

# ALUMINIUM ALLOY: 6063A T6 EXTRUSIONS

## TECHNICAL DATA SHEET

### DESCRIPTION:

Aluminium Alloy 6063A is a medium/high strength alloy commonly referred to as an architectural alloy. Normally used within intricate extrusions, it has a good surface finish, high corrosion resistance, is readily suited to welding and can be easily anodised. Alloy 6063A is used within the manufacture of JWD's range of gutters, pipes and T-bars.

### CHEMICAL COMPOSITION:

BS EN 573-3:2009 - Alloy 6063

Element	% Present
Magnesium (Mg)	0.60 - 0.90
Silicon (Si)	0.30 - 0.60
Iron (Fe)	0.15 - 0.35
Chromium (Cr)	0.0 - 0.15
Others (Total)	0.0 - 0.15
Zinc (Zn)	0.0 - 0.15
Manganese (Mn)	0.0 - 0.15
Other (Each)	0.0 - 0.05
Copper (Cu)	0.0 - 0.05
Titanium (Ti)	0.0 - 0.05
Aluminium (Al)	Balance

### ALLOY DESIGNATIONS:

Aluminium alloy 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\* / ASTM B345\* / 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 \*(Pipe-Seamless)

### TEMPER TYPES:

Our standard temper for 6063A aluminium is T6 (solution heat treated and artificially aged).

### PHYSICAL PROPERTIES:

Property	Value
Density	2.70 g/cm <sup>3</sup>
Melting Point	600°C
Thermal Expansion	23.5 x 10 <sup>-6</sup> /K
Modulus of Elasticity	69.5 GPa
Thermal Conductivity	200 W/m.K
Electrical Resistivity	0.035 x10 <sup>-6</sup> Ω .m

### MECHANICAL PROPERTIES:

BS EN 755-2:2008 - Sheet 0.2mm - 6.00mm

Property	Value
Proof Stress	120 Min MPa
Tensile Strength	190 - 230 MPa
Hardness Brinell	56 HB

### ADDITIONAL PROPERTIES:

Aluminium Alloy 6063 is suitable for all conventional welding methods. Welding wire generally should be alloy 5183 or alloy 4043. When maximum electrical conductivity is required use alloy 4043. For strength and conductivity use alloy 5346 and increase the size of the weld to compensate for the lower conductivity.

Workability - Cold: Average      Weldability: Excellent