



## EXTRUSION ALUMINIUM ALLOY

**EN AW-6082**

Manufactured products in aluminium alloy type EN AW-6082 are used as components of structures and machinery where high resistance is required, associated with acceptable resistance to corrosion. The chemical composition and the extrusion parameters are formulated to be able to produce profiles with cross section of average complexity, including hollows and grooves.

### Physical characteristics

Volume mass :	2,71	g / cm <sup>3</sup>	Thermal conductivity at 20°C	in state O: 2,09	W / cm °K
Lower melting point:	580	°C		in state T6: 1,72	W / cm °K
Specific heat between 0° and 100°C:	897	J/Kg °K	Linear thermal expansion coefficient	- 20°C - 100°C: 23,2 · 10 <sup>-6</sup>	1 / °K
Linear modulus of elasticity E:	69000	N / mm <sup>2</sup>		- 20°C - 200°C: 24,1 · 10 <sup>-6</sup>	1 / °K
Tangential modulus of elasticity G:	26000	N / mm <sup>2</sup>		- 20°C - 300°C: 25,0 · 10 <sup>-6</sup>	1 / °K
			Electrical resistivity at 20°C	in state O: 3,14	μΩ · cm
				in state T6: 3,85	μΩ · cm

### Chemical composition according to European Standard EN 573.3

	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Others		Al
									Each	Total	
<b>EN AW-6082</b>	0,70 ÷ 1,30	0,50 max	0,10 max	0,40 ÷ 1,00	0,60 ÷ 1,20	0,25 max	0,20 max	0,10 max	0,05 max	0,15 max	rest

### Minimum mechanical properties, according to European Standard EN 755.2

Types of profile	(1) Temper state	Diameter D [mm] for rods or thickness TH [mm] for bars or thickness of walls and for sections		Tensile strength Rm [MPa]		Limit elasticity load R <sub>p0.2</sub> [MPa]		Elongation	
				min	max	min	max	A % min	A <sub>50mm</sub> % min
Full bars	O , H111	D ≤ 200	S ≤ 200	-	160	-	110	14	12
	T4 (*)	D ≤ 200	S ≤ 200	205	-	110	-	14	12
	T6 (*)	D ≤ 20	S ≤ 20	295	-	250	-	8	6
		20 < D ≤ 150	20 < S ≤ 150	310	-	260	-	8	-
150 < D ≤ 200		150 < S ≤ 200	280	-	240	-	6	-	
		200 < D ≤ 250	200 < S ≤ 250	270	-	200	-	6	-
Pipe	O , H111	e ≤ 25		-	160	-	110	14	12
	T4 (*)	e ≤ 25		205	-	110	-	14	12
	T6 (*)	e ≤ 5		290	-	250	-	8	6
5 < e < 25		310	-	260	-	10	8		
Hollow and open profiles	O , H111	tutte		-	160	-	110	14	12
	T4 (*)	e ≤ 25		205	-	110	-	14	12
Open profiles	T5	e ≤ 5		270	-	230	-	8	6
	T6 (*)	e ≤ 5		290	-	250	-	8	6
		5 < e < 25		310	-	260	-	10	8
Hollow profiles	T5	e ≤ 5		270	-	230	-	8	6
	T6 (*)	e ≤ 5		290	-	250	-	8	6
		5 < e < 15		310	-	260	-	10	8

NOTE (\*) for state F the values of the characteristics are just written as an indication

(1) see chart related to: "Description of the treatments and of the metallurgic states adopted in standard production"

