

L156/L157/L158/L159/L166/L167

Technical Datasheet



Service. Quality. Value.

Aluminium Sheet

Applications

- Structural applications
- High strength structural components
- Aerospace fittings
- Military vehicles
- Aircraft structures and truck frames

Product Description

L156/L157/L158/L159/L166 & L167 - high strength aluminium alloy sheet which retain their strength after heat treatment. They are a 4 - 5% copper alloy and are supplied in the fully heat-treated condition (solution heat treated & artificially aged). The material offers very good machinability. The alloys are widely used in the aerospace and defence sector in the manufacture of high strength components.

Availability

Sheet

Key features:

- Heat treatable
- Good strength after heat treatment
- Easily plated
- Can be hard anodised

Tempers

| | | | |
|------------|-----------------|----|------------|
| Alloy L156 | - | T4 | Bare sheet |
| Alloy L157 | - | T6 | Bare sheet |
| Alloy L158 | Close Tolerance | T4 | Bare sheet |
| Alloy L159 | Close Tolerance | T6 | Bare sheet |
| Alloy L166 | Close Tolerance | T4 | Clad sheet |
| Alloy L167 | Close Tolerance | T6 | Clad sheet |

Corrosion Resistance

Resistance to atmospheric attack is poor.

Machinability

Very good

Chemical Composition (weight %)

| Weight (%) | Si | Fe | Cu | Zn | Mn | Mg | Ti | Others | Al |
|------------|------|------|------|------|------|------|------|--------|-----|
| min. | 0.50 | | 3.90 | | 0.40 | 0.20 | | | Bal |
| max. | 0.90 | 0.50 | 5.00 | 0.25 | 1.20 | 0.80 | 0.15 | 0.15 | Bal |

Physical Properties

| | |
|-------------------------------|-------------------------|
| Melting Point | 535°C |
| Density | 2.82 g/m ³ |
| Thermal conductivity | 138 W/m.K |
| Thermal expansion coefficient | 23 x10 ⁻⁶ /K |
| Modulus of elasticity | 71 GPa |

Mechanical Properties

| | *T4 | | *T6 | | |
|------------------|---------------|--------------------------|-------------|-------------|----------------------|
| Elongation A50mm | 6% min | 14% | 6% | 7% | 7% |
| Tensile Strength | 430 MPa (min) | 400 N/m ² min | 430 | 440 | 440 N/m ² |
| Proof Stress | 370 MPa (min) | 225 N/m ² min | 370 | 380 | 390 N/m ² |
| | | | 0.4 - 0.8mm | 0.8 - 1.6mm | 1.6 - 6.0mm |

* Properties for L156 & L158 (T4 Condition)

** Properties for L157 & L159 (T6 Condition)

UK Service Centres:

Smiths Belfast 02895 908 897
Smiths Biggleswade 01767 604 704
Smiths Birmingham 0121 728 4940
Smiths Bristol 0117 971 2800
Smiths Chelmsford 01245 466 664
Smiths Gateshead 0191 469 5428
Smiths Horsham 01403 261 981

Smiths Leeds 0113 307 5167
Smiths Manchester 0161 794 8650
Smiths Norwich 01603 789 878
Smiths Nottingham 0115 925 4801
Smiths Redruth 01209 315 512
Smiths Verwood 01202 824 347
Main Office 0845 527 3331

Quality & Testing:



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