

General characteristics

>> Alloy 2011 <<

Extrusion Aluminium alloy, with Copper as alloying agent, which confers mechanical resistance. It is an alloy with excellent workability characteristics with utensils

It is mainly used in bar form, round and square
It is usually available in state T6 extruded and T3 drawn

Minimal mechanical characteristics at ambient temperature

round and square bars

State	Dimensions in mm	Rm (Nmm ²)	Rp0.2 (Nmm ²)	Hardness Hb	Elongation %
T 6	5 - 50	370	270	110	12
T 6	51 - 125	330	230	100	12
T 6	126 - 150	300	200	95	6
T 3	5 - 40	320	270	95	10
T 3	41 - 50	300	250	95	10
T 3	51 - 80	290	210	95	12

Physical characteristics

Density: 2.82 g/cm³ a 20 °C
Thermal conductivity at 20 °C: 152 W/m °C (state T0)
Modulus of elasticity: 72500 Nmm²
Fusion temperature : 540 - 645
Thermal dilatation coef. : 22.9
Hardness of main states
T3 95 Hb
state T6 110 Hb
state T8 115 Hb

Technological characteristics:

Workability at utensil machines: excellent, small chips
and excellent quality of the finishing surfaces
Formability: low
Weldability: average low (TIG – MIG)
Anodisation behaviour : low, only protective
Resistance to corrosion : low state

Typical uses

All those uses where high mechanical resistance is required as well as hardness such as screws, nuts and bolts, and heavy duty mechanical parts.

Correspondence between international designations

Alloy of the family

France	Germany	Italy	USA	Great Britain
1050A	AlCuBiPb	9002 / 5	2011	2011

Al - Cu - Bi - Pb

Chemical composition of alloy 2011 in %

Cu	Fe	Mn	Mg	Si	Zn	Bi	Ti	Ni	Pb
5 - 6	0.7	0.05	0.05	0.4	0.3	0.2 - 0.6	0.05	0.05	0.2 - 0.6