

SPECIFICATIONS

Commercial	2011
EN	2011

Aluminium alloy 2011 is a high mechanical strength alloy that machines exceptionally well. Often called a Free Machining Alloy or 'FMA' it is well suited to use in automatic lathes.

Machining at high speeds produces fine chips that are easily removed. The excellent machining characteristics allow the production of complex and detailed parts. In some circumstances 2011 can replace free machining brass without the need for alterations to tooling.

It has poor corrosion resistance, which means parts made from 2011 tend to be anodised to provide additional surface protection.

When higher levels of corrosion resistance are required, 6262 T9 may be a suitable replacement.

Applications - 2011 is typically used in applications that require parts manufactured by repetition machining. These applications may include:

Appliance parts & trim
Automotive trim
Fasteners and fittings
Ordnance

CHEMICAL COMPOSITION

BS EN 573-3:2009
Alloy 2011

Element	% Present
Copper (Cu)	5.00 - 6.00
Bismuth (Bi)	0.20 - 0.60
Iron (Fe)	0.0 - 0.70
Lead (Pb)	0.20 - 0.40
Silicon (Si)	0.0 - 0.40
Zinc (Zn)	0.0 - 0.30
Others (Total)	0.0 - 0.15
Other (Each)	0.0 - 0.05
Aluminium (Al)	Balance

ALLOY DESIGNATIONS

Aluminium alloy 2011 also corresponds to the following standard designations and specifications **but may not be a direct equivalent:**

AlCu6BiPb
FC1
A92011
CB60
3.1655
AlCuBiPb

TEMPER TYPES

The most common tempers for 2011 aluminium extruded bar is:

- T6 - Solution heat treated and artificially aged

SUPPLIED FORMS

- Bar

GENERIC PHYSICAL PROPERTIES

Property	Value
Density	2.83 g/cm ³
Melting Point	535 °C
Thermal Expansion	22.9 x10 ⁻⁶ /K
Modulus of Elasticity	70 GPa

MECHANICAL PROPERTIES

BS EN 755-2:2008
Extruded Rod and Bar
Up to 75mm Dia.

Property	Value
Proof Stress	230 Min MPa
Tensile Strength	310 Min MPa
Hardness Brinell	110 HB
Elongation A	8 Min %

Properties above are for material in the T6 condition

WELDABILITY

Alloy 2011 has extremely poor weldability and thus welding is not recommended. However, as it is used for machined parts there is rarely a need to weld this alloy.

FABRICATION

Process	Rating
Workability - Cold	Fair
Machinability	Excellent
Weldability - Gas	Poor
Weldability - Arc	Poor
Weldability - Resistance	Poor
Brazability	Poor
Solderability	Fair

CONTACT

Address:	Please make contact directly with your local service centre, which can be found via the Locations page of our web site
Web:	www.aalco.co.uk

REVISION HISTORY

Datasheet Updated	18 July 2019
-------------------	--------------

DISCLAIMER

This Data is indicative only and as such is not to be relied upon in place of the full specification. In particular, mechanical property requirements vary widely with temper, product and product dimensions. All information is based on our present knowledge and is given in good faith. No liability will be accepted by the Company in respect of any action taken by any third party in reliance thereon.

Please note that the 'Datasheet Update' date shown above is no guarantee of accuracy or whether the datasheet is up to date.

The information provided in this datasheet has been drawn from various recognised sources, including EN Standards, recognised industry references (printed & online) and manufacturers' data. No guarantee is given that the information is from the latest issue of those sources or about the accuracy of those sources.

Material supplied by the Company may vary significantly from this data, but will conform to all relevant and applicable standards.

As the products detailed may be used for a wide variety of purposes and as the Company has no control over their use; the Company specifically excludes all conditions or warranties expressed or implied by statute or otherwise as to dimensions, properties and/or fitness for any particular purpose, whether expressed or implied.

Advice given by the Company to any third party is given for that party's assistance only and without liability on the part of the Company. All transactions are subject to the Company's current Conditions of Sale. The extent of the Company's liabilities to any customer is clearly set out in those Conditions; a copy of which is available on request.