

Aluminium

6005A T6 Bar & Extrusion

Datasheet Updated
05 August 2021

SPECIFICATIONS

Commercial	6005A T6
EN	6005A T6

A medium strength, heat treatable alloy with excellent corrosion resistance.

CHEMICAL COMPOSITION

BS EN 573-3
Alloy 6005

Element	% Present
Manganese (Mn)	0.00 - 0.50
Iron (Fe)	0.00 - 0.35
Magnesium (Mg)	0.40 - 0.70
Silicon (Si)	0.50 - 0.90
Zinc (Zn)	0.00 - 0.20
Titanium (Ti)	0.00 - 0.10
Chromium (Cr)	0.00 - 0.30
Copper (Cu)	0.00 - 0.30
Manganese + Chromium (Mn+Cr)	0.12 - 0.50
Other (Each)	0.00 - 0.05
Others (Total)	0.00 - 0.15
Aluminium (Al)	Balance

ALLOY DESIGNATIONS

Aluminium alloy 6005A also corresponds to the following standard designations and specifications **but may not be a direct equivalent:**

- A96005
- AlSiMg
- AlSiMg(A)

TEMPER TYPES

The most common temper for 6005 aluminium is:

- T6

SUPPLIED FORMS

- Bar
- Tube
- Extrusions

APPLICATIONS

- Tubing for furniture
- Railway and bus profile structures
- Pylons, platforms and pipelines
- Portable ladders
- Sections where greater strength is needed than given by 6060 and 6063

CHARACTERISTICS

- Excellent weldability
- Very good bending properties
- Excellent corrosion resistance
- Suitable for anodising

MECHANICAL PROPERTIES

BS EN 755-2

Hollow Profile 5mm to 15mm Wall Thickness

Property	Value
Proof Stress	200 Min MPa
Tensile Strength	250 Min MPa
Elongation A50 mm	6 Min %
Hardness Brinell	85 HB
Elongation A	8 Min %

BS EN 755-2

Hollow Profile Up to 5mm Wall Thickness

Property	Value
Proof Stress	215 Min MPa
Tensile Strength	255 Min MPa
Elongation A50 mm	6 Min %
Hardness Brinell	85 HB
Elongation A	8 Min %

BS EN 755-2

Open Profile 10mm to 25mm Wall Thickness

Property	Value
Proof Stress	200 Min MPa
Tensile Strength	250 Min MPa
Elongation A50 mm	6 Min %
Hardness Brinell	85 HB
Elongation A	8 Min %

BS EN 755-2

Open Profile 5mm to 10mm Wall Thickness

Property	Value
Proof Stress	215 Min MPa
Tensile Strength	260 Min MPa
Elongation A50 mm	6 Min %
Hardness Brinell	85 HB
Elongation A	8 Min %

BS EN 755-2

Open Profile Up to 5mm Wall Thickness

Property	Value
Proof Stress	225 Min MPa
Tensile Strength	270 Min MPa
Elongation A50 mm	6 Min %
Hardness Brinell	90 HB
Elongation A	8 Min %

BS EN 755-2

Tube 5mm to 10mm Wall Thickness

Property	Value
Proof Stress	215 Min MPa
Tensile Strength	260 Min MPa
Elongation A50 mm	6 Min %
Hardness Brinell	85 HB
Elongation A	8 Min %

BS EN 755-2

Tube Up To 5mm Wall Thickness

Property	Value
Proof Stress	225 Min MPa
Tensile Strength	270 Min MPa
Elongation A50 mm	6 Min %
Hardness Brinell	90 HB
Elongation A	8 Min %

BS EN 755-2

Bar 50mm to 100mm Dia. & A/F

Property	Value
Proof Stress	215 Min MPa
Tensile Strength	260 Min MPa
Hardness Brinell	85 HB
Elongation A	8 Min %

BS EN 755-2

Rod & Bar 25mm to 50mm Dia. & A/F

Property	Value
Proof Stress	225 Min MPa
Tensile Strength	270 Min MPa
Hardness Brinell	90 HB
Elongation A	8 Min %

BS EN 755-2

Rod & Bar up to 25mm Dia. & A/F

Property	Value
Proof Stress	225 Min MPa
Tensile Strength	270 Min MPa
Elongation A50 mm	8 %
Shear Strength	205 MPa
Hardness Brinell	90 HB
Elongation A	10 Min %

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.

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