ALUMINIUM ALLOY EN-AW 6063 (Almg0,7Si)

Material data sheet

Scope

Aluminium alloy 6063 is a medium strength alloy commonly referred to as an architectural alloy. It has a good surface finish, high corrosion resistance, is readily suited to welding and can be easily anodised.

Alloy	Forms	Characteristics - Properties	Applications		
EN - AW 6063	Extruded square, rectangular hexagonal rod/bar	Very good corrosion resistance Medium strength Comlex sections Anodising quality	Architectural sections, frames, lightings, railling, ladders, furniture, fences, heat sink		

Alloy	Tempers	Temper designation (EN 515)				
	0	Annealed wrought alloys				
	T4	Solution heat treated ® natural aged				
9063	T5	Cooled from an elevated temperature forming operation $ar{\mathbb{Q}}$ artificially aged (precipitation hardened)				
AW 6063	T6	Solution heat treated \otimes artificially aged (precipitation hardened) Press quenching required				
EN	T64	Solution heat treated $\&$ artificially aged (precipitation hardened) Under aged to improve formability (bending temper)				
	T66	Cooled from an elevated temperature forming operation $@$ artificially aged (precipitation hardened) to a higher level of mechanical properties through special control of manufacturing processes. Press quenching requierd.				

Chemical composition according to EN573-3 (EN - AW %)

Alloy	C:	Fe	Cu	Mn	Mg	C×	75	т:	Others		Al
Alloy	SI	ге	Cu	IVIII	My	Cl	211	11	Each	Total	At
6063	0,20-0,60	0,35	0,10	0,10	0,45-0,90	0,10	0,10	0,10	0,05	0,15	Rest

Mechanical properties according to EN 755-2 extruded profiles

	Temper	Wall Thickness	Tensile strength	Proof stress	Elongati	Brinell Hardness HB**	
Alloy		e mm*	Rm Mpa min	Rpo,2 Mpa min	A50mm % min A % min		
EN -AW 6063	T4	e ≤ 25	130	65	12	14	45
	T5	e ≤ 3	175	130	6	8	55
		3 < e ≤ 25	160	110	5	7	50
	T6	e ≤ 10	215	170	6	8	65
		10 < e ≤ 25	195	160	6	8	60
		e ≤ 10	245	200	6	8	75

Aluminium ® aluminium alloys Extruded rod/bar, tubes and precision profiles

EN 755-1	Technical conditions for inspection ® delivery
EN 755-2	Mechanical properties
EN 755-3	Round bars, tolerances on dimension \otimes form
EN 755-4	Square bars, tolerances on dimension $\ensuremath{\mathbb{Q}}$ form
EN 755-5	Rectangular bars, tolerances on dimension \otimes form
EN 755-6	Hexagonal bars, tolerances on dimension ® form
EN 755-7	Seamless tubes, tolerances on dimension \otimes form
EN 755-9	Profiles, tolerances on dimension ® form
EN- 12020-1	Technical conditions for inspection ® delivery (precision profiles)
EN- 12020-2	Tolerances on dimension ® form (precision profiles)

Physical properties					
Alloys EN - AW	6063				
Metalic range °C	585-650				
Density g/cm³	2,70				
Electrical conductivity MS/m					
Thermal conductivity W/(m K)					
Specific Heat J/(Kg K)					
Thermal expansion values					
-50 to 20 °C (10 ⁻⁶ K)					
20 to 100 °C (10 ⁻⁶ K)	23,4				
20 to 200 °C (10-6 K)					
20 to 300 °C (10-6K)					
Youngs Modulus Mpa	69500				
Shear Modulus Mpa	26100				

^{*} For different wall thicknesses of a given profile, the lowest specified values of properties shall be considered as valid for the whole profile cross-section.

About Aluminco S.A.

Today, with 33 years of experience, our company has evolved to an integrated vertical aluminium industry focusing on developing, producing and marketing branded aluminium systems for every architectural use.

The extrusion department of Aluminco is the "heart" of the factory. Our unit is fully automated equipped with the latest software and hardware.

The advanced cooling system of our extrusion pres is fully automated, constantly controls the temperature of the extruded profile through air, keeping the appropriate cooling rate for each alloy and temper. The extrusion line is also equipped with automated stacker machine with no human contact eliminating the risk of damaging the extruded profile.

Finally the aging ovens are fully automated with continuous temperature control and real time adjustment, safeguarding the optimum temper results.

ALUMINCO headquarters, are located in Inofita Viotia, Greece, at a 40.000sq.m. owned property.

Contact ® Procurement

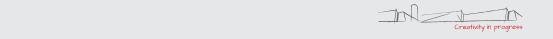
For additional information on Aluminium alloy EN-AW 6063 (AlMg0,7Si) contact our sales acount manager

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^{**} The values for the HB hardness are indicative only.