ACP 5080RS

Extremely fine grain structure developed for the high-tech industry

Developed for innovative, high-end industries, ACP 5080RS provides material solutions for the most challenging and critical applications. The material provides superior mechanical and physical properties when compared with similar competitors' cast and rolled aluminium plates. Material excellence and superiority is achieved through the proprietary smelting, manufacturing, processing, handling procedures and specifications employed in the production of this grade.

alimex®
PRECISION IN ALUMINIUM

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EXTREMELY FINE GRAIN STRUCTURE DEVELOPED FOR THE HIGH-TECH INDUSTRY

Chemical Composition

EN AW-5083 (AlMg4.5Mn0.7), acc. to DIN EN 573-3/3.3547

Material Properties

Machinability	excellent
Weldability (TIG, MIG)	good (with S Al 5183)
Anodising Properties	good (not decorative)
Polishing	excellent
Corrosion Resistance	excellent
Eroding Properties	good
High-Speed Cutting Properties	excellent
Etching	good
Cryogenic	excellent
Diffusion Tightness	excellent

Typical Mechanical Properties for standard sizes

Tensile Strength R_m	240 – 290 MPa (N/mm²)
0.2 % Yield Strength R_p 0.2	110 – 130 MPa (N/mm²)
Elongation A	15 (+/- 5) %
Brinell Hardness	74 (+/- 5) HB

Typical Physical Properties

Density	2.66 g/cm³
Thermal Conductivity	110 – 140 W/(mK)
Electrical Conductivity	16 – 19 MS/m (m/Ω mm²)
Modulus of Elasticity	~70,000 N/mm²
Coefficient of Thermal Expansion	$24.2 * 10^{-6}$/K

Standard Sizes

Thickness	8 – 570 mm
Width	1520 – 2160 mm
Length	3020 – 4050 mm

Special sizes

Width	up to 2800 mm
Length	up to 6000 mm

(Maximum individual weight 20t per piece.)

Tolerances for standard sizes

Surface	sawn on all sides
Tolerance in Thickness	0/+3 mm
Tolerance in Width for Plates	0/+10 mm
Tolerance in Length for Plates	0/+10 mm

Tolerance (L/W) for cut pieces (closer on request):

≤ 150 mm thickness	DIN ISO 2768-m
> 150 mm ≤ 570 mm thickness	0/+3 mm

Special Features

- Specific adjusted chemical composition
- Special homogenizing
- Optimised grain structure
- Extremely fine cast structure
- Ultrasonic inspections
- Helium-Leak-inspections
- Outgassing inspections

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