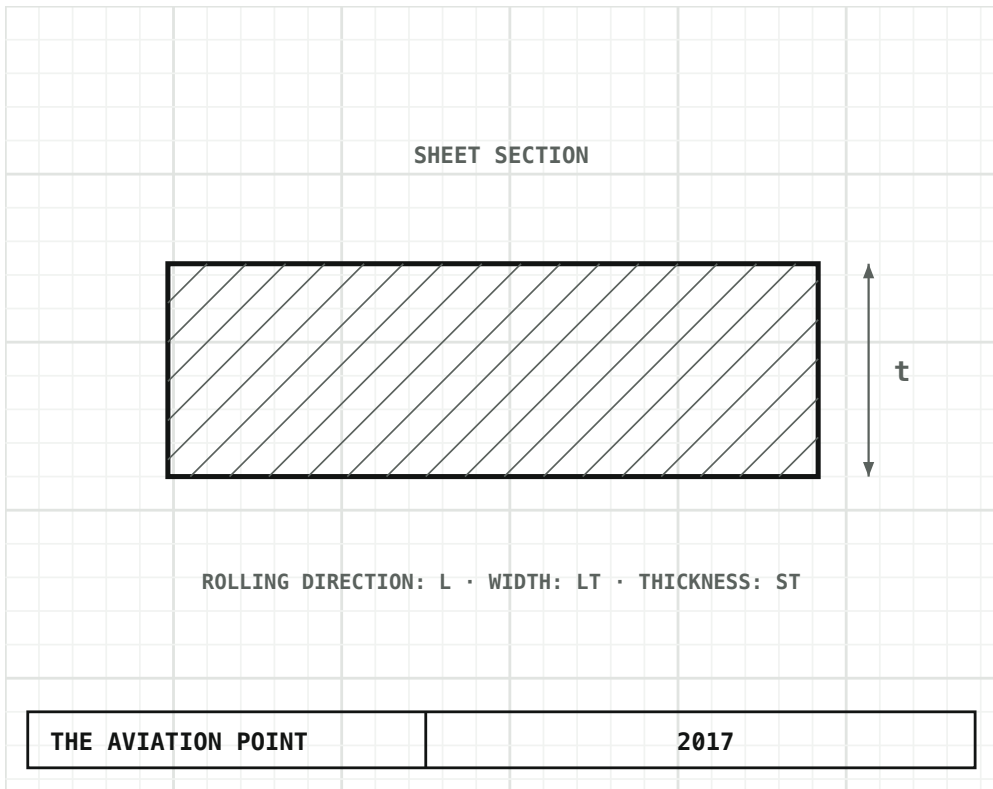
THE AVIATION POINT · THEAVIATIONPOINT.COM · THE AVIATION POINT · THEAVIATIONPOINT.COM

2017 — wrought aluminum alloy

An aluminum-copper alloy used mainly for fasteners.



Schematic

Designation

Item	Value
Designation	2017
Class	Aluminum
Type	wrought aluminum alloy

Composition

Element	Limit
Si	0.20–0.8
Fe	0.7
Cu	3.5–4.5
Mn	0.40–1.0
Mg	0.40–0.8
Cr	0.10
Zn	0.25
Ti	0.15
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-QQ-A-225/5	Rolled bar and rod
AMS 4118	Bar and rod, rolled or cold-finished

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
Density	0.101 lb/in³ (2.79 g/cm³)	MIL-HDBK-5J; Teal Sheets
Brinell hardness, O / T6	45 / 105	AC 43.13-1B Table 4-5
Rivet shear, driven 2017-T3	38 ksi	MIL-HDBK-5J Table 8.1.2(b)
Rivet shear, undriven 2017-T4	35 ksi	MIL-HDBK-5J Table 8.1.2(b)
Rivet code and head	D, raised dot	AC 43.13-1B Table 4-8
Arc / spot welding, T4	C / B	MIL-HDBK-5J Table 3.1.3.4(a)

Rivet material temper changes when driven. Use the driven value for a driven rivet.

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

THE AVIATION POINT · THEAVIATIONPOINT.COM

Design allowables, 2017 bar and rod

Property, ksi	S basis
Ftu, L	55
Fty, L	32
Fcy, L	32
Fsu	33
Fbru, e/D = 1.5	83
Fbru, e/D = 2.0	105

T4, T451 and T42, up to 8.000 in, AMS 4118 and AMS-QQ-A-225/5, MIL-HDBK-5J Table 3.2.2.0(b), p. 3-66. For T451 the Fcy may be somewhat lower. E 10.4 and Ec 10.6 × 10^3 ksi.

Weight by thickness

Thickness, in	mm	lb/ft^2	kg/m^2
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.

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/2017/

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