

2011 ALUMINIUM

FREE MACHINING ALUMINIUM ALLOY

PRODUCT DESCRIPTION

Known as an 'FMA' alloy (or free machining), Alloy 2011 offers excellent general machinability and is suitable for use on automatic lathes. If additional surface protection is required, anodising is recommended as the corrosion resistance of the material is poor. Though weldability is poor, 2011 is considered to be a highly versatile material as it can be used effectively in the production of detailed, complex parts since welding is not normally required.



KEY FEATURES

- Excellent machinability
- Can produce highly complex, detailed parts
- Suitable for use on automatic lathes
- Poor corrosion resistance - anodising may be required

APPLICATIONS

- Automotive components
- Machined parts, fasteners and fittings
- Weapons and munitions

MATERIAL SPECIFICATIONS

- AlCu6BiPb
- FC1
- 3.1655
- CB60
- A92011
- AlCuBiPb

AVAILABILITY

Bar

CHEMICAL COMPOSITION (weight %)

	Si	Fe	Cu	Pb	Bi	Zn	AL	Other
Min			5.0	0.2	0.2	0.3	Bal	
Max	0.4	0.7	6.0	0.4	0.6	0.3	Bal	0.15

PHYSICAL PROPERTIES

Melting Point	535°C	Density	2.82 Kg/m ³
Thermal conductivity	138 W/m.K	Thermal expansion coefficient	23 x 10 ⁻⁶
Modulus of elasticity	71 GPa		

MECHANICAL PROPERTIES

Temper	Proof Stress MPa	Tensile Strength MPa	Shear Strength MPa	Elongation A5(%)	Elongation A50(%)	Hardness Brinell HB	Hardness Vickers HB	Fatigue Endur. Limit MPa
T3	290	365	220	15	15	95	100	250
T4	270	350	210	18	18	90	95	250
T6	300	395	235	12	12	110	115	250
T8	315	420	250	13	12	115	120	250