

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 (AlMg4.5Mn0.7), acc. to DIN EN 573-3 / 3.3547

Material Properties

Machinability	very good (HSC/HPS excellent)
Weldability (TIG, MIG)	good (with S Al 5183)
Anodising Properties	good, not decorative
Polishing	very good
Corrosion Resistance	very good
Eroding Properties	good

Typical Mechanical Properties

Tensile Strength R_m	240 - 290 MPa (N/mm ²)
0.2 % Yield Strength $R_p 0.2$	110 - 130 MPa (N/mm ²)
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

ACP 5080 GIANT	≥ 0.5906"	max. 110.24"	max. 236.22"
ACP 5080R GIANT	≥ 0.6693"	max. 110.24"	max. 236.22"

Max. thickness 22.44". (Blanks, rings and pre-cut sizes on request.)

Tolerances

ACP 5080 GIANT:

Surface Finish R_a	≤ 0.3 μm
Tolerance in Thickness	+/- 0.0039"
Flatness	< 0.0197" **
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)

ACP 5080R GIANT:

Surface	sawn on all sides
Tolerance in Thickness	0/+0.1181"
Tolerance in Width for Plates	0/+0.3937"
Tolerance in Length for Plates	0/+0.5906"
Tolerance (L/W) for Sized Cuts	0/+0.1969" (closer on request)

** Linear measured section 39.37"