MATERIAL DATA SHEET

AA5754-H22 sheet, 1 mm (CC BY experimental)

Measured monotonic tensile properties and hardness for commercial AA5754-H22 sheet.

Field	Value
Material ID	mdpi-aa5754-h22-sheet-1mm
Category	Metal
Condition	commercial AA5754-H22 sheet used in the ultrasonic-joining study | sheet
Unit system	Common SI
Unit contract	Material properties stored in SI engineering units.
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Source and Validity

Field	Value
Quality	Experimental screening
Design release allowed	No
Source family	Experimental screening dataset
Confidence	Reference-grade
License	Open
Source note	Condition-specific base-material values from a CC BY 4.0 peer-reviewed article.
Citation	Michael Becker et al., Solid State Joining of a Cold Rolled Zr-Based Bulk Metallic Glass to a Wrought Aluminum Alloy by Power Ultrasonics, Materials 2022, 15, 7673, Table 1, https://doi.org/10.3390/ma15217673.
Valid temperature	Test temperature is not stated in the cited base-material table.
Valid pressure	Pressure dependence is not represented.
Valid phase / condition	commercial AA5754-H22 sheet used in the ultrasonic-joining study
Uncertainty	Experimental values for the study's commercial 1 mm H22 sheet; not a population minimum or EN product specification.
Last reviewed	2026-08-03
Reviewer	scripts/import_mdpi_open_aluminum_public.py
Review status	Checked
Review scope	Checked article CC BY notice, DOI and PDF hash, exact alloy/temper, source geometry, table values, and reported or measured rather than specified-minimum semantics.
Notes	Experimental values for the study's commercial 1 mm H22 sheet; not a population minimum or EN product specification.
License ID	CC-BY-4.0

Field	Value
License URL	https://creativecommons.org/licenses/by/4.0/
Attribution	Michael Becker et al.

Material Condition

Field	Value
Condition	commercial AA5754-H22 sheet used in the ultrasonic-joining study
Temper	H22
Heat treatment	work hardened by rolling and partially annealed to quarter-hard H22 condition
Product form	sheet
Thickness / diameter range	1 mm (source specimen 70 x 20 x 1 mm)
Test direction	not stated for the Table 1 monotonic tensile values
Processing route	commercial wrought sheet supplied by Hydro Aluminium
Temperature range	Test temperature is not stated in the cited base-material table.
Notes	Experimental values for the study's commercial 1 mm H22 sheet; not a population minimum or EN product specification.

Properties

Mechanical

Property	Value	Unit	Type	Applies to
Tensile yield strength	178.0	MPa	Experimental Measured Screening	AA5754-H22 sheet, 70 x 20 x 1 mm; tensile-test direction and sample statistics not stated in Table 1
Ultimate tensile strength	250.0	MPa	Experimental Measured Screening	AA5754-H22 sheet, 70 x 20 x 1 mm; tensile-test direction and sample statistics not stated in Table 1
Young's modulus	70.0	GPa	Experimental Measured Screening	AA5754-H22 sheet, 70 x 20 x 1 mm; tensile-test direction and sample statistics not stated in Table 1
Elongation	13.5	%	Experimental Measured Screening	AA5754-H22 sheet, 70 x 20 x 1 mm; tensile-test direction and sample statistics not stated in Table 1
Vickers hardness	72.0	HV1	Experimental Measured Screening	AA5754-H22 sheet, 70 x 20 x 1 mm; tensile-test direction and sample statistics not stated in Table 1

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