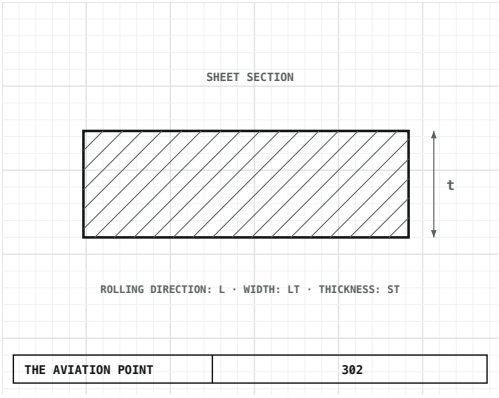
THE AVIATION POINT · THEAVIATIONPOINT.COM · THE AVIATION POINT · THEAVIATIONPOINT.COM · THE AVIATION POINT · THEAVIATIONPOINT.COM · THE AVIATION POINT · THEAVIATIONPOINT.COM · THE AVIATION POINT · THEAVIATIONPOINT.COM · THE AVIATION POINT · THEAVIATIONPOINT.COM · THE AVIATION POINT · THEAVIATIONPOINT.COM

302 — austenitic stainless steel

The original 18-8 stainless.



Schematic

Designation

Item	Value
Designation	302
Class	Steel and stainless
Type	austenitic stainless steel

Composition

Item	Limit	Source
Composition	Carbon 0.15 %, chromium 18 %, nickel 9 %: austenitic	AC 43.13-1B CHG 1, Table 4-3

Properties

Property	Value	Source
The 18-8 family	18 percent chromium, 8 percent nickel	AC 43.13-1B CHG 1, par. 4-104
Specs by temper	AMS 5516 annealed, 5903 ¼ H, 5904 ½ H, 5905 ¾ H, 5906 full hard	MIL-HDBK-5J, Table 2.7.1.0(b) footnote a
Allowables	The 301 table applies to 302 for those specifications	MIL-HDBK-5J, Table 2.7.1.0(b) footnote a

Design allowables — sheet and strip by temper (properties of AISI 301 table, applicable to 302)

Temper	Specification	Ftu L / LT, ksi	Fty L / LT, ksi	Fsu, ksi	Basis
Annealed	AMS 5516	73 / 75	26 / 30	50	S
¼ hard	AMS 5903	124 / 122	69 / 67	66	A
½ hard	AMS 5904	141 / 142	93 / 92	77	A
¾ hard	AMS 5905	157 / 163	118 / 113	88	A
Full hard	AMS 5906	174 / 175	137 / 125	95	A

Properties of the 300-series alloys that the handbook ties to Table 2.7.1.0(b) by footnote. Fsu and Ftu: Table 2.7.1.0(b), p. 2-223; E 29.0 × 10^3 ksi annealed (L and LT), falling to 26-28 ksi × 10^3 in the hard tempers; density 0.286 lb/in^3. Cold-worked tempers lose strength above 900 °F. Yield, particularly in compression, and longitudinal modulus can be raised appreciably by stress relieving at 500 to 800 °F. MIL-HDBK-5J (2003) is superseded by MMPDS.

Notes

- **Properties come from the 301 table by footnote**, not from a 302 test table.
- **Not a substitute** for the alloy on the drawing.

SOURCES · MIL-HDBK-5J, Metallic Materials and Elements for Aerospace Vehicle Structures · FAA AC 43.13-1B CHG 1 · FAA-H-8083-31B, Aviation Maintenance Technician Handbook, Airframe, Volume 1 · MMPDS

SCAN · OPEN THIS DATA SHEET
theaviationpoint.com/parts/materials/302/

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

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