

## ALLOY DATA SHEET EN-AW 6063[AlMg0.7Si] (Type: General extrusion alloy)

The alloy EN AW-6063 is a widely used extrusion alloy, suitable for applications where only modest strength properties are required. Parts can be produced with a good surface quality, suitable for many coating operations. Typical application fields are furniture, finishing materials, windows and doors, carbody finishing, façade construction, lighting columns and flagpoles.

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

Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	remarks	others	
									each	total
0.20-0.6	max. 0.35	max. 0.10	max. 0.10	0.45-0.9	max. 0.10	max. 0.10	max. 0.10		max. 0.05	max. 0.15

### Mechanical properties according to EN755-2

Temper*	Wallthickness e*** [mm]	Yield stress Rp <sub>0.2</sub> [MPa]	Tensile strength Rm [MPa]	Elongation		Hardness** HB
				A [%]	A <sub>50</sub> [%]	
T4	≤ 25	65	130	14	12	50
T5	≤ 10	130	175	8	6	65
	10 < e ≤ 25	110	160	7	5	65
T6	≤ 10	170	215	8	6	75
	10 < e ≤ 25	160	195	8	6	75
T66	≤ 10	200	245	8	6	80
	10 < e ≤ 25	180	225	8	6	80

\*Temper designation according to EN515: T4-Naturally aged to a stable condition, T5-cooled from an elevated temperature forming operation and artificially aged, T6-Solution heat treated, quenched and artificially aged, T66-cooled from an elevated temperature forming operation and artificially aged to a condition with higher mechanical properties through special control of manufacturing processes. (T6/T66 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 [kg/m <sup>3</sup> ]	Melting range [°C]	Electrical Conductivity [MS/m]	Thermal Conductivity [W/m.K]	Co-efficient of thermal Expansion 10 <sup>-6</sup> /K	Modulus of Elasticity [GPa]
2700	585-650	28-34	200-220	23.4	~70

### Weldability<sup>1</sup>

Gas: 3      TIG: 2      MIG: 2

Typical filler materials (EN ISO18273): SG-AlMg5Cr(A) or AlSi5, and AlMg3 when the product has to be anodised. Due to the heat input during welding the mechanical properties will be reduced by approximately 50% (ref. EN1999-1).

### Machining characteristics<sup>1</sup>

T4 temper: 3      T5 and T6 temper: 2

### Coating properties<sup>1</sup>

Hard protecting anodising: 1      Decorative/bright/colour anodising: 2

### Corrosion resistance<sup>1</sup>

General: 1      Marine: 2

<sup>1</sup>Relative qualification ranging from 1-very good to 6 unsuitable

