

# ALCA 5<sup>®</sup> - 5083

*Cast precision plate, milled both sides*

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## BRIEF DESCRIPTION

ALCA 5<sup>®</sup> cast precision plates are characterized by an excellent dimensional stability. The low level of internal stresses considerably reduces the effects of plate deformation during machining, thus saving on extra operations such as rough-milling, finishing or re-work. Typical applications are reference plates, control tools, jigs.

## PROCESSING METHODS

### **Weldability**

-WIG/MIG	excellent
-Filler alloy	AA 5183 – AA5356
-By resistance	excellent

### **Anodizing**

-Technical	excellent
-Decorative	not suited
-Ematalising	excellent

### **Machinability**

To obtain a smooth surface on ALCA 5<sup>®</sup>, high cutting speeds and sintered carbide cutting tools are recommended.

## AVAILABILITY

ALCA 5<sup>®</sup> cast precision plates are available in temper O3 (homogenized) in the following sizes

<b>Thickness</b>	0.375" – 4"
<b>Width</b>	48.5" - 60.5" - 72.5" - 75.5"
<b>Length</b>	144.5"

Other sizes on request

Plates in ALCA 5<sup>®</sup> are coated with a protective plastic film on both surfaces

## CHEMICAL COMPOSITION (Weight - %)

Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti+Zr
max.	max.	max.	0.40	4.00	0.05	max.	max.
0.40	0.40	0.10	1.00	4.90	0.25	0.25	0.15

## PHYSICAL PROPERTIES (Nominal values)

Density	0.096 lb/in <sup>3</sup>
Elastic modulus	10.3-10 <sup>6</sup> psi
Coefficient of Thermal Expansion (68°F -212°F)	13.2 µin/in.°F
Thermal conductivity (68°F)	69.3 Btu/ft.h°F
Electrical conductivity (68°F)	27% IACS

## MECHANICAL STRENGTH (Typical strength)

Tensile UTS	32 000 PSI
Yield YS	16 000 PSI
Elongation in 2"	9.5 %
Brinell hardness	65 HB

## TOLERANCES

<b>Thickness</b>	+/- 0.005"
<b>Width and Length</b>	+ 0.125" / - 0.000"
<b>Flatness</b>	
0,375" – 0,500"	0.015" max
0,625" – 4"	0.005" max
<b>Surfaces</b>	
	20 micro inches / 0.50 micron finish

Checked on a granite 3mx5m using with a flatness measure instrument.



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