

BRIEF DESCRIPTION

Thick plates in alloy Alumold[®] 600 offer the highest possible hardness and strength properties.

They are mainly used for injection molds and other types of heavily loaded tools.

The strength and hardness of Alumold[®] 600 give tools an optimum resistance to wear.

PROCESSING METHODS

Weldability TIG/MIG

- Repair welding not suited
- Assembly welding not suited

Machinability very good*

*Plates in Alumold[®] 600 are stress relieved by stretching. No further thermal treatment is recommended.

Corrosion behaviour

- moderate in inland atmosphere
- critical in marine atmosphere

Surface treatments

Anodizing:

- technical / hard possible
- decorative not suited
- Polishing excellent
- Hard chrome plating well adapted
- Chemical nickel plating well adapted
- Chemical texturing well adapted

AVAILABILITY

Alumold[®] 600 plates are available in temper T651 (quenched - stretched - aged) in the following dimensions :

Thickness (over ... to)	Standard widths
12 - 101.6 mm	1020 mm 1520 mm

(other dimensions on request)

CHEMICAL COMPOSITION

Alumold[®] 600 plates are made of a 7000 series alloy with high zinc, magnesium and copper contents.

PHYSICAL PROPERTIES (nominal values)

Density	2.86 g/cm ³
Elastic modulus	72500 MPa
Poisson's coefficient	0.33
Lin. thermal expansion coefficient (20°-100°C)	23.4 · 10 ⁻⁶ K ⁻¹
Thermal conductivity (Temper T651)	115 - 135 W/mK
Electrical conductivity at 20°C (Temper T651)	17 - 20 MS/m

MECHANICAL STRENGTH

Minimum tensile properties (Temper T651)

Thickness (over ... to)	Rm [MPa]	Rp0.2 [MPa]	A50 [%]
12 - 25.4 mm	630	580	10
25.4 - 38.1 mm	630	570	8
38.1 - 50.8 mm	600	540	6
50.8 - 76.2 mm	590	530	4
76.2 - 101.6 mm	590	530	3

Typical strength for various thicknesses

Thickness (over ... to)	Rm [MPa]	Rp0.2 [MPa]	A50 [%]	HB
12 - 25.4 mm	640	600	11	185
25.4 - 38.1 mm	640	590	9	185
38.1 - 50.8 mm	630	575	7	185
50.8 - 76.2 mm	630	575	6	185
76.2 - 101.6 mm	620	565	4	185

TOLERANCES

Thickness (over ... to ...)	Thickness tolerance	Flatness tolerances longitudinal	transverse
12 - 25.4 mm	-0 / +1 mm	0.2 %	0.3 %
25.4 - 50.8 mm	-0 / +1.5 mm	0.2 %	0.2 %
50.8 - 76.2 mm	-0 / + 2 mm	0.2 %	0.2 %
76.2 - 101.6 mm	-0 / + 2.6 mm	0.2%	0.2 %