7055 Aluminium

Smiths High Performance

High Strength Plate & Extrusions

7055 aluminium is one of the world's most highly alloyed 7000 series aluminium.

7055 aluminium alloy is particularly suited to structural applications due to the alloy's high strength.

Although the alloy was primarily developed for the aerospace sector, the material now crosses over into other high-technology industries such as motorsport. The product is available in extruded and plate form and benefits from excellent durability and corrosion resistance while offering a genuine weight-saving option thanks to the material's low density.

The alloy is also suitable for elevated-temperature applications due to good heat resistance characteristics.

Suitability in Motorsport:

Although the product offers very high strength and toughness, 7055 offers less density than other alloys and therefore represents an excellent weight reduction solution when strength is needed to be maintained. Such characteristics are a perfect fit for the motorsport sector.

Product Benefits:

- Very high strength
- High toughness
- Excellent corrosion resistance
- Good heat resistance qualities
- Low density

Motorsport Applications:

- Suspension components
- Crank arms
- Chassis parts
- Structural joints

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**.

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Further technical data available on the reverse of this Datasheet

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* Chemical Composition (weight, %)

	Al	Cr	Cu	Fe	Mg	Mn	Si	Ti	Zn	Zr	Others (each)	Others (total)
Min:	Rem		2.00		1.80				7.60	0.08		
Max:	Rem	0.04	2.60	0.15	2.30	0.05	0.10	0.06	8.40	0.25	0.05	0.15

* Properties supplied by Alcoa Inc.

* Mechanical Properties (7075 T76511 plate, 25.4mm (1") thickness)

Property	Metric	Imperial	Comments
Ultimate Tensile Strength (UTS)	593 MPa	86000 psi	LT Direction
	648 MPa	94000 psi	Longitudinal Direction
Tensile Strength (Yield)	565 MPa	82000 psi	LT Direction
	614 MPa	89000 psi	Longitudinal Direction
Elongation at Break	9.0%	9.0%	LT Direction
	12%	12%	Longitudinal Direction
Compressive Yield Strength	669 MPa	97000 psi	Longitudinal Direction
Fracture Toughness	24.2 MPa-m^{½}	22.0 MPa-m^{½}	$K_{IC,}$ T-L
	29.7 MPa-m^{½}	27.0 MPa-m^{½}	$K_{IC,}$ T-L

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...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.

Unit 3, Juno Place
Stratton Business Park
Biggleswade SG18 8XP
Tel: +44 (0)1767 604 708