

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 • Complex sections • Anodising quality	Architectural sections, frames, lightings, railing, ladders, furniture, fences, heat sink

Alloy	Tempers	Temper designation (EN 515)
EN - AW 6063	0	Annealed wrought alloys
	T4	Solution heat treated & natural aged
	T5	Cooled from an elevated temperature forming operation & artificially aged (precipitation hardened)
	T6	Solution heat treated & artificially aged (precipitation hardened) Press quenching required
	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 required.

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

Alloy	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Others		Al
									Each	Total	
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

Alloy	Temper	Wall Thickness e mm*	Tensile strength Rm Mpa min	Proof stress Rpo,2 Mpa min	Elongation		Brinell Hardness HB**
					A50mm % min	A % min	
EN-AW 6063	T4	e ≤ 25	130	65	12	14	45
		e ≤ 3	175	130	6	8	55
	T6	3 < e ≤ 25	160	110	5	7	50
		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 & form
EN 755-4	Square bars, tolerances on dimension & form
EN 755-5	Rectangular bars, tolerances on dimension & form
EN 755-6	Hexagonal bars, tolerances on dimension & form
EN 755-7	Seamless tubes, tolerances on dimension & 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/cm ³	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)	23,4
20 to 100 °C (10 ⁻⁶ K)	
20 to 200 °C (10 ⁻⁶ K)	
20 to 300 °C (10 ⁻⁶ K)	
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.

** The values for the HB hardness are indicative only.

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 press 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 account manager

Aluminco S.A.

Inofita Viotia, 32011, Greece

T: +30 22620 47000

F: +30 22620 47092

E: exports@aluminco.com



aluminco.com