Material Data Sheet
Aluminium alloy

Material designation: EN AW-6060 [Al MgSi]

Scope: This data sheet applies to cold drawn and extruded rod/bar, tubes and profiles made of aluminium-silicon alloy EN AW-6060.

Alloy 6060 offers good strength, slightly lower than 6063, very good corrosion resistance and is suitable for decorative anodizing. Used primarily for structures requiring good strength, very good surface finish and good anodising response, such as profiles for windows, doors, entrance lots, ceilings and furniture. This is also a commonly used alloy for thermal applications such as heat sinks.

Chemical Composition [1]

Si		Fe	Cu	Mn	Mg		Cr	Zn	Ti	Pb	Bi	Sn	Others	
Min	Max	Min Max	Min Max	Min Max	Min	Max	Min Max	Min Max	Min Max	Min Max	Max	Max	Each	Tot
0.30	0.60	0.35	0.10	0.10	0.35	0.60	0.05	0.15	0.10				0.05	0.15

1 Chemical composition in weight-% according to EN-573-3:2019

Mechanical Properties [2,3]

Temper	Wall thickness t [mm]	$R_{p0,2}$ [MPa]	R_m [MPa]	A [%]	A_{50mm} [%]	HBW [c] TYPICAL VALUE	Vickers [c] TYPICAL VALUE
T4[a]	t ≤ 25	60	120	16	14	50	56
T5	t ≤ 5	120	160	8	6	60	68
	5 < t ≤ 25	100	140	8	6	60	68
T6[a]	t ≤ 5	150	190	8	6	70	80
	5 < t ≤ 25	140	170	8	6	70	80
T64[a,b]	t ≤ 15	120	180	12	10	60	68
T66[a]	t ≤ 5	160	215	8	6	75	86
	5 < t ≤ 25	150	195	8	6	75	86

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 Bending quality
c Brinell hardness values for information only. Vickers converted from Brinell value and should be considered approximate

Temper Designations [4]

T4	Solution heat treated and naturally aged
T5	Cooled from an elevated temperature shaping process and then artificially aged
T6	Solution heat treated and then artificially aged
T64	Solution heat treated and then artificially aged in underageing conditions (between T6 and T61) to improve formability
T66	Solution heat treated and then artificially aged – mechanical property level higher than T6 achieved through special control of the process

4 Temper designations according to EN 515:2017

Physical Properties [5]

Temper	Modulus of Elasticity [GPa]	Modulus of Rigidity [GPa]	Melting Range [°C]	Density [g/cm³]	Thermal Conductivity [W/m·K]	Specific Heat Capacity [J/kg·K]	Electrical Resistivity [nΩm]	Coefficient of linear expansion [$10^{-6}K^{-1}$]
	69	26	615 - 655	2.70		901		23.4
T6					200		32	

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

Comparative Characteristics of Related Alloys [6]

Property	6060	6063	6005	6005A	6082
Tensile strength	1	2	3	3	4
Impact strength	2	2	1	3	4
Surface finish	5	4	3	3	2
Suitability for decorative anodizing	5	5	4	3	2
Corrosion resistance	5	5	4	4	4
Machinability	2	3	4	4	5
Coldforming	5	5	4	4	3
Weldability	5	5	5	5	4

6 Relative grading, 5 = top grade

Material Data Sheet
Aluminium alloy

Material designation: EN AW-6063 [Al MgSi]

Scope:

Alloy 6063 has high strength. Used primarily for structures requiring good strength, very good surface finish and good anodising response, such as profiles for windows, doors, entrance lots, ceilings and furniture. This is also a commonly used alloy for thermal applications such as heat sinks.

Chemical Composition [1]

Si		Fe	Cu	Mn	Mg		Cr	Zn	Ti	Pb	Bi	Sn	Others	
Min	Max	Min Max	Min Max	Min Max	Min	Max	Min Max	Min Max	Min Max	Min Max	Max	Max	Each	Tot
0.20	0.60	0.35	0.10	0.10	0.45	0.90	0.10	0.10	0.10				0.05	0.15

[1] Chemical composition in weight-% according to EN-573-3+A2:2024

Mechanical Properties [2,3]

Temper	Wall thickness t [mm]	$R_{p0,2}$ [MPa]	R_m [MPa]	A [%]	A_{50mm} [%]	HBW TYPICAL VALUE
T4[c]	t ≤ 25	65	130	14	12	50
T5	t ≤ 10	130	175	8	6	65
	10 < t ≤ 25	110	160	7	5	65
T6[c]	t ≤ 10	170	215	8	6	75
	10 < t ≤ 25	160	195	8	6	75
T64[c d]	t ≤ 15	120	180	12	10	65
T66[c]	t ≤ 10	200	245	8	6	80
	10 < t ≤ 25	180	225	8	6	80

[2] Properties according to EN 755-2:2025 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

c Properties may be obtained by press quenching.
d Bending quality.

Temper Designations [4]

T4	Solution heat treated and naturally aged
T5	Cooled from an elevated temperature shaping process and then artificially aged
T6	Solution heat treated and then artificially aged
T64	Solution heat treated and then artificially aged in underageing conditions (between T6 and T61) to improve formability
T66	Solution heat treated and then artificially aged – mechanical property level higher than T6 achieved through special control of the process

[4] Temper designations according to EN 515:2017

Physical Properties [5]

Temper	Modulus of Elasticity [GPa]	Modulus of Rigidity [GPa]	Melting Range [°C]	Density [g/cm³]	Thermal Conductivity [W/m·K]	Specific Heat Capacity [J/kg·K]	Electrical Resistivity [nΩm]	Coefficient of linear expansion [$10^{-6}K^{-1}$]
	69	26	615 - 655	2.70		901		23.4
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Property	6060	6063	6005	6005A	6082
Tensile strength	1	2	3	3	4
Impact strength	2	2	1	3	4
Surface finish	5	4	3	3	2
Suitability for decorative anodizing	5	5	4	3	2
Corrosion resistance	5	5	4	4	4
Machinability	2	3	4	4	5
Coldforming	5	5	4	4	3
Weldability	5	5	5	5	4

[6] Relative grading, 5 = top grade