

ALUMINIUM EXTRUSION

TYPICAL APPLICATIONS

Aerospace & Defence Components
High Technology Applications

PRODUCT DESCRIPTION

A high strength 4 to 5 % Copper alloy, produced in extruded bar and profile form, in the fully heat-treated condition (solution heat-treated and artificially aged). Normally stocked in the T6511 condition (stress relieved by controlled stretching), except sizes under 10mm diameter and over 203.2mm diameter. (T6 only). Over 203.2mm diameter can be made to chemical composition only.

General Engineering Equivalent - 2014AT6
General Engineering Euronorm - EN 573 / 755
Old BS - HE15TF (BS1474)
AECMA Euronorm - BS EN 2384, 2635

STOCK RANGE

Round Bar : 1/8" Diameter up to 12" Diameter
3.175 to 304.8mm

Flat & Squares : 1/2" X 1/4" up to 8" X 6"
12.7 X 6.35 mm to
203.2 X 152.4mm

CUT TO SIZE SAWN BLANKS

Cut to length in house to tolerances - Nil + 1.0mm

MACHINABILITY

Very good.

CORROSION RESISTANCE

Resistance to Atmospheric Attack

Poor, especially when exposed to water or salt environments. To protect against atmospheric corrosion in storage, lightly coat with Lanolin based protective oil. For further information, contact our Sales Dept / Lab.

SURFACE TREATMENT

Anodising

Protective - Fair
Bright - Unsuitable
Hard - Good
Colour - Fair (Dark Colour Only)

Plating

Very Good

Vitreous Enamelling

Unsuitable

WELDABILITY

Brazing & Soldering - Not Recommended
Oxygen - Not Recommended
Inert Gas - Not Recommended
Resistance, Spot, Beam - Excellent

PRODUCTION TOLERANCES

Manufacturing limits are as stated in the Section 5 of BS 4L100 – Tables (C1, 2, 3, 4, 5, 6, 7 & 8). For further assistance please contact our Sales Dept / Laboratory.

CHEMICAL COMPOSITION (WEIGHT %)

| | Al | Si | Fe | Cu | Mn | Mg | Zn | Ti | Ni | Ti + Zr | Others each |
|-----|-----|------|------|------|------|------|------|------|------|---------|-------------|
| Min | REM | 0.50 | | 3.90 | 0.40 | 0.20 | | | | | |
| Max | REM | 0.90 | 0.50 | 5.00 | 1.20 | 0.80 | 0.25 | 0.15 | 0.10 | 0.20 | 0.15 |

MECHANICAL PROPERTIES (MINIMA FOR T6511 UNLESS STATED)

| Size Range(mm) | | Tensile Strength | 0.2% Proof Stress | Elongation on | Elongation on |
|----------------|-------------------|------------------|-------------------|---------------------------|---------------|
| Over | Up to & Including | (MPa) | (MPa) | 5.65 √ S ₀ (%) | 50mm (%) |
| - | 2.5 (T6) | 415 | 370 | - | 6 |
| 2.5 | 10 (T6510) | 435 | 385 | - | 6 |
| 10 | 25 | 460 | 415 | 7 | - |
| 25 | 75 | 490 | 440 | 7 | - |
| 75 | 100 | 480 | 435 | 7 | - |
| 100 | 150 | 465 | 420 | 7 | - |
| 150 | 200 | 435 | 390 | 7 | - |

TECHNICAL SALES ASSISTANCE

Our resident team of qualified metallurgists and engineers will be pleased to assist further on any technical topic.

Advanced Metals International

Unit O, Stratton Business Park, London Road, Biggleswade, Bedfordshire SG18 8QB United Kingdom

Tel: +44 (0) 1767 604 710 Fax: +44 (0) 01767 315 340 Email: sales@advancedmetals.com Website: www.advancedmetals.com

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