Data Sheet

EN AW 6005 – Rods and bars

Alumeco A/S

Internal alloy name:	**6005**
International alloy name:	**EN AW 6005**
Chemical Symbol:	**EN AW – AlSiMg**
DIN-Werkstoff no.:	**3.3210**
Alloy type:	**Heat treatable alloy**

Main usage

- Machinery
- Constructions
- Marine and offshore

Main properties

- Very good atmospheric corrosion resistance
- Very good workability
- Heat treatable alloys (Soft T4 temper)

Important norms and literature

Extrusion:
EN 755-1: Technical conditions for inspection and delivery
EN 755-2: Mechanical properties
EN 755-9: Tolerances on dimensions and forms for different extrusions

Chemical composition:
EN 573-3: Chemical composition

Usages:
EN 13195: Specifications for wrought products for marine applications
EN 602: Usage in the food industry

Chemical composition EN 573-3:2009

Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Other elements Each	Other elements together
0.5-0.9	0.35	0.3	0.5	0.4-0.7	0.3	0.2	0.1	0.05	0.15

Typical mechanical properties EN 755 – 2 (Extruded profiles)

Product group dimension (mm)	Temper	Rm MPa	$Rp_{0,2}$ MPa	A %	Hardness* HB
Rod/Bar ≤ 25	T6	Min. 270	Min. 225	10	90
Rod/Bar 25 <D ≤ 50	T6	Min. 270	Min. 225	8	90
Rod/Bar 50 <D ≤ 100	T6	Min. 260	Min. 215	8	85
Tubes Thickness (mm) ≤ 5	T6	Min. 270	Min. 225	8	90
Tubes Thickness (mm) 5 < t ≤ 10	T6	Min. 260	Min. 215	8	85

*** 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)
2.70	600-655	49.5	188	23.2	350-400	69,500

Typical Alumeco products with this alloy

- **Profiles in various dimensions and form**

Properties and information (3 high/good; 2 medium; 1 poor/bad)

Resistance
Corrosion index, general: 3
Marine atm. corr. index: 3

Hot workability
Extrusion: 3
Forging: 3

Cold formability
Cold formability general: 2
Deep drawing: 1
Bending: 2 – 3 (Depending on the temper)

Weldability
TIG welding: 2
MIG welding: 2

Solderability
2

Machinability
Machinability index: 2

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