

2618A Aluminium Alloy

Product Data Sheet

Aluminium for Pistons

2618A is used in racing engine piston production and offers unique performance characteristics which make it an ideal choice.

2618A Aluminium (DTD 5014A) was one of the first aluminium alloy products sold by Smiths High Performance.

Although initially developed for aerospace applications, the product has become a popular engineering material in the motorsport sector due to the alloy's high strength. Containing copper and aluminium, Grade 2618A offers good machinability and fair corrosion resistance in atmospheric conditions. Components subjected to high operating temperatures benefit from 2618A's performance characteristics.

Supply Options

The product is available in plate, bar and tube. 2618A aluminium is popular in applications including racing engine components, pistons, chassis components and applications requiring better performance at higher temperatures. The alloy retains its mechanical strength up to 200°C and with deployment up to a maximum temperature of 300°C.

2618A Aluminium continues to be the leading engineering material for racing pistons.

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.



Benefits

- Superior mechanical strength in elevated temperatures
- Good overall strength
- Good machinability

Typical Applications:

- Pistons
- Racing engine components
- Chassis components
- High temperature service applications

Availability

Bar, plate and tube

Further technical data available on the reverse of this Datasheet

Chemical Composition (weight % for DTD 5014A)

	Al	Si	Fe	Cu	Mn	Mg	Cr	Ni	Zn	Ti+Zr	Pb+Sn	Ti
Min.	Rem		0.9	1.8		1.2		0.8				
Max.	Rem	0.25	1.4	2.7	0.2	1.8	-	1.4	0.1	0.2	0.05	0.2

Mechanical Properties (minima for T6 condition Bar/Sections - DTD 5014A)

Thickness >, mm	Thickness =/<, mm	0.2% PS, MPa	UTS, MPa	Elongation, % on 50mm
-	10	320	400	5
10	100	340	420	7

Comparison between 2618A and 4032 Aluminium Alloys

2618A	vs	4032
<p>Positives</p> <ul style="list-style-type: none"> - Stronger - More ductile - Better fatigue life - Excellent high temperature strength <p>Negatives</p> <ul style="list-style-type: none"> - Piston noise (when cold) - Slightly higher wear rate 		<p>Positives</p> <ul style="list-style-type: none"> - Excellent wear rate - Quieter (especially when cold) - Slightly lighter <p>Negatives</p> <ul style="list-style-type: none"> - Less ductile - Less fatigue strength

...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.