## Chemical composition

| % | Si | Fe | Cu | Mn | Mg | Cr | Zn | Ti | Others |
|---|---|---|---|---|---|---|---|---|---|
| Minimum | 0,30 | 0,10 | | | 0,35 | | | | |
| Maximum | 0,60 | 0,30 | 0,10 | 0,10 | 0,60 | 0,05 | 0,15 | 0,20 | 0,15 |

## International Equivalences

| Europe | USA | Spain | France | Germany | G.B. | Italy | Sweden | Switzerland | Japan |
|---|---|---|---|---|---|---|---|---|---|
| E.N. 573 | A.A. | U.N.E. | AFNOR | D.I.N. | B.S. | U.N.I. | S.I.S. | V.S.M. | J.I.S. |
| EN AW 6060 | 6060 | | A-GS | ALMgSi0.5 3.3206 | | 9006-P1 | 4103 | AlMgSi0.5 | |

## Mechanical properties — Standard: EN 755-2 — Alloy: EN AW-6060 [Al MgSi]

### Extruded bar

| Treatment state | Measurements mm | | $R_m$ MPa | | $R_{p0,2}$ MPa | | A % | $A_{50\ mm}$ % | Hardness HB |
|---|---|---|---|---|---|---|---|---|---|
| | D[1] | S[2] | min. | max. | min. | max. | min | min. | |
| T4 | ≤ 150 | ≤ 150 | 120 | – | 60 | – | 16 | 14 | 50 |
| T5 | ≤ 150 | ≤ 150 | 160 | – | 120 | – | 8 | 6 | 75 |
| T6 | ≤ 150 | ≤ 150 | 190 | – | 150 | – | 8 | 6 | 85 |
| T64 | ≤ 50 | ≤ 50 | 180 | – | 120 | – | 12 | 10 | |
| T66 | ≤ 150 | ≤ 150 | 215 | – | 160 | – | 8 | 6 | |

### Extruded tube

| Treatment state | Measurements mm e[3] | $R_m$ MPa | | $R_{p0,2}$ MPa | | A % | $A_{50\ mm}$ % |
|---|---|---|---|---|---|---|---|
| | | min. | max. min. | | max. | min | min. |
| T4 | ≤ 15 | 120 | – | 60 | – | 16 | 14 |
| T5 | ≤ 15 | 160 | – 120 | | – | 8 | 6 |
| T6 | ≤ 15 | 190 | – | 150 | – | 8 | 6 |
| T64 | ≤ 15 | 180 | – 120 | | – | 12 | 10 |
| T66 | ≤ 15 | 215 | – | 160 | – | 8 | 6 |

### Extruded profile

| Treatment state | Measurements mm e[3] | $R_m$ MPa | | $R_{p0,2}$ MPa | | A % | $A_{50\ mm}$ % |
|---|---|---|---|---|---|---|---|
| | | min. | max. | min. | max. | min | min. |
| T4 | ≤ 25 | 120 | – | 60 | – | 16 | 14 |
| T5 | ≤ 5 | 160 | – | 120 | – | 8 | 6 |
| | 5 < e ≤ 25 | 140 | – | 100 | – | 8 | 6 |
| T6 | ≤ 3 | 190 | – | 150 | – | 8 | 6 |
| | 3 < e ≤ 25 | 170 | – | 140 | – | 8 | 6 |
| T64 | ≤ 15 | 180 | – | 120 | – | 12 | 10 |
| T66 | ≤ 3 | 215 | – | 160 | – | 8 | 6 |
| | 3 < e ≤ 25 | 195 | – | 150 | – | 8 | 6 |

1) D = Diameter of circular section bars.
2) S = Distance between faces for square-section and hexagonal bars, thickness for rectangular section bars.
3) e = Wall thickness.

## Physical properties

| Modulus of elasticity N/mm² | Specific weight g/cm³ | Melting temperature ºC | Linear expansion coefficient 1/10⁶K | Thermal conductivity W/mK | Electrical resistivity at 20ºC - μΩ cm | Electrical conductivity% IACS | Dissolution potential V |
|---|---|---|---|---|---|---|---|
| 69.500 | 2,70 | 615-655 | 23,4 | T5-209 | T5-3,2 | T5-54 | -0,80 |

## Technological suitabilities

| Welding | | Natural behaviour | | Anodized | | Mechanization State: | T5 | T6 |
|---|---|---|---|---|---|---|---|---|
| Under flame | B | In a rural environment | MB | For protection | MB | Chip fragmentation | R | R |
| At the arc under argon gas | B | In an industrial environment | MB | Decorative | MB | Surface gloss | MB | MB |
| Owing to electrical resistance | MB | In a marine environment | B | Hard anodized | MB | | | |
| Brazed | MB | In sea water | B | | | | | |

| Thermal treatments | Products | Observations and applications |
|---|---|---|
| Forging temperature interval: 400º-480ºC.<br>Total annealing: 420ºC with long-term cooling up to 250ºC.<br>Annealing against acridity: 340ºC | Bars, wires, extruded profiles, tubes. | The most notable characteristic of this alloy is its ease of extrusion.<br>This means it is used a lot in profiling: doors, windows, curtain walls, furniture, structures, stairs, rungs, guard rails, fences, lattices, barriers, railings, heat dissipators, engine bodyworks, irrigation, heating and refrigeration tubes, special elements for machines etc. |