

7050 Aluminium

Smiths High Performance



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Withstanding the highest loads

7050 aluminium alloy combines stress corrosion resistance and toughness with exceptional strength.

The alloy shares many similarities with 7075 aluminium, although there are subtle differences.

7050 aluminium includes increased copper, magnesium and zinc levels in the alloying mix. The alloy provides slightly improved density, toughness and corrosion resistance and benefits from exceptional strength, especially in thicker sectioned material. Such outstanding performance comes at a price - the material is unweldable, machinability is fair, and formability is poor.

However, the alloy boasts the highest strength of all aluminium and excellent fatigue resistance, high fracture toughness and high resistance to stress corrosion cracking.

Suitability:

7050 aluminium is ideal for applications subjected to significant stresses and heavy loads. The alloy offers higher electrical and thermal conductivity than 7075 and may be heat-treated and anodised.

Product Benefits:

- Exceptional strength
- Excellent fatigue resistance
- High fracture toughness
- High resistance to stress corrosion cracking (SCC)
- Tougher and more corrosion resistant than 7075

About Smiths High Performance

Smiths High Performance is a leading stockholder and supplier of high-performance engineering materials. We are material supply chain partners supporting high-technology market sectors.

Further technical data available on
the reverse of this Datasheet



Motorsport Applications:

- Anti-roll bars
- Suspension parts
- Race car wheels
- Gears & shafts
- Integral structures



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* Chemical Composition (weight, %)

	Al	Si	Fe	Cu	Mn	Mg	Cr	Zn	Zr	Ti	Others (ea)	Others (total)
Min:	Bal			2.00		1.90		5.70	0.08			
Max:	Bal	0.12	0.15	2.60	0.10	2.60	0.04	6.70	0.15	0.06	0.05	0.15

* Properties as per AMS 4050 (plate)

* Mechanical Properties

Tensile Strength	510 MPa
Yield Strength	441 MPa
Elongation A50 mm	11%

Physical Properties

Density	2.70 g/cm ³
Melting Point	494 °C
Modulus of Elasticity	70 - 80 GPa

* Properties as per AMS 4050 (plate) 6.3mm - 51mm (longitudinal)

...where performance matters...

When you purchase high-performance materials from **Smiths High Performance**, you will join some of the biggest and best global engineering companies. We are a Tier 1 supply chain partner to the world's leading motorsport companies. Our unique business structure and ethos allow us to offer services otherwise unavailable in this market sector.

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