procedures and specifications employed in the production of this grade.

Chemical Composition

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

Material Properties

Machinability	excellent
Weldability (TIG, MIG)	good (with S AI 5183)
Anodising Properties	good (not decorative)
Polishing	excellent
Corrosion Resistance	excellent
Eroding Properties	good
High Speed Cutting Properties	excellent
Electrical Discharge Machining (EDM)	good
Etching	good
Cryogenic	excellent
Diffusion Tightness	excellent

"ACP 5080S has been developed and is continuously tested to meet the demanding requirements of high-tech industries."



ACP 5080S / ACP 5080RS

Typical Mechanical Properties

 Tensile Strength Rm
 240-290 MPa (N/mm²)

 0.2 % Yield Strength Rp 0.2
 110-130 MPa (N/mm²)

 Elongation A 5 %
 15

 Brinell Hardness HB
 70

Typical Physical Properties

Density	96* 10 ⁻³ lb/in ³
Thermal Conductivity	63-81 Btu/(ft* h°F)
Electrical Conductivity	~35% IACS
Modulus of Elasticity	10.3* 10 ³ ksi
Coefficient of Thermal	
Expansion	13.5* 10⁻ ⁶ /°F

Thickness Range & Sizes

Thickness between 0.2362" (ACP 5080S) / 0.3150" (ACP 5080RS) and 22.44" (ACP 5080RS). Plates and pre-cut sizes in every dimension depending on the block formats.

Thickness m		max.Wid	nax.Width*	
22.44"	Х	51.97"	х	118.90"
22.44"	х	61.81"	х	144.49"
22.44"	х	85.04"	х	157.48"

> 85.04" Width: Please see the product information for ACP 5080 GIANT / ACP 5080R GIANT

Tolerances

ACP 5080S	
Surface Finish R _a	≤ 0.3 μm
Tolerance in Thickness	+/- 0.0039"
Flatness	0.2362 "- 0.4724 " thickness ≤ 0.0157 "** > 0.4724 "- 3.94 " thickness ≤ 0.0051 "**
Tolerance (W/L) for Sized Cuts	DIN ISO 2768-m (closer on request)

ACP 5080RS

Surface	sawn on all sides
Tolerance in Thickness	+0.1181"/- 0" (closer on request)
Tolerance (W/L) for Cut Pieces	+0.1181"/- 0" (closer on request)

Special Features

Especially homogenized / Stress relieved / Ultrasonic tested / Reduced micro-porosity / Tested continuously

* Further dimensions on request. Subject to technical change.

** Linear measured section 39.37"

ACP 6000

The main advantages of the precision surface aluminum cast plate ACP 6000 are low inherent internal stress and excellent machining characteristics, in combination with uniform consistency throughout the material. Due to the superior cast structure and extended thermal treatment during production, ACP 6000 offers high dimensional stability during extreme machining. Each plate is covered with protective foil on both sides to ensure surface integrity during shipment.



"One use of moulds made from ACP 6000 is the manufacture of food packaging."

ACP 6000

Chemical Composition

Al-alloy type 7xxx

Material Properties

Machinability Weldability (TIG, MIG) **Anodising Properties** Polishing **Corrosion Resistance Eroding Properties Dimensional Strength**

very good adequate (with S AI 4043A) good good adequate good very good

Typical Mechanical Properties

Tensile Strength R_m 0.2 % Yield Strength Rp 0.2 min. 105 MPa (N/mm²) Elongation A 5 % 3 Brinell Hardness HB 65

min. 165 MPa (N/mm²)

Typical Physical Properties

Density	.072 lb/in3
Thermal Conductivit	82 Btu/(ft* h°F)
Electrical Conductivity	~36% IACS
Modulus of Elasticity	10.3* 10 ³ ksi
Coefficient of Thermal	
Expansion	13.6* 10 ⁻⁶ /°F

Thickness Range & Sizes

Plates and pre-cut sizes up to 3.94" thickness are available in the following dimensions:

Thickness	max. Width	*	max. Length*
≥ 0.2362" X	61.81"	X	144.49"
Tolerances			

Surface Finish R _a	≤ 0.3 μm
Tolerance in Thickness	+/- 0.0039"
Flatness	0.2362"-0.4724" thickness ≤ 0.0157"** > 0.4724"-3.94" thickness ≤ 0.0051"**
Tolerance in Width for Plates	0/+0.3937"
Tolerance in Length for Plates	0/+0.5906"
Tolerance (L/W) for Sized Cuts	DIN ISO 2768-m (closer on request)

** Linear measured section 39.37"

Further dimensions on request. Subject to technical change. *

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 Weldability (TIG, MIG) Anodising Properties

good good (with S Al 5183) 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/cm ³
Thermal Conductivity	110-140 W/(mK)
Electrical Conductivity	16-19 MS/m (m/ Ω mm ²)
Modulus of Elasticity	~70,000 N/mm ²
Coefficient of Thermal	
Expansion	24.2* 10 ⁻⁶ /K

Thickness Range & Sizes

Thickness		max. Width	ו*	max. Length*	
≥ 6 mm	х	1520 mm	х	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(AlSi1MgMn) acc. to DIN EN 573-3/3.2315 Material Condition T651

Material Properties

Machinability Weldability (TIG, MIG) **Anodising Properties**

good good (with S AI 5356/5183) very good, not decorative

Typical Mechanical Properties

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

min. 295 MPa (N/mm²) min. 8 min. 89

Typical Physical Properties

Specific Weight	2.70 g/cm ³
Thermal Conductivity	170-220 W/(mK)
Electrical Conductivity	24-32 MS/m (m/ Ω mm ²)
Modulus of Elasticity	~70,000 N/mm ²
Coefficient of Thermal	
Expansion	23.4* 10 ⁻⁶ /K

Thickness Range & Sizes

Thickness		max. Width	1*	max. Length*	
≥ 10 mm	х	1520 mm	Х	3020 mm	

Tolerances

Surface	precision surface machined
Surface Finish R _a	≤ 0.3 μm
Folerance 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)

PLANAL 7075

Chemical Composition

EN AW-7075(AlZn5.5MgCu) acc. to DIN EN 573-3/3.4365 Material Condition T651/T652

Material Properties

Machinability Weldability (TIG, MIG) **Anodising Properties**

good not adequate 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/cm ³
Thermal Conductivity	130-160 W/(mK)
Electrical Conductivity	19-23 MS/m (m/ Ω mm ²)
Modulus of Elasticity	~70,000 N/mm ²
Coefficient of Thermal	
Expansion	23.4* 10 ⁻⁶ /K

Thickness Range & Sizes

Thickness		max. Widt	h*	max. Length*	max. Length*	
≥ 10 mm	х	1520 mm	Х	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 Material

alimex trades both rolled material according to DIN EN 485 / 573 standard and material with specification according to DIN EN 9120 for the aviation industry. (OASIS OIN: 611557 3222)



"We deal with aviation material and produce tooling material e.g. for cabin interiors."

ROLLED MATERIAL

Alloy 5083

Thickness Range & Sizes

Thickness		max. Width*			
5-200 mm	х	1520 mm	х		
15-30 mm	х	2500 mm	X		

Alloy 6082

Thickness Range & Sizes

Thickness		max. Width*		max. Length*	
6-200 mm	х	1520 mm	x	3020 mm	

Alloy 7075

Thickness Range & Sizes

Thicknessmax. Width*5-300 mmx1520 mmx

max. Length*
 x 3020 mm

max. Length*

3020 mm

4000 mm

Pre-cut sizes, blanks and rings in every dimension depending on the block formats.

AVIATION MATERIAL

All our materials are exclusively produced by certified manufacturers of the aviation industry in Western Europe or the USA and are supplied with the relevant documentation.

SHEETS

Material

3.1364 T3 or T351 (2024 clad)

Standards

LN 9073, DAN 424, ABS 5044, AIMS 03-04-014 / AIMS 03-04-009, AIMS 03-04-000

Material

3.3214 T4 (6061)

Standards

LN 9073, DAN 424, DIN 27546, AMS QQ-A 250/11, ABS 5452, AIMS 03-04-042

All materials mentioned above are available in the following dimensions. Other alloys, temper and dimensions upon request. Aluminium sheets in full format only.

Thickness Range & Sizes

Thickness		max. Width		max. Length
0.5-6.0 mm	x	1200 mm	х	2500 mm

* Further dimensions on request. Subject to technical change.

AVIATION MATERIAL

PLATES

Material 3.1354 T351 (2024 bare)

Standards LN 9073, DAN 26, DAN 422, AMS QQ-A 250/4, ABS 5032

Material 3.4364 T7351 (7075/7175)

Standards LN 9073, DAN 26, DAN 422, AMS QQ-A 250/12, ABS 5064

Material 3.3214 T651 (6061)

Standards LN 9073, DAN 26, DAN 422, AMS QQ-A 250/11, DIN 29546

Material 3.4144 T7451 (7050)

Standards LN 9073, ABS 5323, AIMS 03-02-022, AMS 4050

All materials mentioned above are available in the following dimensions. Also available are all pre-cut sizes fitting to these formats.

Thickness Range & Sizes

Thickness	max. Width		max. Length
6.35-140 mm x	1250 mm	х	2500 mm

RODS

Material 3.1354 T3511 / T4

Standards LN 1798 (≤ Ø 12 mm), LN1799, DIN EN 755- 3, DIN 65113

Material 3.3214 T6511

Standards LN 1799, DIN EN 755- 3, DIN 65113

Material

3.4364 T7351

Standards LN 1799, DIN EN 755- 3, DIN 65113

All materials mentioned above are available in the following dimensions. 2618A-T8511 and 2014A-T6511 upon request.

Thickness Range & Sizes

Dimensional range x Production length Ø 10-200 mm x 3000 mm

CNC-Components-Production

A state of the art and fully air-conditioned building, which houses the very latest in CNC machinery as well as a highly qualified and experienced team of aluminium specialists, guarantees the effective, precise and efficient realization of the customers` exact requirements. The leading-edge machinery enables the production of challenging geometries with extremely high accuracy.

Customers of many different industries appreciate the experience of alimex in producing complex aluminium components but also the service of ready-to-install components from one supplier. The semi-finished aluminium products as well as the milling process will be supplied out of alimex directly. The surface-finishing such as anodising, coatings or varnishing will be done by reputable specialized partner companies on our behalf. However, your entire contact point will be alimex from your initial request through to ready-toinstall components.

Data exchange is available by all established CAD-Systems. To generate inspection records or documentation, state of the art 3D coordination measuring machines are also employed by alimex.





alimex Americas

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PROVIDING LEADING-EDGE ALUMINIUM CAST PLATE SOLUTIONS