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7075-O Aluminum

7075 in the annealed condition.

REFERENCE DRAWING — NOT APPROVED DATA · THE SRM ALWAYS GOVERNS

THE MARKING

ALLOY NUMBER, THEN TEMPER

2024 – T 3 51

1 2 3 4

SERIES

FIRST DIGIT: MAIN ALLOYING ELEMENT

SERIES	ELEMENT	EXAMPLES
1xxx	Aluminum, 99 % or more	1100
2xxx	Copper	2024, 2219
3xxx	Manganese	3003
5xxx	Magnesium	5052, 5086
6xxx	Magnesium and silicon	6061, 6063
7xxx	Zinc	7075, 7050

BASIC TEMPER LETTERS

AC 43.13-1B TABLE 4-4

LETTER	MEANING
F	As fabricated. No property limits
O	Annealed: the softest temper
H	Strain-hardened (non heat-treatable)
T	Heat-treated to a stable temper

PARTS LIST

#	WHAT IT SAYS
1	Alloy number: the composition
2	T: heat-treated
3	3: solution treated, cold-worked
4	51: stretched 1 to 3 % set

NOTES

1. Dimensions in inches. Do not scale: the SRM sets the values.
2. For reference. The applicable manual always governs.
3. Based on AC 43.13-1B Table 4-4, AA Teal Sheets.

REVISIONS

REV	DESCRIPTION	DATE
A	First issue	2026-10-30

The Aviation Point. Structural repair reference

TITLE: Aluminum alloy and temper code

DRAWING NO.	REV	SCALE	SHEET
TAP-DWG-047	A	NTS	1 OF 1

APPLIES TO: Wrought aluminum alloys

DO NOT SCALE DRAWING

Temper meanings from AC 43.13-1B Table 4-4. Full list: aluminum temper chart.

Key facts

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

Composition limits, weight percent

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

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

Educational reference only, not approved data. Always consult the applicable SRM, AMM, or AC 43.13-1B and your certifying authority.

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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-O	.03	.03	.06	.09	.25	.38
7075-T6	.12	.19	.22	.31	.88	1.38

Specifications and product 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

Key points

- **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 GUIDE
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