Data Sheet

EN AW 2011 – Rods and bars

Alumeco A/S

Internal alloy name:	**2011**
International alloy name:	**EN AW 2011**
Chemical Symbol:	**EN AW – AlCu6BiPb**
DIN-Werkstoff no.:	**3.1655**
Alloy type:	**Heat treatable alloy**

Main usage

- Forming
- Forging
- Mechanical Engineering
- Tools

Main properties

- High strength material
- Good machinability
- Low corrosion resistance

Important norms and literature

Extruded:
EN 755-1: Technical conditions for inspection and delivery
EN 755-2: Mechanical properties
EN 755-3: Tolerances on dimensions and form round bars
EN 755-6 Tolerances on dimensions and form hexagonal bars

Cold drawn:
EN 754-1: Technical conditions for inspection and delivery
EN 754-2: Mechanical properties
EN 754-3: Tolerances on dimensions and form round bars
EN 754-6 Tolerances on dimensions and form hexagonal bars

Chemical composition:
EN 573-3: Chemical composition

Rolled products:
EN 485-1: Technical conditions for inspection and delivery
EN 485-2: Mechanical properties
EN 485-3: Tolerances on dimensions and form hot rolled products
EN 485-4: Tolerances on dimensions and form cold rolled products

Chemical composition (%) EN 573-3

Si	Fe	Cu	Mn	Mg	Zn	Bi	Pb	Other elements Each	Other elements together
0.40	0.7	5.0-6.0	-	-	0.30	0.20-0.6	0.2-0.39	0.05	0.15

Typical mechanical properties EN 754-2 - Drawn

Diameter range (mm)	Temper	Rm MPa	$Rp_{0,2}$ MPa	A %	Hardness* HB
≤ 80	**T8**	**Min. 370**	**Min. 270**	**8**	**115**

Typical mechanical properties EN 755-2 - Extruded

≤ 75	**T6**	**Min. 310**	**Min. 230**	**8**	**110**
75 < D < 150	**T6**	**Min. 295**	**Min. 195**	**6**	**110**

*** 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 / mm^2)
2.84	540 - 645	45.5	172	23	350-400	72,500

Typical Alumeco products with this alloy

- **Round bars with the diameter from 10 – 100 mm**
- **Diameter below 50 mm is typically extruded / drawn and above is it only extruded**
- **Not standard, but can be found as sheets with the thickness 1 – 10 mm**

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

Resistance
Corrosion index, general: 1
Marine atm. corr. index: 1

Hot workability
Extrusion: 2
Forging: 2

Cold formability
Cold formability general: 1
Deep drawing: 1
Bending: 1

Weldability
TIG welding: 1
MIG welding: 1

Solderability
1

Machinability
Machinability index: 3

Tips regarding machining
Tension/deformation is possible to occur

Anodizing
Decorative anodizing surface treatment: 1
Protective anodizing index: 2
Hard anodizing: 2
Color anodizing: 1