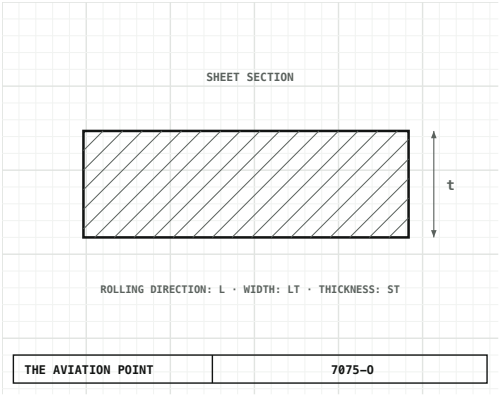
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7075-O — wrought aluminum alloy

7075 in the annealed condition.



Schematic

Designation

Item	Value
Designation	7075-O
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

A single number is a maximum. Other elements: 0.05 each, 0.15 total, except where the Teal Sheets say otherwise. Source: Aluminum Association Teal Sheets (Aug 2018).

Specifications and forms

Specification	Form
AMS 4044, AMS 4045, AMS 4078	Bare sheet and plate
AMS-QQ-A-250/12, /24	Bare sheet and plate
AMS 4049, AMS-QQ-A-250/13, /25	Clad sheet and plate

Specifications for 7075 as listed by MIL-HDBK-5J. Confirm in the specification which tempers it delivers.

Properties

Property	Value	Source
Temper O	Annealed, recrystallized: the softest temper	AC 43.13-1B Table 4-4
Density	0.101 lb/in³ (2.81 g/cm³)	MIL-HDBK-5J; Teal Sheets
Bend radius, 0.064" sheet	0 – 1t (T6: 4t – 6t)	AC 43.13-1B Table 4-6
Allowables in O temper	None listed	MIL-HDBK-5J Section 3.7.6

The handbook's temper index for 7075 covers T6, T73 and T76 types.

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.

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

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Minimum bend radius, inches (AMT Handbook Chart 204)

Alloy and temper	0.020"	0.032"	0.040"	0.063"	0.125"	0.190"
7178-0, 2024-0, 5052-H34, 6061-T4, 7075-0	.03	.03	.06	.09	.25	.38
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.

Weight by thickness

Thickness, in	mm	lb/ft²	kg/m²
0.016	0.41	0.233	1.14
0.020	0.51	0.291	1.42
0.025	0.64	0.364	1.78
0.032	0.81	0.465	2.27
0.040	1.02	0.582	2.84
0.050	1.27	0.727	3.55
0.063	1.60	0.916	4.47
0.071	1.80	1.033	5.04
0.080	2.03	1.164	5.68
0.090	2.29	1.309	6.39
0.100	2.54	1.454	7.10
0.125	3.17	1.818	8.88

Computed for density 0.101 by our sheet weight calculator. 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 a service temper.** Do not install 7075-O where the drawing calls for T6.

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

SCAN · OPEN THIS DATA SHEET
theaviationpoint.com/parts/materials/7075-o/

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

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