

## Al Mg Si1

## ANTICORODAL 110

### CHEMICAL COMPOSITION :

<b>Si</b>	<b>0.7 - 1.30%</b>
Fe	0.50%
Cu	0.10%
<b>Mn</b>	<b>0.40 - 0.60%</b>
<b>Mg</b>	<b>0.60 - 1.00%</b>
Cr	0.25%
Zn	0.20%
Ti	0.10%
Others	0.05%

### PHYSICAL PROPERTIES :

Density 20° C	2.70	Kg/dm <sup>3</sup>
Melting point	580-650	°C
Modulus of elasticity, longitudinal	69	GPa
Thermal Conductivity	200-220	W/M . K
Electrical Conductivity	≥ 31	M/Ω mm <sup>2</sup>
Electrical resistivity	0.032	Ω mm <sup>2</sup> /M
Coefficient of linear expansion from 20 up to 300°C	23.4 x 10 <sup>-6</sup>	K <sup>-1</sup>
IACS (International Annealed Copper Standard)	53	%

### WORKABILITY AND CORROSION :

Coldworking : annealed	Very good
Coldworking : heat treated	Medium
Hotworking (annealed)	Good
Machining annealed	Poor
Machining heat treated	Medium
Soldering, brazing heat treated	Very good
Resistance welding	Good
Polishing	Good
Annealing temperature	350-450°C
Stress relieving heat treatment temperature	~150°C
Corrosion in normal atmosphere	Very good
Corrosion in industrial and marine atmosphere	Medium

### MAIN APPLICATIONS :

High strength building components  
Shipbuilding, automotive and electrical appliances  
precision micromechanical

### MAIN SPECIFICATIONS :

High mechanical strength, included annealed temper,  
High corrosion resistance, very good polishing properties  
anodisation friendly, good welding performances

### QUALITY OF EDGES :

Slit edges

### ALLOY DENOMINATIONS :

MATERIAL N° EN :	AW-6082
WN/MATERIAL N° DIN :	3.2315
ROBERT LAMINAGE :	860
EN :	Al Si MgMn
DIN :	Al Mg Si1
AFNOR :	Al - SGM0.7 (6082)
UNS* :	6082

\*Unified Numbering System (USA)

### CONDITIONING :

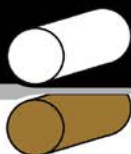
- In coils
- Cut to length, from 0.5 up to 3 m

### AVAILABLE SIZES :

Widths	from 2 up to 350mm
Thickness	from 0.01up to 2.5mm

### TOLERANCES :

Depending on product



**MECHANICAL PROPERTIES :**

**Al Mg Si1**

**EN NORM 485-2 (Al Si Mg Mn)**

TEMPER	THICKNESS		Rm (MPa)		Rp 0.2		ELONGATION		HBS* HARDNESS
			min	max	min	max	10 up to 2.5 mm A50 % min	above 2.5 mm A100 % min	
<b>O</b>	≥ 0.4	1.5	-	150	-	85	14	-	40
	1.5	3.0	-	150	-	85	16	-	40
	3.0	6.0	-	150	-	85	18	-	40
T4 T451	≥ 0.4	1.5	205	-	110	-	12	-	58
	1.5	3.0	205	-	110	-	14	-	58
	6.0	12.5	205	-	110	-	14	-	58
T42	≥ 0.4	1.5	205	-	95	-	12	-	57
	1.5	3.0	205	-	95	-	14	-	57
	3.0	6.0	205	-	95	-	15	-	57
T6 T651 T62	≥ 0.4	1.5	310	-	260	-	-	6	94
	1.5	3.0	310	-	260	-	-	7	94
	3.0	6.0	310	-	260	-	-	10	94
	6.0	12.5	300	-	255	-	-	9	91
T651 T62	12.5	60.0	295	-	240	-	-	8	89
	60.0	100.0	295	-	240	-	-	7	89
	100.0	150.0	275	-	240	-	-	6	84
T61 T6151	≥ 0.4	1.5	280	-	205	-	10	-	82
	1.5	3.0	280	-	205	-	11	-	82
	3.0	6.0	280	-	205	-	11	-	82

\*For information only

**DIN NORM 1745**

TEMPER	THICKNESS		Rm (MPa)		Rp 0.2 (Mpa) min	ELONGATION		HB* HARDNESS	
			min	max		10 up to 2.5 mm A50 % min	above 2.5 mm A100 % min		
W	0.35	3.0	-	150	≤ 85	18	15	35	annealed
F21	0.35	3.0	205	-	110	16	14	65	Hardened matured
F21	-	-	205	-	110	14	12	65	Hardened matured
F28	0.35	3.0	275	-	200	14	12	85	Hardened + H.T.
F28	-	-	275	-	200	12	-	85	Hardened + H.T.
F32	0.35	3.0	315	-	255	10	8	95	Hardened + H.T.
F30	-	-	295	-	245	9	-	95	Hardened + H.T.
F30	-	-	295	-	240	8	-	90	Hardened + H.T.

\*For information only

**AFNOR NORM NF A 50-451**

TEMPER	THICKNESS e millimètres	Rm (MPa)		Rp 0.2 (Mpa) min	ELONGATION 0.10 up to 2.5 mm A65 % min	Metallurgical State
		min	max			
-	0.4 ≤ e ≤ 3.2	-	140	-	28	<b>o</b>
	3.2 < e ≤ 6	-	140	-	28	<b>o</b>
heat treated	0.4 ≤ e ≤ 6	210	-	11	18	T4
	6 < e ≤ 12	210	-	11	18	T4
heat treated	0.4 ≤ e ≤ 3.2	250	-	15	18	T61
	3.2 < e ≤ 6	250	-	15	18	T61
heat treated	0.4 ≤ e ≤ 6	280	-	24	10	T6

\* The alloy 6082 (AL-SGM 0.7) is not normalised in strip form