

Technical datasheet - Extruded products

Alloy EN AW-6101A/B [EN AW AlMgSi(A/B)]

Alloy 6101A and 6101B are medium strength alloys specifically dedicated to applications where a high conductivity is required.

Typical Applications

- Electrical busbar
- Heatsinks

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	Tot
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 ^{2,3}

Alloy-Temper	Wall thickness t [mm]	R _{p0,2} [MPa]	R _m [MPa]	A [%]	A _{50mm} [%]	HBW ^c TYPICAL VALUE	Vickers ^c TYPICAL VALUE
6101A-T6 ^a	t ≤ 50	170	200	10	8	70	80
6101B-T6 ^{a,b}	t ≤ 15	160	215	8	6	70	80
6101B-T7 ^{a,c}	t ≤ 15	120	170	12	10	60	68

² Properties according to EN 755-2:2016 for extruded profile, minimum values unless else specified

³ If a profile cross section comprises different thickness which fall in more than one set of specified mechanical property values, the lowest specified value shall be considered as valid for the whole profile section

^a Properties may be obtained by press quenching

^b Electrical conductivity ≥ 30 MS/m

^c Electrical conductivity ≥ 32 MS/m

^d Brinell hardness values for information only. Vickers converted from Brinell value and should be considered approximate

Temper Designations ⁴

T6	Solution heat treated and then artificially aged
T7	Solution heat treated and then artificially overaged

⁴ Temper designations according to EN 515:1993

Physical Properties ⁵

Temper	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]	Electrical Conductivity [MS/m]	Coefficient of linear expansion [10 ⁻⁶ K ⁻¹]
	70	26	590 - 650	2.70		901		
T6					218		30 (T6) 32 (T7)	23.5

⁵ Reference: MNC Handbook nr 12, version 2, SIS, 1989. Typical properties at room temperature 20°C



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Conductivity versus Hardness

Conductivity can be increased further but on the cost of mechanical strength, see chart for typical relationship between hardness and electrical conductivity.

Provided for informational purposes only, not to be considered as guaranteed properties.

Results are valid for the investigated specimens taken from a specific sample.

6101B - Conductivity versus Hardness

