

Main alloys **LEIBER GROUP** - Mechanical Properties
(guide values, based on DIN EN 586-2 / Released: 01.10.2024)

Alloy (DIN EN 573-3)		Cross-sectional dimension in mm ¹	Temper (DIN EN 515)	Yield strength R _{p0.2} [MPa]		Tensile strength R _m [MPa]		Elongation at break A [%]		Hardness HBW (2,5 / 62,5) Guide value	Fatigue strength in MPa ³	Corrosion resistance ⁴	Weldabi- lity ⁴	Specific properties	Typical applications
Numerical	Chemical			from	to	from	to	from	to						
EN AW-2024	AlCu4Mg1	≤ 100	T4	260	290	420	440	8		120	140	Seawater: 5 Weather: 5	Gas: 6 TIG: 6 MIG: 6	High-strength, cold-setting alloy	Aviation and mechanical engineering
EN AW-6060	AlMgSi	≤ 100	T6	150		190		6		70	80	Seawater: 2 Weather: 1	Gas: 3 TIG: 2 MIG: 2	Weldable, good anodising property	Mechanical engineering, food industry, optical equipment, medical technology
EN AW-6061A	AlMg1SiCu	≤ 100	T6	240		260		10		90	95	Seawater: 2-3 Weather: 2	Gas: 3 TIG: 2 MIG: 1	High static & dynamic strength	Automotive, approved for contact with hydrogen
AluResist (EN AW-6061A)	AlMg1SiCu	≤ 100	T6	300	340	340	380	8	12	100	on request	Seawater: 2-3 Weather: 2	Gas: 3 WIG: 2 MIG: 1	High static and dynamic strength, good corrosion resistance	Automotive and industrial applications, approved for contact with hydrogen according to SAE J2579
EN AW-6082	AlSi1MgMn	≤ 100	T6	250	260	290	310	5	6	90	105	Seawater: 2 Weather: 1	Gas: 3 TIG: 2 MIG: 1	Resistant to seawater, weldable, good anodising property	Automotive, bicycle, mechanical engineering
AluHigh® (EN AW-6082)	AlSi1MgMn	≤ 100	T6	300	340	340	380	6	10	100	130 ⁵	Seawater: 2 Weather: 1	Gas: 3 TIG: 2 MIG: 1	High static & dynamic strength, good corrosion resistance	Automotive, bicycle, mechanical engineering (safety components)
AluMotive® (EN AW-6082)	AlSi1MgMn	≤ 100	T6	320	350	350	400	8	12	105	on request	Seawater: 2 Weather: 1	Gas: 3 TIG: 2 MIG: 1	High static & dynamic strength, Up to 50% reducti- on in CO ₂ -Footprint	Automotive, bicycle, mechanical engineering (safety components)
AluXtrem® (EN AW-6182) ²	AlSi1MgZr	≤ 100	T6	340	380	360	420	6	12	115	150 ⁵	Seawater: 2 Weather: 1	Gas: 3 TIG: 2 MIG: 1	Very high static & dynamic strength, good corrosion resistance	Automotive, bicycle, mechanical engineering (safety components)
EN AW-7022	AlZn5Mg3Cu	≤ 80	T6	420		490		5		130	on request	Seawater: 5 Weather: 4	Gas: 6 TIG: 6 MIG: 6	High static & dynamic strength	Mechanical engineering, oil-hydraulic systems
EN AW-7175 ⁶ <i>replaces</i> EN AW-7075	AlZn5,5MgCu	≤ 75	T74	380	455	450	525	4	7	135	190	Seawater: 4-5 Weather: 4-5	Gas: 6 TIG: 6 MIG: 6	Very high static & dynamic strength, elec. conductivity ≥ 22 MS/m	Aerospace, mechanical engineering, rescue systems
AluSpace® (EN AW-7175)	AlZn5,5MgCu	≤ 75	T74	450	500	480	550	6	10	140	on request	Seawater: 4-5 Weather: 4-5	Gas: 6 WIG: 6 MIG: 6	Maximum static & dynamic strength, elec. conductivity ≥ 22 MS/m	Aerospace alloy for maximum leightweight construction potential

Notes: ¹ Cross-sectional dimensions: For larger cross-sections (extruded profile or forged component) than those specified above, the mechanical properties are basically to be determined component-specific

² AluXtrem® and AluMotive® are regarded as the preferred alloys within the LEIBER Group

³ Source of the specifications for flexural fatigue strength (σ_{bm}): www.alu-schluessel.de (Status: 01.01.2023)

⁴ Corrosion + welding: Aluminium material data sheets (evaluation scale: 1 = excellent; 2 = good; 3 = acceptable; 4 = inadequate; 5 = not recommended; 6 = unsuitable)

⁵ The values for AluHigh® and AluXtrem® were determined in 2013 by an independent institute. (Further specifications, also for increased temperatures, are available on request)

⁶ Mechanical characteristic values acc. AMS (Aerospace Material Specification) for aerospace materials

Other alloys, tempers and information available on request. We will be happy to advise you. werkstofftechnik@leiber.com / www.leiber.com

