Datasheet:

EN AW-6061
Sheet, strip & plate - Aluminium

Alumeco ApS
08-04-2025

Internal alloy name:	**6061**
Chemical Symbol:	**EN AW-Al Mg1SiCu**
International alloy name:	**EN AW-6061**
UNS:	**A96061**
DIN-Werkstoff no.:	**3.3211**
Alloy type:	**Heat treatable alloy**

Main usage:

- Heavy duty structures - Rail coaches, truck frames, ship building, bridges, aircrafts, boilermaking
- Motorboats
- Aerospace applications
- Rivets

Main properties:

- Very good corrosion resistances
- Very good weldability
- Good cold formability in temper T4

Important norms and literature:

General Standards:
EN 573-3:2013: Aluminium and aluminium alloys – Chemical composistion and form of wrought products – Part 3: Chemical composition and form of products.

Product standards:
EN 485-2:2008: Aluminium and aluminium alloys – Sheet, strip and plate – Part 2: Mechanical properties.

Geometric Tolerance:
EN 485-3:2005: Aluminium and aluminium alloys – Sheet, strip and plate – Part 3: Tolerances on dimensions and form for hot-rolled products

EN 485-4:2000: Aluminium and aluminium alloys – Sheet, strip and plate – Part 4: Tolerances on shape and dimensions for cold-rolled products

Chemical composition in %: EN 573-3:2013

Al	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Others Max. Each	Others Max. Total
Remainder	0,40 – 0,8	Max. 0,70	0,15 – 0,4	Max. 0,15	0,8 – 1,2	0,04 - 0,35	Max. 0,25	Max. 0,15	0,05	0,15

Mechanical properties: EN 485-2:2008

Temper	Specified thickness *t* mm	Tensile Stress R_m MPa	Proof Stress $R_{p0,2}$ MPa	Elongation Min. % A_{50mm}	Elongation Min. % A	Bend radius* 180° *t* mm	Bend radius* 180° bend	Bend radius* 90° *t* mm	Bend radius* 90° bend	Hardness HBW
O	0,4 ≤ *t* < 25	Max. 150	Max. 85	14 - 19	16	0,4 - 3,0	1,0 * t	0,4 - 12,5	0,5 - 2,0 * t	40
T4	0,4 ≤ *t* < 80	Min. 205	Min. 110	12 - 18	14 - 15	0,4 - 3,0	1,5 - 2,0 * t	0,4 - 12,5	1,0 - 4,0 * t	58
T451	0,4 ≤ *t* < 80	Min. 205	Min. 110	12 - 18	14 - 15	0,4 - 3,0	1,5 - 2,0 * t	0,4 - 12,5	1,0 - 4,0 * t	58
T42	0,4 ≤ *t* < 80	Min. 205	Min. 95	12 - 18	14 - 15	-		0,4 - 12,5	1,0 - 4,0 * t	57
T6	0,4 ≤ *t* < 400	Min. 260 - 290	Min. 220 - 240	6 - 10	2 - 8	-		0,4 - 12,5	2,5 - 5,0 * t	80 - 88
T651	0,4 ≤ *t* < 400	Min. 260 - 290	Min. 220 - 240	6 - 10	2 - 8	-		0,4 - 12,5	2,5 - 5,0 * t	80 - 88
T62	0,4 ≤ *t* < 400	Min. 260 - 290	Min. 220 - 240	6 - 10	2 - 8	-		0,4 - 12,5	2,5 - 5,0 * t	80 - 88

*** Information values only;**

Physical properties:

Density g/cm³	Solidification range °C	Electrical conductivity %IACS	Thermal conductivity W/m K	Thermal expansion (µm m^{-1} K^{-1})	Annealing temperature °C	E - modulus (N / mm²)
2,7	580 – 650	40 – 46,5	155 – 180	23,3	380 – 420	70000

Properties and information's (3 high/good; 2 Middle; 1 Poor/bad)

Resistance:
Corrosion index, general: 2
Marine Atm. Corr index: 2

Hot workability:
Extrusion: 2
Forging: 2

Cold formability:
Cold formability general: 2
Deep drawing: 2
Bending: 3

Weldability
TIG welding: 2
MIG welding: 3

Solderability
Brazability index: 1
Solderability index: 2

Machinability
Machinability index: 2

Anodizing:
Decorative anodizing surface treatment: 2
Protective anodizing index: 3
Hard anodizing: 2
Color anodizing: 2