SPECIFICATIONS

Commercial	2014A T651

A high strength 4 to 5% Copper alloy produced in extruded bar and profile form, in the fully heat-treated condition (solution heat-treated & artificially aged).Normally stocked in the T651 condition (stress relieved by controlled stretching) Except for sizes under 10mm diameter and over 203.2mm diameter. (T6 only). Over 203.mm diameter is manufactured to chemical composition Only.
Machinability of aluminium alloy 2014A is very good.
Typical applications of aluminium alloy 2014A are high strength componenets especially for use in the aerospace and defence industries.

CHEMICAL COMPOSITION

BS EN 573-3:2009
Alloy 2014

Element	% Present
Copper (Cu)	3.90 - 5.00
Manganese (Mn)	0.40 - 1.20
Silicon (Si)	0.50 - 0.90
Magnesium (Mg)	0.20 - 0.80
Iron (Fe)	0.0 - 0.50
Zinc (Zn)	0.0 - 0.25
Titanium + Zirconium (Ti+Zr)	0.0 - 0.20
Others (Total)	0.0 - 0.15
Titanium (Ti)	0.0 - 0.15
Nickel (Ni)	0.0 - 0.10
Chromium (Cr)	0.0 - 0.10
Other (Each)	0.0 - 0.05
Aluminium (Al)	Balance

TEMPER TYPES

This datasheet relates to temper T651. The most common temper for aluminium alloy 2014A are:

- T6 - Solution heat treated and artificially aged
- T3 - Solution heat treated, cold worked and naturally aged
- T6511 - Solution heat treated and stress-relieved by stretching then artificially aged with minor straightening after aging
- T651 - Solution heat treated, stress relieved by stretching then artificially aged

SUPPLIED FORMS

Round Bar is stocked in the range 1/2inch to 10inch diameter.
Plate is stokced in thicknesses 1/2inch to 4 inch.

- Bar
- Plate

GENERIC PHYSICAL PROPERTIES

Property	Value
Density	2.82 g/cm³
Melting Point	535 °C
Thermal Expansion	23 x10^{-6} /K
Modulus of Elasticity	71 GPa
Thermal Conductivity	138 W/m.K
Electrical Resistivity	0.045 x10^{-6} Ω .m

MECHANICAL PROPERTIES

BS EN 485-2:2008
Sheet
0.4mm to 6mm

Property	Value
Proof Stress	390 Min MPa
Tensile Strength	440 Min MPa
Hardness Brinell	133 HB

Properties above are for material in the T651 condition.

BS EN 485-2:2008
Plate
6mm to 12.5mm

Property	Value
Proof Stress	395 Min MPa
Tensile Strength	450 Min MPa
Elongation A50 mm	7 Min %
Hardness Brinell	135 HB

Properties above are for material in the T651 condition.

BS EN 485-2:2008
Plate
12.5mm to 40mm

Property	Value
Proof Stress	400 Min MPa
Tensile Strength	460 Min MPa
Hardness Brinell	138 HB
Elongation A	6 Min %

Properties above are for material in the T651 condition.

BS EN 485-2:2008
Plate
40mm to 60mm

Property	Value
Proof Stress	390 Min MPa
Tensile Strength	450 Min MPa
Hardness Brinell	135 HB
Elongation A	5 Min %

Properties above are for material in the T651 condition.

BS EN 485-2:2008
Plate
60mm to 80mm

Property	Value
Proof Stress	380 Min MPa
Tensile Strength	435 Min MPa
Hardness Brinell	131 HB
Elongation A	4 Min %

Properties above are for material in the T651 condition.

CORROSION RESISTANCE

Resistance to atmospheric attack:
Poor, especially when exposed to water or salt Environments.
To protect against atmospheric corrosion in storage, lightly coat with Lanolin based protective Oil.
For further information, please contact Sales Dept

WELDABILITY

Brazing & Soldering - Not recommended
Oxygen - Not recommended
Inert Gas - Not recommended
Resistance, Spot, Beam - Excellent

SURFACE TREATMENT

Anodising
- Protective - Fair
- Bright - Unsuitable
- Hard - Good
- Colour - Fair (Dark colour only)
.
Plating
- Very Good

CONTACT

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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.

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