

Aluminum Alloy 6061 DATA SHEET

EN-AW 6061[AlMg1SiCu]

(Type: High strength structural alloy)

EN AW-6061 refers to Aluminum Alloy 6061 in the European standard (EN) designation system. It's the same alloy as. Aluminum 6061 (AA6061 A96061) used in the U.S. (per ASTM/AA standards), but specified under EN 573 / EN 485 / EN 755 / EN 1706 depending on the product form.

The alloy EN AW-6061 is a high strength extrusion alloy, for highly loaded structural applications. Typical applications are scaffolding elements, rail coach parts, containers, machine building and aerospace parts.

Chemical composition according to EN573-3 (weight%, remainder Al)

Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	remarks	others each	total
0.40-0.8	max. 0.7	0.15-0.40	max. 0.15	0.8-1.2	0.04-0.35	max. 0.25	max. 0.15		max. 0.05	max. 0.15

Mechanical properties according to EN755-2

Temper*	Wallthickness e*** [mm]	Yield stress Rp0.2 [MPa]	Tensile strength Rm [MPa]	Elongation A [%]	A50 [%]	Hardness** HB
T4	≤ 25	110	180	15	13	65
T6	≤ 5	240	260	9	7	85
	5 < e ≤ 25	240	260	10	8	85

*Temper designation according to EN515: T4-Naturally aged to a stable condition, T6-Solution heat treated, quenched and artificially aged, (T6 properties can be achieved by press quenching)

** Hardness values are for indication only

***For different wall thicknesses within one profile, the lowest specified properties shall be considered as valid for the whole profile cross section

Physical properties (approximate values, 20°C)

Density	Melting range	Electrical Conductivity	Thermal Conductivity	Co-efficient of thermal Expansion	Modulus of Elasticity
[kg/m³]	[°C]	[MS/m]	[W/m.K]	10 ⁻⁶ /K	[GPa]
2700	585-640	22-30	170-200	23	~70

Weldability¹

Gas: 3 TIG: 2 MIG: 2 Resistance welding: 3

Typical filler materials (EN ISO18273): SG-AlMg5Cr(A) or SG-AlMg4.5Mn0.7(A) or AISi5. Due to the heat input during welding the mechanical properties will be reduced by approximately 50% (ref. EN1999-1).

Machining characteristics¹

T4 temper: 4 T6 temper: 2

Coating properties¹

Hard protecting anodising: 1 Bright/colour anodising: 3 Other:2

Corrosion resistance¹

General: 1 Marine: 2-3

Product Form

Available in sheet, plate, bar, tube, extrusion, Fittings, flange