



The exciting New High Strength 7000 series aluminum alloy from Alimex called ACP7 is now available in either;

ACP7 - Surface machined precision plate or **ACP7R**, with sawn surface finish in plates or blocks.

This new product is very beneficial for applications that demand high mechanical properties, in combination with an excellent machinability and material stability. ACP7 typifies our reputation of world-class quality gained over the last 40 years as a global leader in the supply of cast aluminum block and plate.

ACP7 is ideal as a High Strength Alloy for the Mold & Die Industry as the higher hardness properties of this alloy; which are typically around 121 HB; allows much better polishing quality. This hardness is also higher than other cast aluminum alloys used such as those in the 5000 series alloy range with 70Hb approximately, and it **significantly exceeds the currently existing 2618 type alloys**, which have a hardness in the range of 81HB to 85HB. This hardness combined with the superior mechanical strength properties described below will also allow mold builders to design molds in a cost effective high strength cast plate in order to make higher quantities of parts possible from each mold. The ACP7 alloy has also been designed by the Alimex R&D team to combine these advantages into a material that also offers good machinability as it is fully stress relieved. All this with the low porosity and stability that you would expect from an Alimex product.

Chemical Composition

EN AW-7021 (Al Zn5,5Mg1,5), acc. to DIN EN 573-3

Material Properties

Machinability	very good (HSC/HPC)
Material Stability	very good
Polishing	very good
Weldability (TIG-MIG)	good (MIG-EB)
Anodising Properties	acceptable
Corrosion Resistance	acceptable

Typical Physical Properties

Density	0.10 lb/in ³
Thermal Conductivity	86.7 Btu/ft ² h ² °F)
Electrical Conductivity	38 %IACS
Modulus of Elasticity	10.4·10 ⁶ psi
Coefficient of Thermal Expansion (68-212° F)	13.1 µin./in. °F

Typical Mechanical Properties

Tensile Strength R _m	49 - 52 ksi (~ 345 MPa)
0,2 % Yield Strength R _{p0,2}	43 - 49 ksi (~ 315 MPa)
Elongation A	1 - 2 %
Brinell Hardness	120 - 122 HB



CONTACT:

Tel: 803-339-0757

Alimex Precision in Aluminum Inc.
195 Shop Grove Drive – Unit A
Columbia, SC 29209 USA

YOUR AUTHORIZED ALIMEX DISTRIBUTOR IS:

ACP7 Aluminum Cast Mold Plate from Alimex has the following advantages

Higher hardness than other NA competitors cast plate alloys with possibility of a better polished finish for your Mold. **Higher mechanical properties** such as Ultimate Tensile Strength and Yield Strength than 2618 type cast plate alloys. **A more competitive AL 7000 series alloy** that may substitute many rolled alloy applications for Mold & Die. This material can now be quickly saw cut to required size and shipped from here in the US on short lead-times. Very good machinability and flatness as the material is fully stress relieved. This material can also be welded successfully. (US welding guidelines available upon request. Available in thicknesses up to 19.69")

ACP 7

Thickness Range & Sizes

Plates and pre-cut sizes between 0.393" & 7.87" thick are available in the following

AVAILABLE TOLERANCES AND DIMENSIONS:

Thickness	max. Width*	Length*
≥ 0.393"	x 59.8"	x 118.9"

Blanks, rings and pre-cut sizes on request.

Tolerances

Surface Finish Ra	≤ 0.4 μm
Tolerance in Thickness	+/- 0.0039"
Flatness	0.236" – 0.472" ≤ 0.0157"
	>0.472" – 3.94" ≤ 0.0051"
Tolerance in Width for Plates	0/+0.393"
Tolerance in Length for Plates	0/+0.590"
Tolerance in (L/W) for sized Cuts	DIN ISO 2768-m

* Further dimensions on request. Subject to technical change.
 ** Linear measured section 39.37"

ACP 7R

Thickness Range & Sizes

Plates and pre-cut sizes between 0.590" & 19.69" thick

ACP7 is available in the following dimensions:

Thickness	max. Width*	Length*
≥ 0.590"	x 59.8"	x 118.9"

Blanks, rings and pre-cut sizes on request.

Tolerances

Surface Finish	sawn on all sides
Tolerance in Thickness	0/+0.118"
Tolerance in Width for Plates	0/+0.393"
Tolerance in Length for Plates	0/+0.590"
Tolerance in (L/W) for sized Cuts	0/+0.250"

Specifications within our data sheet are only valid as a reference point and should be used as a guide only.

WORLD LEADERS IN PRECISION ALUMINUM

World class product quality. Excellence in delivery performance.
 Outstanding customer service



Tel: 803-339-0757

Alimex Precision in Aluminum Inc.
 195 Shop Grove Drive – Unit A
 Columbia, SC 29209 USA

YOUR AUTHORIZED ALIMEX DISTRIBUTOR IS: