



In general, full hardening from temper T6 following forming, represents the final step in the processing cycle and thus defines the mechanical characteristics of the end product.

AMAG provides assistance with the technical and cost-efficiency optimisation of the heat treatment parameters through the determinations of suitable process windows.

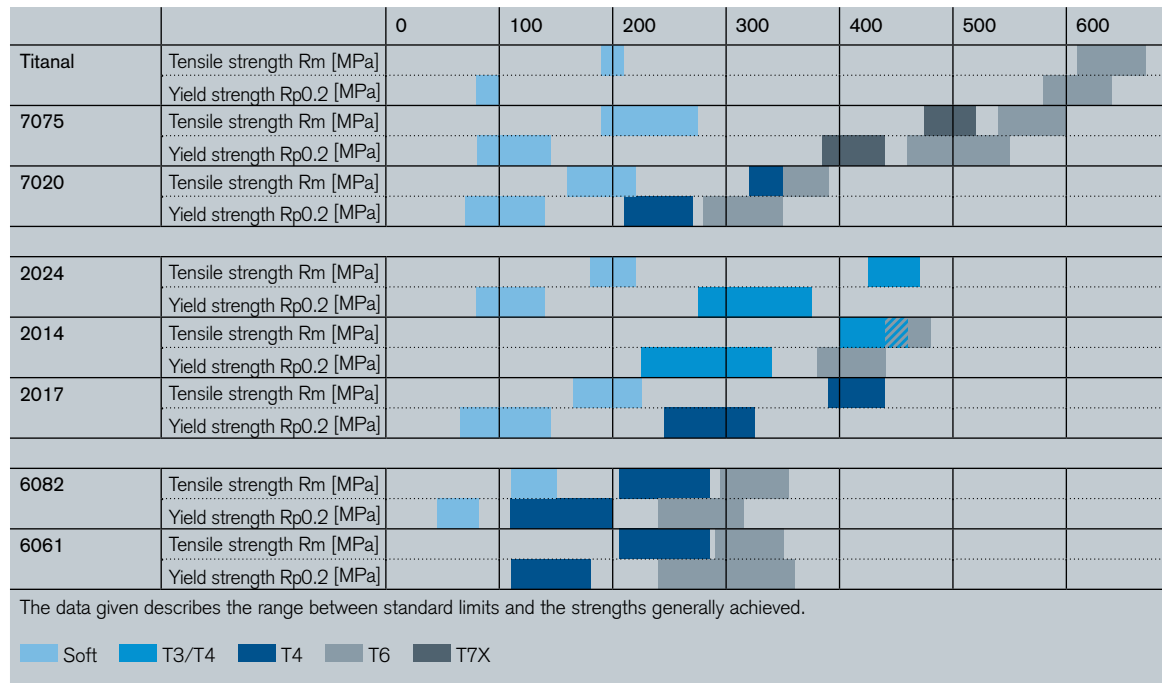
Material	Formability in a soft temper ¹⁾	Machinability ²⁾	Weldability ³⁾	Corrosion resistance
Titanal	Moderate	Very good	Moderate	Moderate
EN AW-7075 Al Zn5.5MgCu	Moderate	Very good	Moderate	Moderate
EN AW-7020 Al Zn4.5Mg1	Good	Good	Very good	Good
EN AW-2014 Al Cu4SiMg	Moderate	Very good	Poor	Moderate Only good with clad pure Al
EN AW-2017A Al Cu4MgSi(A)	Moderate	Good	Poor	Moderate Only good with clad pure Al
EN AW-2024 Al Cu4Mg1	Low	Very good	Poor	Moderate Only good with clad pure Al
EN AW-6082 Al SiMgMn]	Good	Very good	Moderate	Very good
EN AW-6061 Al Mg1SiCu	Good	Very good	Moderate	Moderate

¹⁾ Respectively only in a soft annealed temper. Formability decreases with increasing yield strength.

²⁾ In the case of heat treatable aluminium alloys in a aged temper.

³⁾ In the case of cold worked and aged hardened materials, softening occurs in the welding zone due to welding heat. The alloy AW-7020 rehardens after welding to almost full strength of temper T4.

Tensile strength and elongation limits of various alloys and tempers



Elongation at fracture A50 [%]

Material	Temper	A50 [%]
Titanal	Soft	10-20
	T6	5-12
7075	Soft	9-22
	T6	6-14
	T7x	6-13
7020	Soft	12-22
	T4	11-16
	T6	7-16
2024	Soft	11-22
	T3/T4	11-19
2014	T3/T4	12-17
	T6	6-9
2017	Soft	12-25
	T4	12-22
6082	Soft	14-35
	T4	12-25
	T6	6-19
6061	T4	12-27
	T6	6-21