Technical datasheet - Extruded products
Alloy EN AW-6101A/B [EN AW AlMgSi(A/B)]

Alloy 6101 is a heat treatable wrought alloy that is best suited for applications involving moderate strength and maximum electrical conductivity. It is like alloy 6063, but with minor chemistry changes which enhance electrical conductivity. Although slightly lower in conductivity than alloy 1350, it offers greater strength.

Typical Applications

- Electrical bus conductor products (bar, beams, tubing and custom shapes)
- Power transmission
- Power stations

Chemical Composition [1]

	Si		Fe		Cu		Mn		Mg		Cr		Zn		Ti		Others	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Each	Total
6101A	0.30	0.7		0.40		0.05			0.40	0.9							0.03	0.10
6101B	0.30	0.6	0.10	0.30		0.05		0.05	0.35	0.6				0.10			0.03	0.10

[1] Chemical composition in weight-% according to EN-573-3:2013

Mechanical Properties and Electrical Conductivity

Alloy [2]	Temper [3]	$R_{p0,2}$ [6] [MPa]	R_m [MPa]	Typical Electical Conductivity [7]		Hardness [8] [HBW]
				[MS/m]	[IACS %]	
6101 standard	T76 [4]	160	200	32.9	56.7	60
	T73 [5]	100	150	33.7	58.1	40
6101HP	T76	160	200	33.4	57.5	60
	T73	100	150	34.4	59.3	40

[2] Hydro has a tighter specification on chemical composition on 6101/standard and 6101HP (High Performance) within 6101 A/B.
[3] Temper designations according to EN 515:2017 (T7: Solution heat treated and then artificially overaged).
[4] Solution heat treated and then given limited artificial over aging to achieve moderate conductivity.
[5] Solution heat treated and then fully artificially overaged to achieve the best conductivity.
[6] Minimum property levels. The thickness of the cross section from which the tensile test specimen is taken determines the applicable mechanical properties.
[7] Typical properties at room temperature 25°C.
[8] Brinell hardness values expressed as HBW values are for information only.

Physical Properties [9]

Alloy	Modulus of Elasticity [GPa]	Modulus of Rigidity [GPa]	Melting Range [°C]	Density [g/cm^3]	Thermal Conductivity [W/m·K]	Specific Heat Capacity [J/kg·K]	Coefficient of linear expansion [$10^{-6}K^{-1}$]
6101A/B	70	26	590 - 650	2.70	237	897	23.1

[9] Reference: CRC Handbook of Chemistry and Physics, 95th addition, 2014-2015. Typical properties at room temperature 25°C.