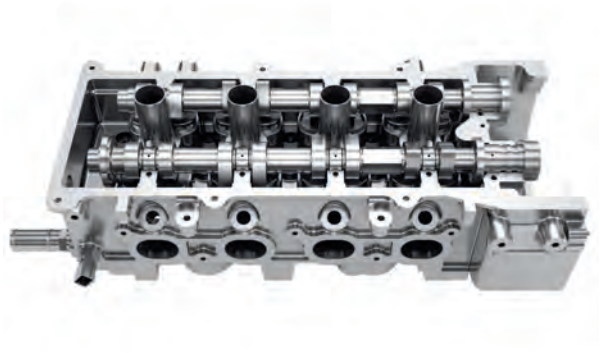
7068 Ultimate

Product Data Sheet

High Strength Aluminium Alloy

Providing the highest mechanical strength of all aluminium alloys



7068 Ultimate combines a yield strength of up to 700 MPa (up to 30% greater than that of 7075 alloy) and good ductility with corrosion resistance similar to 7075 and other features beneficial to high performance component/equipment designers.

Developed in the mid 1990's, this alloy is exclusively stocked and supplied in Europe by Smiths High Performance.

This alloy was designed as a higher strength alternative to 7075 for ordnance applications. The highly attractive overall combination of mechanical properties (retained at elevated temperatures better than 7075) and other important characteristics of 7068 Ultimate have resulted in the widespread specification of the alloy to markedly reduce the weight/cross section or significantly increase the strength of critical components in diverse market sectors.

Stock availability from 1¼ inch to 7 inch dia.

Typical Applications:

- Connecting rods
- Autosport gearbox actuators
- Automobile shock absorbers
- Fuel pumps for racing engines
- Rocker arms for racing engines
- Motorcyle gears & chain tensioners
- Bearing caps in high performance engines
- Autosport wheel components

About Smiths High Performance

Smiths High Performance is a leading stockholder and supplier of high performance engineering materials to the global motorsport sector. We are supply partners in a range of specialist motorsport markets including **Formula 1, Formula E, NASCAR, MOTO GP, WEC & WRC.**

Further technical data available on the reverse of this Datasheet

7068 Ultimate

Chemical Composition

Weight (%)	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Zr	Each	Total	Al
Min.			1.6		2.2		7.3		0.05			
Max.	0.12	0.15	2.4	0.10	3.0	0.05	8.3	0.10	0.15	0.05	0.15	Rem

Minimum Mechanical Properties for AMS 4331

Alloy	Round Bar Dia (mm)	Longitudinal Direction Rm in MPa	Rp 0.2 Mpa	Elong. 4D in %	
7068	6.35 - 76.2	683	655	5	

Minimum Guaranteed Mechanical Properties for SHP 7068 Ultimate

Alloy	Round Bar Dia (mm)	Longitudinal Direction Rm in MPa	Rp 0.2 Mpa	Elong. 4D in %	
7068	6.35 - 76.2	683	655	5	
7068	76.2 - 114.3	683	655	5	
7068	114.3 - 127.0	648	621	5	
7068	127.0 - 177.8	610	570	5	

Comparison Minimum Properties for 7075 T6511 to AMS 4154

Alloy	Round Bar Dia (mm)	Longitudinal Direction Rm in MPa	Rp 0.2 Mpa	Elong. 4D in %	
7075	6.32 - 12.67	558	503	7	
7075	12.67 - 76.17	558	496	7	
7075	76.17 - 114.27	538	483	6	
7075	114.27 - 127.0	538	469	6	

...where performance matters...

When you purchase high performance materials from **Smiths High Performance**, you will be joining 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 allows us to offer services which are otherwise unavailable in this market sector.

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

t +44 (0)1767 604708 t info@smithshp.com
f +44 (0)1767 312885 f www.smithshp.com

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