

Alloy 6082

6000 series | Reference sheet | Data checked 14 October 2026

A structural extrusion alloy used for machining stock, tubing and profiles. It is a comparison candidate for 6061, not an automatic equivalent.

Scope: Selected reference facts; incomplete alloy coverage

This reference sheet is not a material certificate, procurement specification or source of design allowables. Values apply only to their listed form, temper and condition. Confirm current requirements with the supplier and governing standard.

Forms and tempers

Forms: Extruded profiles; Rod and bar; Seamless tube

Tempers in record: O, T4, T5, T6, T6511

Selected physical properties

Density: 0.098 lb/in³

Temper: Not specified | Form: Extrusion | Condition: Temperature not specified

Basis: typical | Verification: single-source | Source: hydro6082 | Checked: 2026-10-14

Thermal conductivity: 172 W/(m·K)

Temper: T6 / T6511 | Form: Extrusion | Condition: 25 °C

Basis: typical | Verification: single-source | Source: hydro6082 | Checked: 2026-10-14

Selected mechanical properties

T6 / T6511 | Extrusion

Tensile strength	Yield / proof strength	Thickness / specimen scope
310 MPa	260 MPa	5.00-20.00 mm

Condition: Supplier reference; thickness of tensile specimen section; not a certificate or design allowable

Basis: source-minimum | Verification: single-source | Source: hydro6082 | Checked: 2026-10-14

Alloy 6082 / Composition and sources

Selected chemistry

Element	Published limit / value	Provenance
Si	0.7-1.3 wt %	Basis: composition-limit Verification: single-source Source: hydro6082 Checked: 2026-10-14
Fe	Maximum 0.5 wt %	Basis: composition-limit Verification: single-source Source: hydro6082 Checked: 2026-10-14
Cu	Maximum 0.1 wt %	Basis: composition-limit Verification: single-source Source: hydro6082 Checked: 2026-10-14
Mn	0.4-1 wt %	Basis: composition-limit Verification: single-source Source: hydro6082 Checked: 2026-10-14
Mg	0.6-1.2 wt %	Basis: composition-limit Verification: single-source Source: hydro6082 Checked: 2026-10-14
Cr	Maximum 0.25 wt %	Basis: composition-limit Verification: single-source Source: hydro6082 Checked: 2026-10-14
Zn	Maximum 0.2 wt %	Basis: composition-limit Verification: single-source Source: hydro6082 Checked: 2026-10-14
Ti	Maximum 0.1 wt %	Basis: composition-limit Verification: single-source Source: hydro6082 Checked: 2026-10-14
Other each	Maximum 0.05 wt %	Basis: composition-limit Verification: single-source Source: hydro6082 Checked: 2026-10-14
Other total	Maximum 0.15 wt %	Basis: composition-limit Verification: single-source Source: hydro6082 Checked: 2026-10-14
Al	Remainder	Basis: remainder Verification: single-source Source: hydro6082 Checked: 2026-10-14

This is selected chemistry, not a complete composition specification. Unlisted elements must not be assumed to be zero.

Applications and selection guidance

Applications: Structural profiles; Machining stock

Check section thickness and quench capability before specifying T6 for thin walls. Welding reduces local strength. Softer O or T4 conditions may be appropriate for forming.

Source register

hydro6082 | Hydro • 6082 extrusions

Revision / access scope: 2019/02 (March 2019) | Checked: 2026-10-14

https://www.hydro.com/globalassets/01-products--services/extruded-profiles/americas/ena-resources/alloy-data-sheets/hydro_2019_data_sheet_6082_revise_1.pdf

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