SERIES 5000

AW 5083 RECTIFIED (Al Mg4,5Mn0,7)

Rectified 5083 alloy plates are cast precision plates characterized by their excellent dimension stability. The low level of internal residual stress considerably reduces the deformation effects of the material during machining, thus avoiding nonconformities as well as additional operations such as the product thinning or reprocessing.

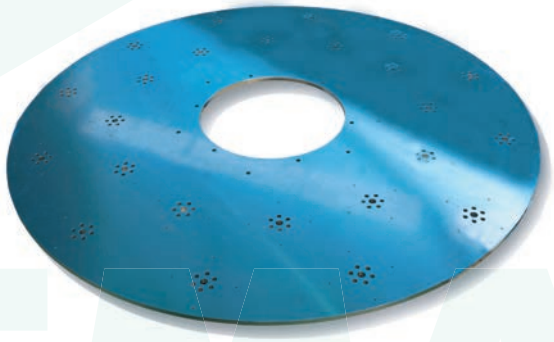
CHEMICAL COMPOSITION (WEIGHT %) (EN 573 - 3)

ELEMENTS	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti + Zr	Al
Minimum	-	-	-	0.4	4.0	0.05	-	-	-
Maximum	0.4	0.4	0.1	1	4.9	0.25	0.25	0.15	Rest

MECHANICAL PROPERTIES

THICKNESSES (from...to)	Rm (MPa)	Rp0.2 (MPa)	A50 (%)	HB - BRINELL HARDNESS
6 - 100 mm	230 - 290	110 - 130	10 - 15	68 - 75

Information transcribed from the supplier datasheet.



MAIN CHARACTERISTICS

- Excellent dimensional stability
- Low level of internal residual stresses, which considerably reduces the deformation effects of the material during machining
- Uniform flatness across the plate
- Guaranteed thickness tolerance +/- 0.1mm

APPLICATIONS

- Use in patterns and models
- Control and calibration tools
- In general, all applications where faces are not to be rectified

POLISHING

MACHINABILITY

WELDABILITY

ELECTRICAL/THERMAL CONDUCTIVITY

≈68 HB
BRINELL HARDNESS

2.66
DENSITY

SERIES 5000

PHYSICAL PROPERTIES

DENSITY	2.66 g/cm^3
MODULUS OF ELASTICITY	70 000 MPa
LINEAR EXPANSION COEFFICIENT	23.5 x 10^{-6}K^{-1}
THERMAL CONDUCTIVITY	110 - 140 W/mK
ELECTRICAL CONDUCTIVITY	16 - 18 m/Ω mm^3
SURFACE ROUGHNESS	Ra 0.2 - 0.4 µm

DELIVERY PROGRAM

SHEETS

THICKNESSES (mm)	DIMENSIONS (mm)	SHEET WEIGHT(kg)	STOCK
5	1520 x 3020	61.97	●

Average weights of production.
Other dimensions on request.

PLATES

THICKNESSES (mm)	DIMENSIONS (mm)	PLATE WEIGHT(kg)	STOCK
6	1520 x 3020	74.40	●
6.35	1570 x 3020	81.30	●
8	1570 x 3020	102.50	●
10	1520 x 3020	123.95	●
	2150 x 4000	232.20	●
12	1520 x 3020	148.75	●
	2150 x 4000	278.70	●
15	1520 x 3020	182.92	●
	2150 x 4000	348.30	●
20	1520 x 3020	247.90	●
	2150 x 4000	464.40	●
25	1520 x 3020	310.00	●
	2150 x 4000	580.50	●
30	1520 x 3020	371.85	●
	2150 x 4000	696.60	●
35	1520 x 3020	433.80	●
40	1520 x 3020	495.79	●
	2150 x 4000	928.80	●
45	2150 x 4000	1044.90	●
50	1520 x 3020	619.70	●
	2150 x 4000	1161.00	●
60	1520 x 3020	743.70	●
	2150 x 4000	1393.20	●
70	1520 x 3020	867.60	●
80	2150 x 4000	1857.60	●
90	1520 x 3020	1115.49	◒
100	2150 x 4000	2322.00	●

Average weights of production.
Other dimensions on request.

TOLERANCES:
-Thickness ≥ 5 - ≤ 6: Thickness tolerance ± 0.1 mm / longitudinal and transverse flatness 0.77 - 0.85 mm
-Thickness ≥ 6 - ≤ 13: Thickness tolerance ± 0.1 mm / longitudinal and transverse flatness 0.38 - 0.44 mm
-Thickness ≥ 13: Thickness tolerance ± 0.1 mm / longitudinal and transverse flatness 0.10 - 0.14 mm

MACHINABILITY	
HOMOGENIZED	EXCELLENT
DIMENSIONAL STABILITY	EXCELLENT
ELECTRICAL DISCHARGE MACHINING	EXCELLENT

SURFACE TREATMENT	
PROTECTIVE ANODIZING	GOOD
ANIODIC QUALITY	-
DECORATIVE ANODIZING	UNSUITABLE
PAINTING / COATING	POOR
POLISHING	FAIR/GOOD

RESISTANCE TO CORROSION	
NORMAL ATMOSPHERE	EXCELLENT
MARITIME ATMOSPHERE	EXCELLENT

(COLD) FORMING	
FOLDING	UNSUITABLE
ROTARY MOVEMENT	UNSUITABLE
DEEP STAMPING	UNSUITABLE
BULGING	UNSUITABLE
COLD EXTRUSION	UNSUITABLE

WELDABILITY	
GAS	POOR
WIG	GOOD
MIG	GOOD
RESISTANCE FUSION WELDING	GOOD

IT CAN BE USED IN VARIOUS APPLICATIONS INCLUDING IN THE FOOD INDUSTRY

● Standard: generally available from stock
◒ Semi-standard: generally not available from stock
○ Non-standard: generally not available from stock, manufactured to order and subject to special conditions.