

Airware® 2196-T8511 Extrusions

DESCRIPTION

Constellium patented Airware® 2196-T8511 is a low density aluminium-based alloy developed for extruded products to provide high strength and excellent corrosion resistance. Leveraging aluminium's infinite recyclability without property losses, Airware® 2196 can be repeatedly recycled.

APPLICATIONS

Airware® 2196 extrusions are particularly suited to stiffening damage tolerant fuselage and lower wing skin. It is also used in buckling applications and recommended for inner structure parts such as floor beams and seat tracks. Its higher Young modulus allows an extra weight reduction in addition to the lower density.

MECHANICAL PROPERTIES

Thickness mm (in)	Direction	1.6 ≤ th ≤ 3.2 mm (0.063 - 0.125 in)	3.2 ≤ th ≤ 6.3 mm (0.125 - 0.249 in)	6.3 ≤ th ≤ 25 (0.25 - 1 in)
Tensile strength MPa (ksi)	L	524 (76)	524 (76)	538 (78)
Yield strength MPa (ksi)	L	476 (69)	490 (71)	490 (71)
Elongation %	L	6	7	5
Tensile Young modulus GPa (Msi)	L	76.5 (11.1)	76.5 (11.1)	76.5 (11.1)
Density g/cm ³ (lb/in ³)	-	2.63 (0.095)	2.63 (0.095)	2.63 (0.095)

(Guaranteed minimum properties)

CHEMICAL COMPOSITION LIMITS (WT %)

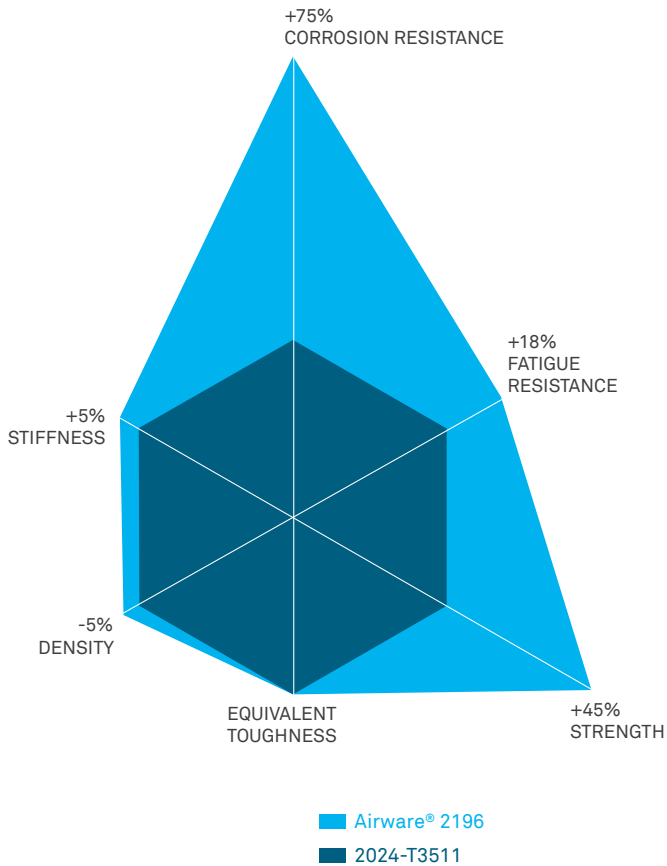
Si	0.12 max
Fe	0.15 max
Cu	2.5 - 3.3
Mn	0.35 max
Mg	0.25 - 0.8
Zn	0.35 max
Ti	0.10 max
Ag	0.25 - 0.6
Li	1.4 - 2.1
Zr	0.04 - 0.18

(According to The Aluminium Association)

TEMPER

T8511 temper uses a standard aging treatment allowing age forming.

MATERIAL PERFORMANCE



EASE OF MANUFACTURING

Airware® 2196 can be welded using conventional processes (e.g. Laser Beam Welding) as well as Friction Stir Welding technologies.

It is also age formable.

Constellium patented recycling process permits 100% recycling of off-cuts and machining chips resulting from the manufacturing process.

AVAILABILITY

Airware® 2196 is available in the thickness range of 1.0 to 32.0 mm (0.04 to 1.26 in).

PROCUREMENT SPECIFICATIONS

Airware® 2096 is covered by AMS4416 and MMPDS in the thickness range of 1.6 to 25.0 mm (0.06 to 1.0 in).

Material Safety Data Sheet, A and B-values and a full data package are available on request.

INFORMATION

For additional information, please contact us via email : salesat@constellium.com.

The present brochure is not contractual, and shall, in no way, incur the liability of Constellium on account of the information contained herein. This information is given purely as a guide ; it is up to the readers to check that it is accurate and to consult Constellium and other specialists before use.

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