MATERIAL DATA SHEET

AA5182 finally annealed sheet, 1 mm, 90 degree direction (CC BY experimental)

Measured room-temperature tensile properties with 95% confidence intervals for finally annealed AA5182 sheet tested at 90 degrees to the casting direction.

Field	Value
Material ID	mdpi-aa5182-finally-annealed-sheet-1mm-90deg
Category	Metal
Condition	AA5182 sheet produced by industrial twin-roll continuous casting and thermomechanical rolling, finally annealed at 400 degC for 4 h | sheet
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	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	Kubra Dundar, Emre Altuncu, and Onur Birbasar, Deep Drawability of Al-Mg Alloys Produced by Twin Roll Continuous Casting Method: Investigation of Microstructure and Mechanical Properties, Metals 2024, 14, 1365, https://doi.org/10.3390/met14121365.
Valid temperature	20 ... 25 degC (Tensile tests were conducted at room temperature; the exact room temperature is not stated.)
Valid pressure	Pressure dependence is not represented.
Valid phase / condition	AA5182 sheet produced by industrial twin-roll continuous casting and thermomechanical rolling, finally annealed at 400 degC for 4 h
Uncertainty	Experimental averages and 95% confidence intervals for the study's AA5182 1 mm sheet tested at 90 degrees to the casting direction; the registered temper and sample count are not stated, and the values are not EN minima.
Last reviewed	2026-08-03
Reviewer	scripts/import_mdpi_open_aluminum_public.py
Review status	Checked

Field	Value
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 averages and 95% confidence intervals for the study's AA5182 1 mm sheet tested at 90 degrees to the casting direction; the registered temper and sample count are not stated, and the values are not EN minima.
License ID	CC-BY-4.0
License URL	https://creativecommons.org/licenses/by/4.0/
Attribution	Kubra Dundar

Material Condition

Field	Value
Condition	AA5182 sheet produced by industrial twin-roll continuous casting and thermomechanical rolling, finally annealed at 400 degC for 4 h
Temper	finally annealed experimental state; registered temper not stated
Heat treatment	homogenization at 500 degC for 8 h within the thermomechanical route; intermediate annealing before final thickness; final annealing at 400 degC for 4 h
Product form	sheet
Thickness / diameter range	1 mm final thickness
Test direction	90 deg relative to casting direction
Processing route	industrial twin-roll continuous casting at 6.91 mm, thermomechanical rolling with intermediate annealing, and final annealing
Temperature range	20 ... 25 degC
Notes	Experimental averages and 95% confidence intervals for the study's AA5182 1 mm sheet tested at 90 degrees to the casting direction; the registered temper and sample count are not stated, and the values are not EN minima.

Properties

Mechanical

Property	Value	Unit	Type	Applies to
Ultimate tensile strength, 90 deg	260.0	MPa	Experimental Measured Screening	AA5182 twin-roll-cast and thermomechanically processed 1 mm sheet after final annealing at 400 degC for 4 h; tensile direction 90 deg to casting direction; reported average with 95% confidence interval
Tensile yield strength, 90 deg	112.0	MPa	Experimental Measured Screening	AA5182 twin-roll-cast and thermomechanically processed 1 mm sheet after final annealing at 400 degC for 4 h; tensile direction 90 deg to casting direction; reported average with 95% confidence interval
Elongation, 90 deg	25.0	%	Experimental Measured Screening	AA5182 twin-roll-cast and thermomechanically processed 1 mm sheet after final annealing at 400 degC for 4 h; tensile direction 90 deg to casting direction; reported average with 95% confidence interval

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