

Aluminium

Aluminium Alloy 6063 T6 Bar & Extrusion

Datasheet Updated
18 July 2022

RANGE

Product Form	Size Range	Size Range
	<i>From</i>	<i>To</i>
Flat Bar	3/8" x 1/8"	6" x 1"
Square Box Section	1/2" x 1/2" x 16swg	4" x 4" x 1/4"
Rectangular Box Section	1" x 1/2" x 16swg	6" x 3" x 3/8"
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"
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"
Angle (Metric)	25 x 25 x 3mm, 50 x 25 x 3mm, 50 x 50 x 3mm	-
Z Section	3/4" x 1/2" x 1/16"	1 3/4" x 1" x 1/8"

CHEMICAL COMPOSITION

BS EN 573-3 Alloy 6063

Element	% Present
Manganese (Mn)	0.00 - 0.10
Iron (Fe)	0.00 - 0.35
Magnesium (Mg)	0.45 - 0.90
Silicon (Si)	0.20 - 0.60
Zinc (Zn)	0.00 - 0.10
Titanium (Ti)	0.00 - 0.10
Chromium (Cr)	0.00 - 0.10
Copper (Cu)	0.00 - 0.10
Other (Each)	0.00 - 0.05
Others (Total)	0.00 - 0.15
Aluminium (Al)	Balance

SPECIFICATIONS

Commercial	6063 T6
EN	6063 T6

One of the most popular alloys in the 6000 series and most widely known as an architectural alloy.

ALLOY DESIGNATIONS

Aluminium alloy 6063/6063A 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 tempers for 6063 aluminium are:

- O
- T6

SUPPLIED FORMS

- Bar
- Tube
- Extrusions
- Rod

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
- Medium strength
- Good surface finish
- Readily suited to welding
- Easily anodised
- Good formability in the T4 condition

MECHANICAL PROPERTIES

To BS EN 755-2

Rod & Bar Up To 150mm Dia. & A/F

Property	Value
Proof Stress	170 Min MPa
Tensile Strength	215 Min MPa
Hardness Brinell	75 HB
Elongation A	10 Min %
Elongation A50 mm	8 Min %

To BS EN 755-2

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

Property	Value
Proof Stress	160 Min MPa
Tensile Strength	195 Min MPa
Hardness Brinell	75 HB
Elongation A	10 Min %

BS EN 755-2

Tube Up To 25mm Wall Thickness

Property	Value
Proof Stress	170 Min MPa
Tensile Strength	215 Min MPa
Elongation A50 mm	8 Min %
Hardness Brinell	75 HB
Elongation A	10 Min %

BS EN 755-2

Profiles Up to 10mm Wall Thickness

Property	Value
Proof Stress	170 Min MPa
Tensile Strength	215 Min MPa
Elongation A50 mm	6 Min %
Hardness Brinell	75 HB
Elongation A	8 Min %

BS EN 755-2

Profiles 10mm to 25mm Wall Thickness

Property	Value
Proof Stress	160 Min MPa
Tensile Strength	195 Min MPa
Elongation A50 mm	6 Min %
Hardness Brinell	75 HB
Elongation A	8 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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