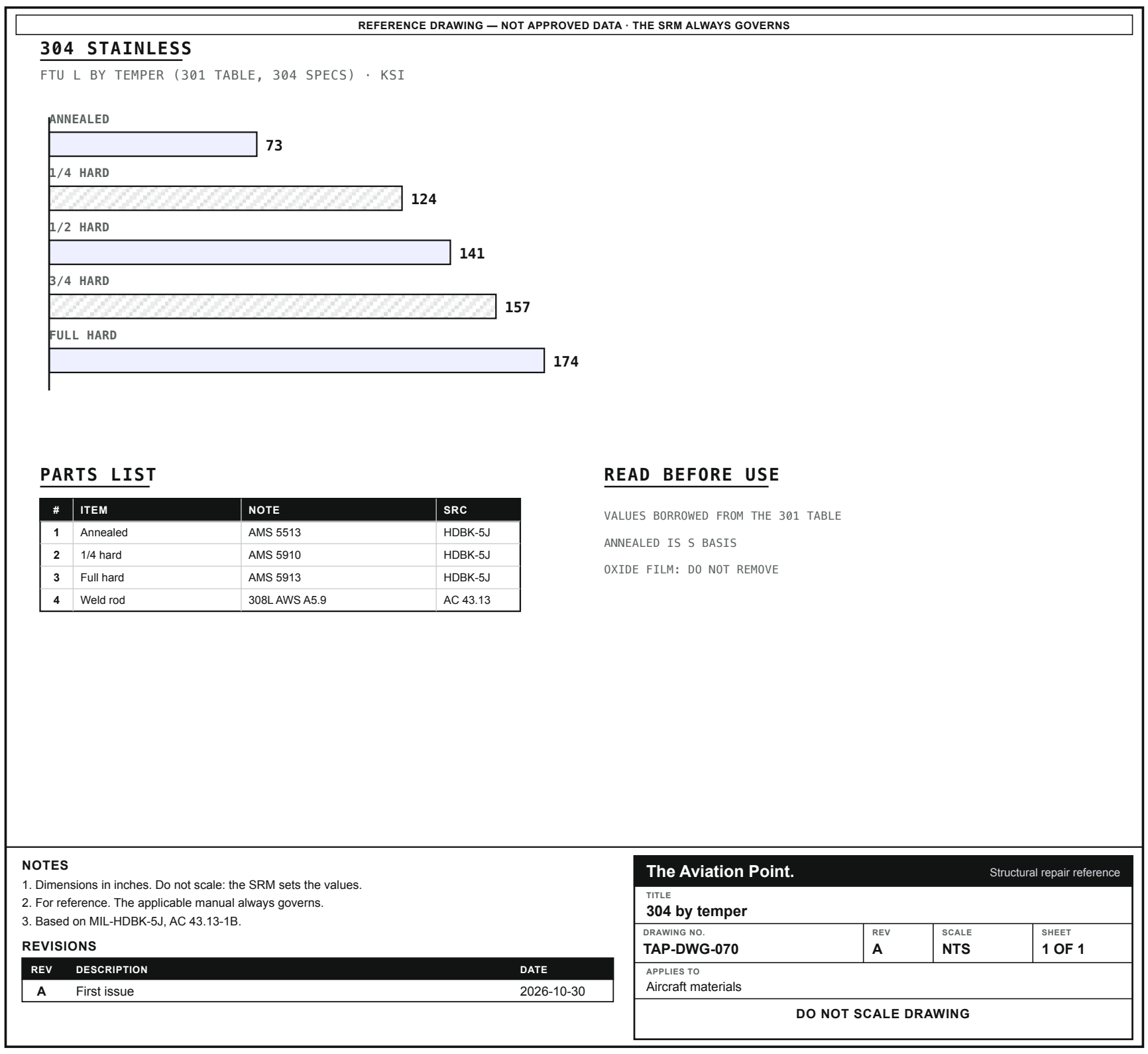
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304 Stainless Steel

The everyday 18-8 stainless.



304 stainless: Ftu L by temper (301 table, 304 specs) Values from MIL-HDBK-5J, S basis unless noted.

Key facts

Property	Value	Source
Composition	Chromium 17.5–19.5 %, nickel 8.0–10.5 %, carbon up to 0.07 %	ASTM A240/A240M Table 1 (UNS S30400)
Specs by temper	AMS 5513 annealed, 5910 ¼ H, 5911 ½ H, 5912 ¾ H, 5913 full hard	MIL-HDBK-5J, Table 2.7.1.0(b) footnote b
Allowables	The 301 table applies for those specifications	MIL-HDBK-5J, Table 2.7.1.0(b) footnote b
Welding rod	308L, AWS A5.9	AC 43.13-1B CHG 1, Table 4-15
Class	Austenitic, nonmagnetic, 300 series	AC 43.13-1B par. 6-164b

Design allowables — sheet and strip by temper (properties of AISI 301 table, applicable to 304)

Temper	Specification	Ftu L / LT, ksi	Fty L / LT, ksi	Fsu, ksi	Basis
Annealed	AMS 5513	73 / 75	26 / 30	50	S
¼ hard	AMS 5910	124 / 122	69 / 67	66	A
½ hard	AMS 5911	141 / 142	93 / 92	77	A
¾ hard	AMS 5912	157 / 163	118 / 113	88	A
Full hard	AMS 5913	174 / 175	137 / 125	95	A

Key points

- **Values come from the 301 table** by footnote.
- **Not for firewalls or hot parts by default.** Those call for the alloy on the drawing (321, 347, 301).

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

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