

Aluminium

6063A T6 Bar & Extrusion

Datasheet Updated
05 August 2021

RANGE

Product Form	Size Range	Size Range
	<i>From</i>	<i>To</i>
Flat Bar	3/8" x 1/8"	6" x 1"
Tube	3/8" OD x 16swg	6 1/2" OD x 1/4"
Channel	3/8" x 3/8" x 1/16"	10" x 3" x 3/8" x 1/2"
Tee Section	1/2" x 1/2" x 1/16"	3" x 3" x 3/8"
Equal Angle	3/8" x 3/8" x 1/16"	6" x 6" x 1/2"
Unequal Angle	3/4" x 1/4" x 1/16"	6" x 3" x 3/8"

SPECIFICATIONS

Commercial	6063 T6
EN	6063 T6

High strength architectural aluminium alloy.

CHEMICAL COMPOSITION

BS EN 573-3 Alloy 6063

Element	% Present
Manganese (Mn)	0.00 - 0.15
Iron (Fe)	0.15 - 0.35
Magnesium (Mg)	0.60 - 0.90
Silicon (Si)	0.30 - 0.60
Zinc (Zn)	0.00 - 0.15
Titanium (Ti)	0.00 - 0.05
Chromium (Cr)	0.00 - 0.15
Copper (Cu)	0.00 - 0.05
Other (Each)	0.00 - 0.05
Others (Total)	0.00 - 0.15
Aluminium (Al)	Balance

ALLOY DESIGNATIONS

Aluminium alloy 6063/6063A also corresponds to the following standard designations and specifications *but may not be a direct equivalent*:

- AA6063
- Al Mg0.7Si
- GS10
- AlMgSi0.5
- A-GS
- 3.32206
- ASTM B210
- ASTM B221
- ASTM B241 (Pipe- Seamless)
- ASTM B345 (Pipe- Seamless)
- ASTM B361
- ASTM B429
- ASTM B483
- ASTM B491
- MIL G-18014
- MIL G-18015
- MIL P-25995
- MIL W-85
- QQ A-200/9
- SAE J454
- UNS A96063
- HE19

TEMPER TYPES

The most common temper for 6063 aluminium are:

- T6

SUPPLIED FORMS

- Bar
- Tube
- Extrusions
- Rod

APPLICATIONS

- Road transport
- Rail transport
- Extreme sports equipment- Architectural applications
- Extrusions
- Window frames
- Doors
- Shop fittings
- Irrigation tubing
- In balustrading the rails and posts are normally in the T6 temper and formed elbows and bends are T4
- Hydro formed tube for chassis

CHARACTERISTICS

- High corrosion resistance
- Greater strength than 6063
- Good surface finish
- Readily suited to welding
- Easily anodised
- Good formability in the T4 condition

MECHANICAL PROPERTIES

BS EN 755-2

Rod and Bar Up to 150mm Dia. & A/F

Property	Value
Proof Stress	190 Min MPa
Tensile Strength	230 Min MPa
Elongation A50 mm	5 Min %
Hardness Brinell	80 HB
Elongation A	7 Min %

BS EN 755-2

Bar 150mm to 200mm dia. & A/F

Property	Value
Proof Stress	160 Min MPa
Tensile Strength	220 Min MPa
Hardness Brinell	80 HB
Elongation A	7 Min %

BS EN 755-2

Tube Up to 25mm Wall Thickness

Property	Value
Proof Stress	190 Min MPa
Tensile Strength	230 Min MPa
Elongation A50 mm	5 Min %
Hardness Brinell	80 HB
Elongation A	7 Min %

BS EN 755-2

Profiles Up to 10mm Wall Thickness

Property	Value
Proof Stress	190 Min MPa
Tensile Strength	230 Min MPa
Elongation A50 mm	5 Min %
Hardness Brinell	80 HB
Elongation A	7 Min %

BS EN 755-2

Profiles 10mm to 25mm Wall Thickness

Property	Value
Proof Stress	180 Min MPa
Tensile Strength	220 Min MPa
Elongation A50 mm	4 Min %
Hardness Brinell	80 HB
Elongation A	5 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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