MATERIAL DATA SHEET

15-5PH H1025 plate, 4.75-25 mm (MIL-HDBK-5H)

Historical public-release S-basis reference for H1025 plate, conservatively combined across the applicable table bands.

Field	Value
Material ID	milhdbk-15-5ph-h1025-plate-4-75-25-mm
Category	Metal
Condition	15-5PH H1025; plate; 4.75-25.4 mm | plate
Unit system	Common SI
Unit contract	Material properties stored in SI engineering units.
Generated	2026-11-15 23:02

Source and Validity

Field	Value
Quality	Catalog record
Design release allowed	No
Source family	Government materials handbook
Confidence	Reference-grade
License	Open
Source note	Independent transcription from an official public-release U.S. government handbook.
Citation	U.S. Department of Defense, MIL-HDBK-5H, Metallic Materials and Elements for Aerospace Vehicle Structures, 1 December 1998, Table 2.6.6.0(c), PDF page(s) 218 (handbook page(s) 2-164); official DLA document record https://quicksearch.dla.mil/qsDocDetails.aspx?ident_number=53876. The official PDF carries Distribution Statement A: Approved for public release; distribution is unlimited.
Valid temperature	21 ... 21 degC (Room-temperature historical handbook values. Applicability is limited to the exact alloy, temper/condition, product form, size band, material axis, statistical basis, and specification identified by the cited table.)
Valid pressure	Pressure dependence is not represented by these solid-material reference values.
Valid phase / condition	15-5PH H1025; plate; 4.75-25.4 mm
Uncertainty	Values are historical handbook table transcriptions with explicit SI conversion. They are not a substitute for a current material specification, supplier certificate, drawing allowable, or project approval.
Last reviewed	2026-08-02
Reviewer	scripts/import_milhdbk5h_public_metals.py
Review status	Checked
Review scope	Checked official DLA document identity, Distribution Statement A, PDF hash, table/page location, alloy/condition/form/size scope, basis semantics, and SI conversions.

Field	Value
Notes	Historical reference only; design release is explicitly disabled.
License ID	US-DOD-DISTRIBUTION-STATEMENT-A
License URL	https://www.dodcui.mil/Distribution-Statements/
Attribution	U.S. Department of Defense

Material Condition

Field	Value
Condition	15-5PH H1025; plate; 4.75-25.4 mm
Temper	H1025
Heat treatment	solution treated and aged to H1025; verify AMS 5862 schedule
Product form	plate
Thickness / diameter range	0.187-1.000 in (4.75-25.4 mm)
Test direction	L and LT; the lower value across covered thickness bands is retained
Processing route	CEVM wrought precipitation-hardening stainless plate
Temperature range	21 ... 21 degC
Notes	Room-temperature historical handbook values. Applicability is limited to the exact alloy, temper/condition, product form, size band, material axis, statistical basis, and specification identified by the cited table. Historical reference only; confirm the current procurement specification and material test report.

Properties

Physical

Property	Value	Unit	Type	Applies to
Density	7833	kg/m^3	Historical Nominal	15-5PH H1025; plate; 4.75-25.4 mm; Lower listed value across the 0.187-0.625 and 0.626-2.000 in bands, limited here to 1.000 in.

Mechanical

Property	Value	Unit	Type	Applies to
Ultimate tensile strength, L	1061.793	MPa	Historical Public Release Table Value	15-5PH H1025; plate; 4.75-25.4 mm; Lower listed value across the 0.187-0.625 and 0.626-2.000 in bands, limited here to 1.000 in.; L direction
Tensile yield strength, L	985.95	MPa	Historical Public Release Table Value	15-5PH H1025; plate; 4.75-25.4 mm; Lower listed value across the 0.187-0.625 and 0.626-2.000 in bands, limited here to 1.000 in.; L direction
Ultimate tensile strength, LT	1068.687	MPa	Historical Public Release Table Value	15-5PH H1025; plate; 4.75-25.4 mm; Lower listed value across the 0.187-0.625 and 0.626-2.000 in bands, limited here to 1.000 in.; LT direction
Tensile yield strength, LT	999.74	MPa	Historical Public Release Table Value	15-5PH H1025; plate; 4.75-25.4 mm; Lower listed value across the 0.187-0.625 and 0.626-2.000 in bands, limited here to 1.000 in.; LT direction
Compressive yield strength, L	1034.214	MPa	Historical Public Release Table Value	15-5PH H1025; plate; 4.75-25.4 mm; Lower listed value across the 0.187-0.625 and 0.626-2.000 in bands, limited here to 1.000 in.; L direction
Compressive yield strength, LT	1027.319	MPa	Historical Public Release Table Value	15-5PH H1025; plate; 4.75-25.4 mm; Lower listed value across the 0.187-0.625 and 0.626-2.000 in bands, limited here to 1.000 in.; LT direction
Ultimate shear strength	668.791	MPa	Historical Public Release Table Value	15-5PH H1025; plate; 4.75-25.4 mm; Lower listed value across the 0.187-0.625 and 0.626-2.000 in bands, limited here to 1.000 in.
Elongation, LT	8	%	Historical Public Release Table Value	15-5PH H1025; plate; 4.75-25.4 mm; Lower listed value across the 0.187-0.625 and 0.626-2.000 in bands, limited here to 1.000 in.; LT direction

Property	Value	Unit	Type	Applies to
Young's modulus	196.501	GPa	Historical Nominal	15-5PH H1025; plate; 4.75-25.4 mm; Lower listed value across the 0.187-0.625 and 0.626-2.000 in bands, limited here to 1.000 in.
Compression modulus	201.327	GPa	Historical Nominal	15-5PH H1025; plate; 4.75-25.4 mm; Lower listed value across the 0.187-0.625 and 0.626-2.000 in bands, limited here to 1.000 in.
Shear modulus	77.221	GPa	Historical Nominal	15-5PH H1025; plate; 4.75-25.4 mm; Lower listed value across the 0.187-0.625 and 0.626-2.000 in bands, limited here to 1.000 in.
Poisson's ratio	0.27	-	Historical Nominal	15-5PH H1025; plate; 4.75-25.4 mm; Lower listed value across the 0.187-0.625 and 0.626-2.000 in bands, limited here to 1.000 in.

Engineering note: seed solid-material values are reference values only. Verify against the project material specification or supplier data sheet before release.