



EXTRUSION ALUMINIUM ALLOY

EN AW- 6005 A

Extruded products in aluminium alloy type EN AW 6005 A are used in the industrial, building and general engineering sectors, which require medium mechanical resistance, even on welded parts, associated with good resistance to corrosion.

The chemical composition and the production processes adopted make this alloy easy to harden and temper. The mechanical properties are consequently reached even in parts of the profile that are not fully exposed to the thermal exchange.

Physical characteristics

Volume mass :	2,71	g / cm ³	Thermal conductivity at 20°C	in state O: in state T6:	2,09 1,72	W / cm °K W / cm °K
Lower melting point:	615	°C	Linear thermal expansion coefficient	- 20°C - 100°C: - 20°C - 200°C: - 20°C - 300°C:	23,2 · 10 ⁻⁶ 24,1 · 10 ⁻⁶ 25 · 10 ⁻⁶	1 / °K 1 / °K 1 / °K
Specific heat between 0° and 100°C:	897	J/Kg °K	Electrical resistivity at 20°C	in state O: in state T6:	3,14 3,85	μΩ · cm μΩ · cm
Linear modulus of elasticity E:	69000	N / mm ²				
Tangential modulus of elasticity G:	26000	N / mm ²				

Chemical composition according to European Standard EN 573.3

	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Others		Al
									Each	Total	
EN AW-6005A	0,5 ÷ 0,9	0,35 max	0,30 max	0,50 max (*)	0,4 ÷ 0,7	0,30 max (*)	0,20 max	0,10 max	0,05 max	0,15 max	rest
NOTE (*): (Mn + Cr) = 0,12 ÷ 0,50											

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 R _m [MPa]		Limit elasticity load R _{p0.2} [MPa]		Elongation	
				min	max	min	max	A % min	A _{50mm} % min
Full bars	T6 (*)	D ≤ 25	S ≤ 25	270		225	.	10	8
		25 ≤ D ≤ 50	25 ≤ S ≤ 50	270	-	225	-	8	
		50 ≤ D ≤ 100	50 ≤ S ≤ 100	260	-	215	-	8	-
Pipe	T6 (*)	e ≤ 5		270		225		8	6
		5 < e ≤ 10		260		215		8	6
Open profile	T4 (*)	e ≤ 25		180	-	90	-	15	13
	T6 (*)	e ≤ 5		270		225		8	6
		5 < e ≤ 10		260	-	215	-	8	6
		10 < e ≤ 25		250	-	200	-	8	6
Hollow profile	T4 (*)	e ≤ 10		180	-	90	-	15	13
	T6 (*)	e ≤ 5		255	-	215	-	8	6
		5 < e ≤ 15		250	-	200	-	8	6

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"