

Airware® 2050 (T84 Plate)

Smiths High Performance

SMITHS
HIGH PERFORMANCE

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Unrivalled Weight Saving Potential

Low-density aluminium based alloy for high performance applications.

We stock Airware® 2050 aluminium plate - a low-density aluminium based alloy which combines high strength with high damage tolerance.

The product offers unique weight-saving potential in applications requiring high strength and toughness. The material boasts higher corrosion resistance and higher modulus when compared to typical aluminium plate products. The T84 temper, achieved by routine single-step ageing treatment, provides a superior balance of excellent stress corrosion resistance and good fracture toughness. The alloy can be repeatedly recycled without loss in performance.

Machining & Weldability:

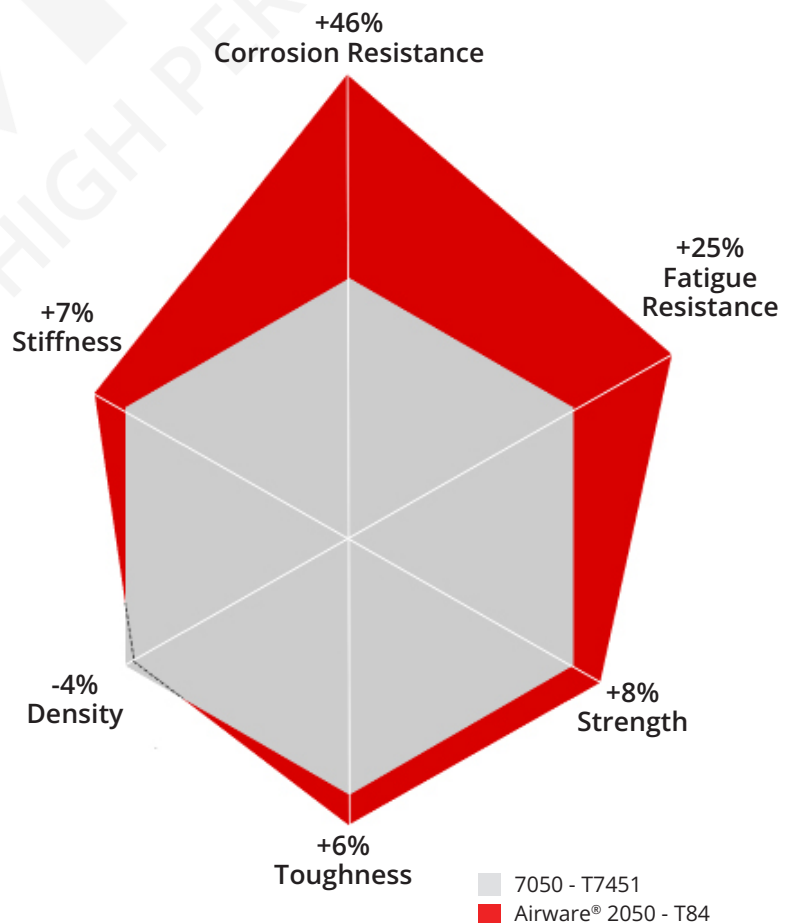
The product is machinable using standard high-speed machining techniques and thermo-mechanical treatments to ensure minimal distortion and low internal stresses. The alloy is weldable by conventional welding methods along with friction stir welding.

Typical Applications:

- Engine parts
- Turbochargers
- Structural applications
- Space sector components

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

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Chemical Composition (weight, %)

	Si	Fe	Cu	Mn	Mg	Zn	Ti	Ag	Li	Zr
Min:			3.2	0.20	0.20			0.20	0.7	0.06
Max:	0.08	0.10	3.9	0.50	0.60	0.25	0.10	0.70	1.3	0.14

Mechanical Properties

Thickness Range mm (in)	DIR		12.7 ≤ th ≤ 38.1 (0.5 ≤ th ≤ 1.5)	38.1 < th ≤ 50.8 (1.5 < th ≤ 2)	50.8 < th ≤ 76.2 (2 < th ≤ 3)	76.2 < th ≤ 101.6 (3 < th ≤ 4)	101.6 < th ≤ 127 (4 < th ≤ 5)	125 ≤ th ≤ 175 (5 < th ≤ 6.9)
Tensile Strength MPa (ksi)	L	min	503 (73)	496 (72)	496 (72)	490 (71)	490 (71)	490 (71)
Yield Strength MPa (ksi)	L	min	476 (69)	462 (67)	462 (67)	462 (67)	455 (66)	455 (66)
Elongation (%)	L	min	8	8	7	6	5	4
Toughness K1c MPa√m (ksi√in)	L-T	min	36 (33)	34 (31)	31 (28)	29 (26)	28 (25)	24 (22)
E (tension) Gpa (msi)		Typ.			76.5 (11.1)			
SCC MPa (ksi) ASTM G47	*	max	450 (65.2) *LT	350 (50.7) *ST				
Density g/cm³ (lb/in³)		Typ.	2.70 (0.098)					

Benefits:

- Low density
- High strength
- High damage tolerance
- Superior weight-saving potential
- Excellent stress corrosion resistance
- Good fracture toughness
- Good machinability and weldability
- Repetitively recyclable without performance loss



...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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