

2011 ALUMINIUM

2011 Aluminium is a high strength alloy with good machinability. Supplied solution heat treated and artificially aged to T6 temper. 2011 has poor corrosion resistance therefore parts requiring protection are usually anodised. Not recommended for welding. Used for Fasteners, Fittings, Automotive trim

| Colour Code | Stocked Sizes |
|---|---------------------------|
| Red (Bar end) | 20 mm to 200 mm diameter. |
|  | Bar Finish |
| | Cold Drawn |

| Chemical Composition | | |
|----------------------|---------|--------|
| | Min. % | Max. % |
| Aluminium | Balance | |
| Silicon | 0 | 0.40 |
| Iron | 0.60 | 0.80 |
| Copper | 5.00 | 6.00 |
| Lead | 0.20 | 0.60 |
| Bismuth | 0.20 | 0.60 |
| Zinc | 0 | 0.30 |

| Typical Mechanical Properties: Temper T6 | |
|--|-----|
| Condition | T6 |
| Tensile Strength Mpa | 395 |
| 0.2% Proof Stress Mpa | 270 |
| Elongation on 5.65% | 17 |
| Izod Impact J | |
| Charpy Impact J | |
| Brinell Hardness HB | 97 |

*Material stocked generally in condition T
Check test certificate if critical for end use.

| Forging & Hot Working |
|------------------------|
| Heat to 288°C to 482°C |

| Cold Working |
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| Can be cold worked if necessary but must be aged heat treated to develop optimum strength |

| Heat Treatment |
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| Annealing |
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| 413°C hold for 2 to 3 hours, controlled cool at a rate of 10°C/hour to 260°C then air cool |

| Hardening |
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Heat to 524°C soaking for 3 hours then water quench

Machining

Carbide tooling is preferred. Oils should be used for heavy cutting but light cutting can be done dry. 50° top rake, 32° side rake & 10° clearance angles is recommended

Welding

Not recommended

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