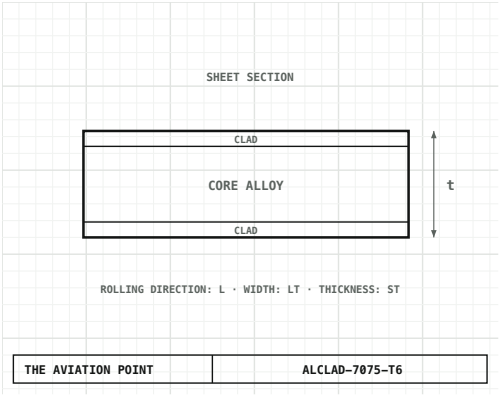
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Alclad 7075-T6 — wrought aluminum alloy

7075-T6 with a corrosion-resistant layer on each face.



Schematic

Designation

Item	Value
Designation	Alclad 7075-T6
Class	Aluminum
Type	wrought aluminum alloy

Composition

Element	Limit
Si	0.40
Fe	0.50
Cu	1.2–2.0
Mn	0.30
Mg	2.1–2.9
Cr	0.18–0.28
Zn	5.1–6.1
Ti	0.20
Al	Remainder

Limits for the core alloy. A single number is a maximum. Source: Aluminum Association Teal Sheets (Aug 2018).

Specifications and forms

Specification	Form
AMS 4049	Clad sheet and plate
AMS-QQ-A-250/13, /25	Clad sheet and plate

Specifications as listed by MIL-HDBK-5J. Federal QQ-A specifications passed to SAE as AMS-QQ-A. Check the current revision.

Properties

Property	Value	Source
Ftu, L, A basis, 0.063–0.187 in	74 ksi (bare 7075-T6 sheet 0.040–0.125 in: 78 ksi)	MIL-HDBK-5J Tables 3.7.6.0(c1), (b1)
Density	0.101 lb/in³ (2.81 g/cm³)	MIL-HDBK-5J
Cladding, plate	1½ % nominal per side	MIL-HDBK-5J Table 3.7.6.0(c5)
Bend radius, 0.064" sheet	4t – 6t, slightly less if clad	AC 43.13-1B Table 4-6
Welding	Do not weld	AC 43.13-1B par. 4-89d

The 1½ percent appears in the note to a plate table. For sheet, check the specification.

Design allowables, Alclad 7075-T6 sheet

Property, ksi	0.040–0.062 A	0.040–0.062 B	0.063–0.187 A	0.063–0.187 B
Ftu, L	71	75	74	77
Ftu, LT	71	75	74	77
Fty, L	63	66	66	69
Fty, LT	61	64	64	67
Fcy, L	62	65	65	68
Fcy, LT	65	68	68	71
Fsu	42	45	44	46
Fbru, e/D = 1.5	110	116	115	119

Reference data. The aircraft manufacturer's documentation (SRM / IPC) takes precedence.

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Property, ksi	0.040-0.062 A	0.040-0.062 B	0.063-0.187 A	0.063-0.187 B
Fbru, e/D = 2.0	142	150	148	154
Fbry, e/D = 1.5	91	96	96	100
Fbry, e/D = 2.0	106	112	112	117

T6, thickness in inches, AMS 4049, MIL-HDBK-5J Table 3.7.6.0(c1), p. 3-375. The 0.063-0.187 A value for Ftu LT is S basis. S, A and B are the MIL-HDBK-5J statistical bases. L is the longitudinal grain direction, LT the long transverse. Bearing values are dry-pin values.

Bend radii (AC 43.13-1B Table 4-6)

Alloy and temper	0.016"	0.032"	0.064"	0.128"	0.182"	0.258"
7075-O	0	0 – 1t	0 – 1t	½t – 1½t	1t – 2t	1½t – 3t
7075-T6	2t – 4t	3t – 5t	4t – 6t	5t – 7t	5t – 7t	6t – 10t

Recommended radii for 90-degree bends, as multiples of sheet thickness t. Alclad sheet may go slightly tighter than bare (Table 4-6 note 1). The drawing or SRM governs.

Minimum bend radius, inches (AMT Handbook Chart 204)

Alloy and temper	0.020"	0.032"	0.040"	0.063"	0.125"	0.190"
7075-T6	.12	.19	.22	.31	.88	1.38

Selected thicknesses from FAA-H-8083-31B Chart 204, p. 4-61. Chart 204 and AC Table 4-6 do not agree everywhere: where they differ, use the larger radius or the SRM.

Forms and thicknesses in stock

Distributor sheet	Listed	Thickness, in
7075T6 Alclad Aluminum Sheet	0.025"–0.125" · Alclad · lb/ft²	.025, .032, .040, .050, .063, .125

As distributors list them, not a statement of what a specification allows.

Weight by thickness

Thickness, in	mm	lb/ft²	kg/m²
0.025	0.64	0.364	1.78
0.032	0.81	0.466	2.28
0.040	1.02	0.582	2.84
0.050	1.27	0.727	3.55
0.063	1.60	0.916	4.47
0.125	3.17	1.820	8.89

Weight as a distributor lists it. Kilograms and millimetres converted.

Notes

- **Not a source of design allowables.** Values are for reference. MMPDS and the SRM govern a repair.
- **Not a substitution approval.** A different alloy or temper needs approved data.
- **Not for welding.** AC par. 4-89d.

SOURCES · FAA AC 43.13-1B CHG 1, Chapters 4 and 7 · FAA-H-8083-31B, AMT Handbook — Airframe, Volume 1, Chapter 4 · MIL-HDBK-5J, Chapter 3 · Aluminum Association, International Alloy Designations, rev. Aug 2018 · MMPDS · Distributor listings

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Reference data. The aircraft manufacturer's documentation (SRM / IPC) takes precedence.