MATERIAL DATA SHEET

EN AW-6101A, 5 mm plate assumed model inputs (CC BY)

Exact-grade assumed elastic model inputs for a source-identified 175 x 50 x 5 mm EN AW-6101A plate.

Field	Value
Material ID	astrj-en-aw-6101a-plate-5mm-assumed-model-inputs
Category	Metal
Condition	source-identified EN AW-6101A thin-plate workpiece and assumed computational material inputs; temper not stated | 175 x 50 x 5 mm thin rectangular plate used for modal tests and ball-end milling
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	Unknown
Design release allowed	No
Source family	peer_reviewed_open_article
Confidence	Reference-grade
License	Open
Source note	The article identifies an EN AW-6101A 175 x 50 x 5 mm plate and explicitly labels density, Young's modulus, shear modulus and Poisson ratio as assumed computational data. It does not report a temper, heat/batch, processing route, direction, direct elastic-property tests or property scatter. These values are one research model's inputs, not current EN minima, supplier guarantees or design allowables.
Citation	K. J. Kalinski, N. Stawicka-Morawska, M. A. Galewski, and M. R. Mazur, Mechatronic design techniques to predict the best clamping conditions in slender ball end milling of a flexible workpiece, Advances in Science and Technology Research Journal 20(2) (2026) 264-283, doi:10.12913/22998624/211575.
Valid temperature	The source does not state input temperature or a temperature-dependent validity range.
Valid pressure	Pressure dependence is not represented.
Valid phase / condition	source-identified EN AW-6101A thin-plate workpiece and assumed computational material inputs; temper not stated
Uncertainty	The article identifies an EN AW-6101A 175 x 50 x 5 mm plate and explicitly labels density, Young's modulus, shear modulus and Poisson ratio as assumed computational data. It does not report a temper, heat/batch, processing route, direction, direct elastic-property tests or property scatter. These values are one research model's inputs, not current EN minima, supplier guarantees or design allowables.

Field	Value
Last reviewed	2026-08-03
Reviewer	scripts/import_exact_open_aluminum_public.py
Review status	Checked
Review scope	Checked the CC BY notice, article identity, exact alloy label, source table, units, product geometry and downloaded PDF hash.
Notes	The article identifies an EN AW-6101A 175 x 50 x 5 mm plate and explicitly labels density, Young's modulus, shear modulus and Poisson ratio as assumed computational data. It does not report a temper, heat/batch, processing route, direction, direct elastic-property tests or property scatter. These values are one research model's inputs, not current EN minima, supplier guarantees or design allowables.
License ID	CC-BY-4.0
License URL	https://creativecommons.org/licenses/by/4.0/
Attribution	Kalinski, Stawicka-Morawska, Galewski, and Mazur (2026), Advances in Science and Technology Research Journal 20(2), 264-283

Material Condition

Field	Value
Condition	source-identified EN AW-6101A thin-plate workpiece and assumed computational material inputs; temper not stated
Temper	not stated
Heat treatment	not stated
Product form	175 x 50 x 5 mm thin rectangular plate used for modal tests and ball-end milling
Thickness / diameter range	5 mm plate thickness
Test direction	isotropic computational input; source does not identify material direction
Processing route	not stated; plate experimentally modal-tested and ball-end milled in an adjustable-stiffness holder
Temperature range	The source does not state input temperature or a temperature-dependent validity range.
Notes	Assumed elastic inputs for the exact EN AW-6101A plate used in the article's computational/experimental milling study.

Properties

Physical

Property	Value	Unit	Type	Applies to
Density	2700.0	kg/m^3	Source Reported Assumed Computational Input Screening	assumed computational model for the source-identified 175 x 50 x 5 mm EN AW-6101A plate
Source plate length	175.0	mm	Source Reported Assumed Computational Input Screening	assumed computational model for the source-identified 175 x 50 x 5 mm EN AW-6101A plate
Source plate width	50.0	mm	Source Reported Assumed Computational Input Screening	assumed computational model for the source-identified 175 x 50 x 5 mm EN AW-6101A plate
Source plate thickness	5.0	mm	Source Reported Assumed Computational Input Screening	assumed computational model for the source-identified 175 x 50 x 5 mm EN AW-6101A plate

Mechanical

Property	Value	Unit	Type	Applies to
Young's modulus	70.0	GPa	Source Reported Assumed Computational Input Screening	assumed computational model for the source-identified 175 x 50 x 5 mm EN AW-6101A plate
Shear modulus	26.1	GPa	Source Reported Assumed Computational Input Screening	assumed computational model for the source-identified 175 x 50 x 5 mm EN AW-6101A plate
Poisson's ratio	0.34	-	Source Reported Assumed Computational Input Screening	assumed computational model for the source-identified 175 x 50 x 5 mm EN AW-6101A plate

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