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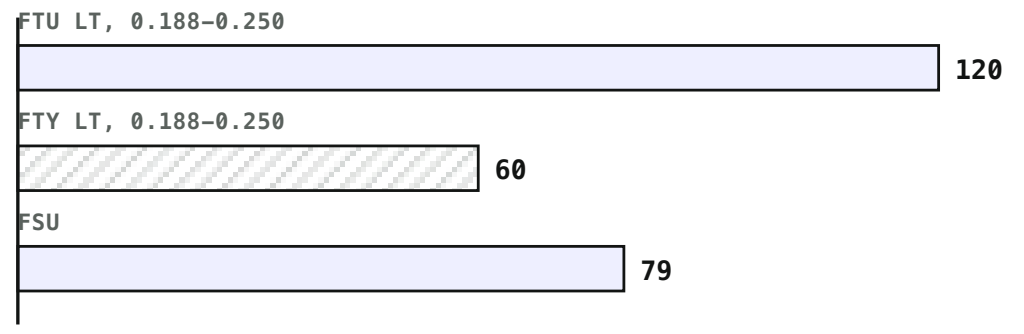
Inconel 625

The weldable nickel alloy for exhaust and powerplant structure.

REFERENCE DRAWING — NOT APPROVED DATA · THE SRM ALWAYS GOVERNS

INCONEL 625

SHEET, ANNEALED, AMS 5599 · KSI



PARTS LIST

#	ITEM	NOTE	SRC
1	Sheet, plate	AMS 5599	HDBK-5J
2	Bar, forging	AMS 5666	HDBK-5J
3	Drill	135 deg cobalt	AMT HB
4	Max RPM No.30	500	AMT HB

READ BEFORE USE

USED ANNEALED

WELDABLE

PUSH HARD, CONSTANT CHIP RATE

NOTES

1. Dimensions in inches. Do not scale: the SRM sets the values.
2. For reference. The applicable manual always governs.
3. Based on MIL-HDBK-5J, AC 43.13-1B.

REVISIONS

REV	DESCRIPTION	DATE
A	First issue	2026-10-30

The Aviation Point. Structural repair reference

TITLE			
Inconel 625			
DRAWING NO. TAP-DWG-078	REV A	SCALE NTS	SHEET 1 OF 1
APPLIES TO Aircraft materials			

DO NOT SCALE DRAWING

Inconel 625: sheet, annealed, AMS 5599 Values from MIL-HDBK-5J, S basis unless noted.

Key facts

Property	Value	Source
Type	Solid-solution, matrix-strengthened nickel-base alloy; no precipitation hardening needed	MIL-HDBK-5J, par. 6.3.3.0
Composition	Nickel 58 % min, chromium 20-23 %, molybdenum 8-10 %, niobium plus tantalum 3.15–4.15 %, iron 5 % max	Special Metals, Inconel alloy 625 bulletin, limiting chemical composition
Temperature	Corrosion and oxidation resistance to about 1,800 °F	MIL-HDBK-5J, par. 6.3.3.0
Condition	Annealed at 1,700 to 1,900 °F	MIL-HDBK-5J, par. 6.3.3.0
Sheet, strip, plate	AMS 5599, annealed	MIL-HDBK-5J, Table 6.3.3.0(a)
Bar, forging, ring	AMS 5666, annealed	MIL-HDBK-5J, Table 6.3.3.0(a)
Welding	Can be welded by common industrial practices	MIL-HDBK-5J, par. 6.3.3.0

Design allowables — Inconel 625 sheet and plate, annealed (AMS 5599)

Thickness, in	Basis	Ftu LT	Fty LT	Fsu
0.062 and under	A	120	57	79
0.063–0.109	A	120	56	79
0.110–0.140	A	120	55	79
0.141–0.187	A	119	54	79
0.188–0.250	S	120	60	79
0.251–1.000	S	120	60	—

Key points

- **Annealed values only.** Cold work before annealing changes them.
- **Powerplant material.** The engine manufacturer's manual governs any repair.

 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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SOURCES · MIL-HDBK-5J, Metallic Materials and Elements for Aerospace Vehicle Structures · FAA-H-8083-31B, Aviation Maintenance Technician Handbook, Airframe, Volume 1 · MMPDS · Special Metals, Inconel alloy 625

SCAN · OPEN THIS GUIDE
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