

2070 Aluminium Lithium

Product Datasheet

2070-T8E57 Plate Product ⁽¹⁾

2070 is a non-silver aluminium lithium plate product developed specifically for use in the motorsport sector.

This alloy plate product is designed to operate in high strength and damage tolerant applications where low density, high stiffness and excellent corrosion resistance is required.

The addition of lithium in the alloying process increases the strength and modulus of the material while lowering the density. Our aluminium lithium plates are available in thickness from 50.8mm to 165mm (2 to 6.5 inches), and we supply in the T8E57 temper.

Toughness & Fatigue

2070-T8E57 plate has shown comparable fracture toughness and fatigue (smooth and open hole) to the 7050 T7451 plate product.

Fatigue crack growth in L-T and T-L orientations across gauges is generally improved compared to 7050 T7451 plate product.

Characteristics

- Low density, high stiffness
- Excellent corrosion resistance
- Supplied in T8E57 temper
- Plate thicknesses from 50.8 to 165mm
- For motorsport applications

⁽¹⁾ 2070-T8E57 Plate is a proprietary product of Arconic Inc.



Corrosion Resistance

2070-T8E57 plate has shown excellent resistance to exfoliation corrosion and stress corrosion cracking in alternate immersion (ASTM G47) and seacoast environments.

Applications

- Racing engine components
- Racing engine blocks
- Chassis Components
- Stiffness dominated
- Suitable in gearbox and drivetrain design

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

Chemical Composition (weight = %)

	Al	Cu	Li	Zn	Mg	Mn	Zr	Ti	Fe	Si	Others (ea)	Others (total)
Min.	Rem	2.9	1.0	0.10	0.05	0.10	0.05	-	-	-	-	-
Max.	Rem	3.8	1.4	0.50	0.40	0.50	0.15	0.10	0.15	0.12	0.05	0.15

Typical Average Coefficient of Thermal Expansion

Temperature (° C)	Average Coefficient of Thermal Expansion (CTE) (µ m/m °C)	
	L-Direction	LT-Direction
25	24.5	22.6
150	27.1	25.2
180	27.2	25.5
200	27.4	25.7
220	27.9	25.9
250	28.4	26.2

Typical High-Temperature Tensile Properties*

For 130mm 2070-T8E57 Plate in Short Transverse (ST) direction. Tested at indicated temperatures after 30min exposure.

Test Temp. (° C)	0.2% PS (MPa)	UTS (Mpa)	Elongation (%)	R/A (%)
150	415	445	2	8
200	340	370	2	9
300	140	160	6	25

* Based on initial limited data

Disclaimer: All data provided represent typical properties and is for information only. Such information should not be used for specific design applications without further consultation with Arconic Application Engineering.

...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.