

# MATERIAL DATASHEET

## EXTRUDED PROFILES EN AW 6060 [AlMgSi0,5]

The EN AW-6060 aluminum alloy belongs to the 6000 series, which is produced on the basis of aluminum, magnesium and silicon. As a typical extrusion alloy, it is easy to form, has excellent extrusion properties and offers medium to high corrosion resistance. It is characterized by a moderate strength, which is lower than that of the related alloy EN AW-6063, but enables a very good surface quality.

Typical applications of EN AW-6060 are:

- Construction industry: window frames, façade elements, doors and other architectural profiles
- Furniture construction: tubes; structures and decorative elements in pieces of furniture
- Automotive industry: trim strips, lightweight construction parts and cooling systems
- General mechanical engineering: lightweight constructions where good corrosion resistance is required

### Chemical composition (according to EN 573-3:2013 in %)

Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Pb	Sn	Sonstige
0,30 – 0,60	0,10 – 0,30	max. 0,10	max. 0,10	0,35 – 0,60	max. 0,05	max. 0,15	max. 0,10	0	0	max. 0,15

### Mechanical properties (according to EN 755-2:2016, minimum values)

Temper	Thickness [mm]	R <sub>p0,2</sub> [MPa]	R <sub>m</sub> [MPa]	A [%]	A <sub>50</sub> [%]
T4	t ≤ 25	60	120	16	14
T5	t ≤ 5	120	160	8	6
	5 < t ≤ 25	100	140	8	6
T6	t ≤ 3	150	190	8	6
	5 < t ≤ 25	140	170	8	6
T64	t ≤ 15	120	180	12	10
T66	t ≤ 5	160	215	8	6
	5 < t ≤ 25	150	195	8	6

### Temper descriptions

<b>T4</b>	Solution heat-treated and naturally aged
<b>T5</b>	Cooled from an elevated temperature shaping process and then artificially aged
<b>T6</b>	Solution heat-treated and then artificially aged
<b>T64</b>	Solution heat-treated and then artificially aged in underaging conditions to improve formability
<b>T66</b>	Solution heat-treated and then artificially aged mechanical property level higher than T6 achieved through special control of the process

### Reference values for physical properties

Density [g/cm <sup>3</sup> ]	Elastic modulus [GPa]	Thermal conductivity [W/m <sup>2</sup> K]	Thermal expansion [K * 10 <sup>6</sup> ] 20°C – 100°C	Specific heat [J / KG * K]	Electrical conductivity [m/Ω*mm <sup>2</sup> ]	Shear modulus [GPa]
2,70	69,5	200-220	23,4	898	34-38	26,1

## Other data (empirical values)

### Mechanical processing

Milling / Turning	2-3
Eroding	1

### Forming

Bending	3	(Zustand T4)
Upsetting	2	(Zustand 0)
Pressure forming	2	(Zustand 0)

### Welding

Gas	3
WIG	2
MIG	2
Resistance welding	2

### Solder

Brazing with flux	2
Brazing without flux	2
Soft with flux	1

### Surface treatment

Technical anodizing	1
Decorative anodizing	1 - 2
Powder coating	1
Wet painting	1

### Corrosion resistance

Normal climate	1
Sea climate	2

1 - Very good | 2 - Good | 3 - Moderate | 4 - Poor | 5 - Unsuitable

## Zulassungen

EUROCODE nach DIN EN 1999-1-1	Lebensmittelindustrie nach DIN EN 602	REACH	ROHS
✓	✓	✓	✓

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