

## Aluminium

## 2014 T6511 Bar & Extrusion

Datasheet Updated  
05 August 2021

### RANGE

Product Form	Imperial Sizes	Metric Sizes
Round Bar	3/16" - 16"	6.0mm - 50.0mm

### SPECIFICATIONS

Commercial	2014 T6511
EN	2014 T6511

A high strength aluminium alloy which retains its strength after heat treatment.

### CHEMICAL COMPOSITION

BS EN 573-3  
Alloy 2014

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

### TEMPER TYPES

This datasheet relates to temper T6511. The most common tempers for aluminium alloy 2014A are:

- T3
- T6511
- T651
- T6

### SUPPLIED FORMS

- Bar
- Extrusions

### APPLICATIONS

- High strength aerospace components
- Military vehicles
- Bridges
- Weapons manufacture
- Structural applications

### CHARACTERISTICS

- Machinability of aluminium alloy 2014A is very good.
- Resistance to atmospheric attack is poor especially when exposed to water or salt environments. To protect against atmospheric corrosion in storage, lightly coat with lanolin based protective oil.
- Good hard anodising capability
- Good strength levels after heat treatment

## MECHANICAL PROPERTIES

### BS EN 755-2

#### Profile 25mm to 75mm Wall Thickness

Property	Value
Proof Stress	415 Min MPa
Tensile Strength	460 Min MPa
Hardness Brinell	140 HB
Elongation A	7 Min %

### BS EN 755-2

#### Profile Up to 25mm Wall Thickness

Property	Value
Proof Stress	370 Min MPa
Tensile Strength	415 Min MPa
Elongation A50 mm	5 Min %
Hardness Brinell	140 HB
Elongation A	7 Min %

### BS EN 755-2

#### Tube 10mm to 40mm Wall Thickness

Property	Value
Proof Stress	400 Min MPa
Tensile Strength	450 Min MPa
Elongation A50 mm	4 Min %
Hardness Brinell	140 HB
Elongation A	6 Min %

### BS EN 755-2

#### Tube Up to 10mm Wall Thickness

Property	Value
Proof Stress	370 Min MPa
Tensile Strength	415 Min MPa
Hardness Brinell	140 HB
Elongation A	7 Min %
Elongation A50 mm	5 Min %

### BS EN 755-2

#### Bar 150mm to 200mm Dia. & A/F

Property	Value
Proof Stress	350 Min MPa
Tensile Strength	430 Min MPa
Hardness Brinell	140 HB
Elongation A	6 Min %

### BS EN 755-2

#### Bar 75mm to 150mm Dia. & A/F

Property	Value
Proof Stress	420 Min MPa
Tensile Strength	465 Min MPa
Hardness Brinell	140 HB
Elongation A	7 Min %

### BS EN 755-2

#### Bar 25mm to 75mm Dia. & A/F

Property	Value
Proof Stress	415 Min MPa
Tensile Strength	460 Min MPa
Hardness Brinell	140 HB
Elongation A	7 Min %

### BS EN 755-2

#### Rod & Bar Up to 25mm Dia. & A/F

Property	Value
Tensile Strength	415 Min MPa
Proof Stress	370 Min MPa
Hardness Brinell	140 HB
Elongation A50 mm	5 Min %
Elongation A	6 Min %

## DISCLAIMER

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