

ACP 5080S ACP 5080RS

Ultra-fine structure developed for high-tech industry

Developed for innovative, high-end industries, ACP 5080S / 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.

ACP 5080S / ACP 5080RS

ULTRA-FINE STRUCTURE DEVELOPED FOR 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/mm ²)
0.2 % Yield Strength $R_p 0.2$	110 - 130 MPa (N/mm ²)
Elongation A	min. 15 %
Brinell Hardness	74 (+/- 5) HB

Typical Physical Properties

Density	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

Special Features

Specific adjustment of the chemical composition | Special homogenisation | Optimisation of the grain structure | Extremely fine cast structure | Tested: Ultrasonic, helium leak, outgassing

ACP 5080S

Standard Sizes

Thickness	5 - 220 mm
Width	1520 - 2160 mm
Length	3020 - 4050 mm
Standard plate formats	1520 mm x 3020 mm 1570 mm x 3670 mm 2160 mm x 4050 mm

Special Sizes

Width	up to 2600 mm
Length	up to 6000 mm

(Maximum individual weight 5t)

Tolerances for standard sizes

Surface Finish Ra	≤ 0.25 μm
Tolerance in Thickness	+/- 0.1 mm
Flatness ≤ 8 mm thickness	≤ 0.2 mm
> 8 - 12 mm thickness	≤ 0.15 mm
> 12 - 220 mm thickness	≤ 0.13 mm
(Linear measured section 1 m)	
Tolerance in Width for Plates	0/+10 mm
Tolerance in Length for Plates	0/+10 mm
Tolerance (L/W) for cut pieces:	
≤ 150 mm thickness	DIN ISO 2768-m
> 150 mm thickness	0/+3 mm

ACP 5080RS

Standard Sizes

Thickness	8 - 570 mm
Width	1520 - 2160 mm
Length	3020 - 4050 mm
Standard plate formats	1520 mm x 3020 mm 1570 mm x 3670 mm 2160 mm x 4050 mm

Special Sizes

Width	up to 2800 mm
Length	up to 6000 mm

(Maximum individual weight 20t)

Tolerances for standard sizes

Surface	sawn on all sides
Tolerance in Thickness	0/+1.5 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 thickness	0/+3 mm

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