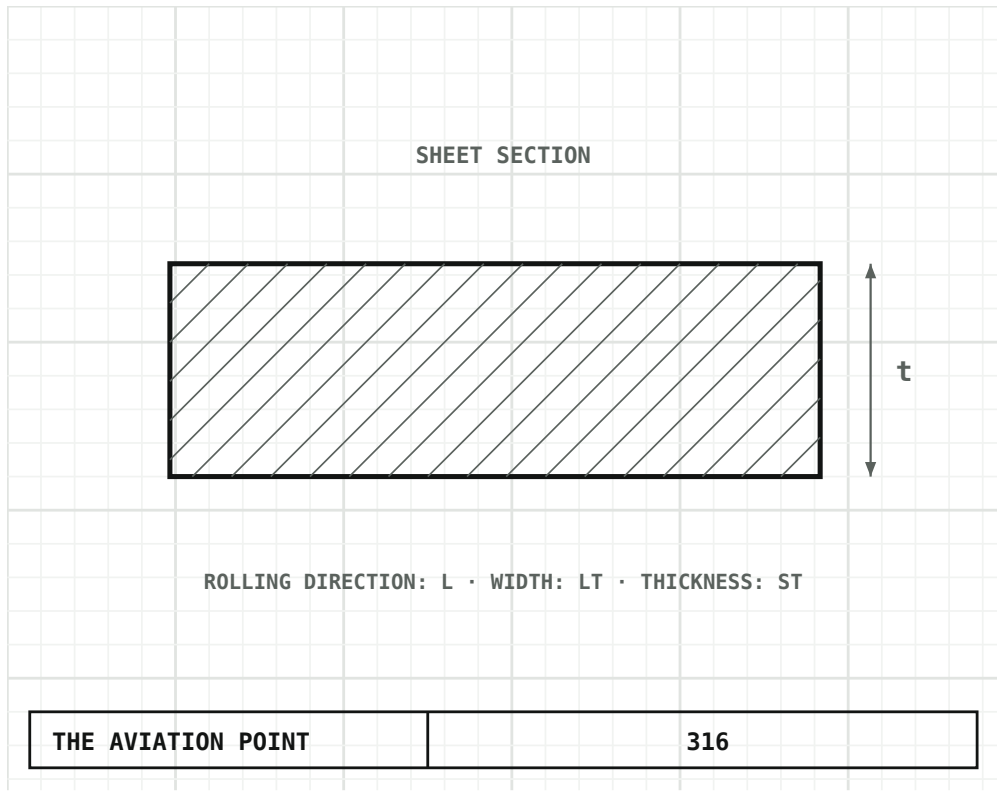
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316 — austenitic stainless steel

304 with molybdenum, chosen where chlorides are the enemy.



Schematic

Designation

Item	Value
Designation	316
Class	Steel and stainless
Type	austenitic stainless steel

Composition

Item	Limit	Source
Composition	Chromium 16.0–18.0 %, nickel 10.0–14.0 %, molybdenum 2.0–3.0 %, carbon up to 0.08 %	ASTM A240/A240M Table 1 (UNS S31600)

Properties

Property	Value	Source
Specs	AMS 5524 annealed, AMS 5907 ¼ hard	MIL-HDBK-5J, Table 2.7.1.0(b) footnote c
Allowables	The 301 table applies for those two conditions only	MIL-HDBK-5J, Table 2.7.1.0(b) footnote c
Welding rod	316L, AWS A5.9	AC 43.13-1B CHG 1, Table 4-15
Corrosion class	300 series: much more corrosion resistant than 400 series, particularly in a marine environment	AC 43.13-1B par. 6-164b

Design allowables — sheet and strip (properties of AISI 301 table, applicable to 316)

Temper	Specification	Ftu L / LT, ksi	Fty L / LT, ksi	Fsu, ksi	Basis
Annealed	AMS 5524	73 / 75	26 / 30	50	S
¼ hard	AMS 5907	124 / 122	69 / 67	66	A

Properties of the 300-series alloys that the handbook ties to Table 2.7.1.0(b) by footnote. Only annealed and ¼ hard are covered for 316. Table 2.7.1.0(b), p. 2-223.

Notes

- **Only two tempers are covered** and values are borrowed from 301.
- **Not a general upgrade to 304.** Use what the drawing says.

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 · ASTM A240/A240M, Plate, Sheet, and Strip of Chromium and Chromium-Nickel Stainless Steel

SCAN · OPEN THIS DATA SHEET
theaviationpoint.com/parts/materials/316/

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