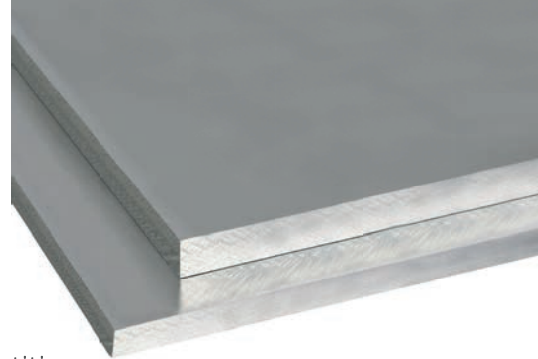




SPECIAL ALLOYS FOR MOULDS

ALUMOLD®-500

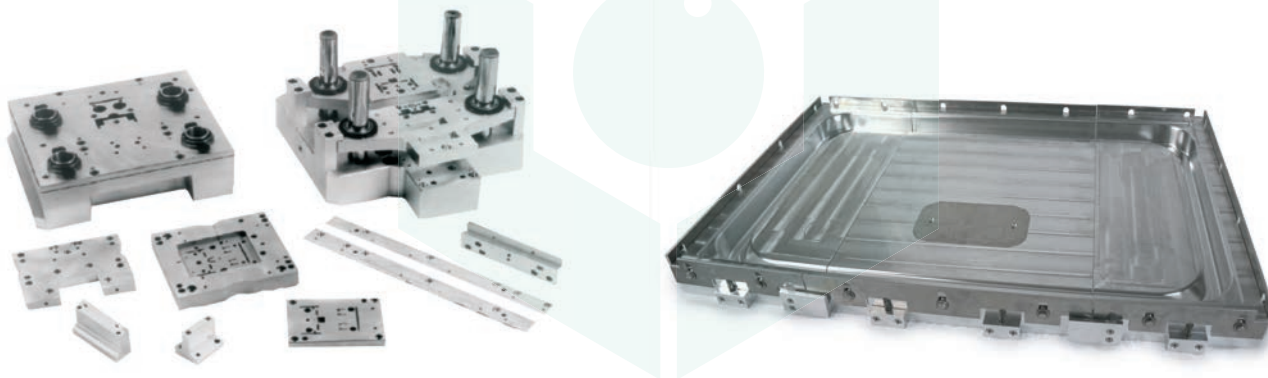
A 7000 series aluminium alloy that has successfully replaced steel in many mould applications. It combines high thermal conductivity, resistance, ease of machining and polishing, dimensional stability and consistency across the entire thickness of the plate. The use of this material results in reduced operating costs and increased production of parts. Alumold®-500 moulds should have a maximum operating temperature of 110 ° C and a partition line stress of 5000 PSI (nominal) and 7200 PSI (maximum).



CHEMICAL COMPOSITION (WEIGHT %)

ELEMENTS	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Al
Minimum	-	-	-	-	-	-	-	-	-
Maximum	0.04	0.08	1.6	-	2.4	-	6	-	Rest

Information transcribed from the supplier datasheet.



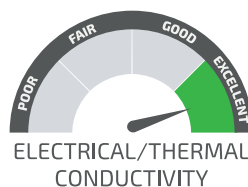
MAIN CHARACTERISTICS

- Excellent machining
- Excellent polishing
- Good dimensional stability and high mechanical properties (free of stresses)
- It is possible to weld* (TIG/MIG)
- High hardness

APPLICATIONS

- Injection-blow moulds
- Thermoformed moulds
- End baseboards
- Machine elements subject to high mechanical stresses
- Moulds for toys and automotive industry
- Industrial tools and supports
- Mechanical guides

* Welding for recharging is possible under certain conditions. The reduction of the resistance in the welding area must be considered.





MECHANICAL PROPERTIES

MINIMUM GUARANTEED VALUES

THICKNESSES (from...to)	Rm (MPa)	Rp0.2 (MPa)	A50 (%)
25 - 76.2 mm	560	504	5
76.2 - 127 mm	550	497	4
127 - 152.4 mm	540	476	2.5
152.4 - 203.2 mm	525	473	1
203.2 - 254 mm	405	455	1
254 - 305 mm	470	435	0.5

TYPICAL MECHANICAL VALUES BY DIFFERENT THICKNESSES

THICKNESSES (from...to)	Rm (MPa)	Rp0.2 (MPa)	A50 (%)	HB- BRINELL HARDNESS
25 - 76.2 mm	590	540	10	185
76.2 - 127 mm	580	530	6	185
127 - 152.4 mm	570	520	4	180
152.4 - 203.2 mm	555	510	2	180
203.2 - 254 mm	535	490	1.5	175
254 - 305 mm	510	470	1.5	175

Information transcribed from the supplier datasheet.

PHYSICAL PROPERTIES

DENSITY	2.82 g/cm ³
MODULUS OF ELASTICITY	72 000 MPa
LINEAR EXPANSION COEFFICIENT	23.7 10 ⁻⁶ K ⁻¹
THERMAL CONDUCTIVITY	153 W/mK
ELECTRICAL CONDUCTIVITY	18 - 22 MS/m

DELIVERY PROGRAM

PLATES

THICKNESSES (mm)	DIMENSIONS (mm)	PLATE WEIGHT (kg)	STOCK T651
230	1450 x 3020	2820.00	●
250	1450 x 3020	3065.30	●
300	1450 x 3020	3678.36	●

Other measures on request.

Average production weights.

ADVANTAGES OF ALUMOLD® - 500

- Three to six times higher thermal conductivity than P20 steel
- Milling three to five times faster
- Polishing up to four times faster
- Accepts surface treatments to increase hardness
- Dimensionally stable
- No additional heat treatment required
- Enables TIG/MIG welding*

* Welding for recharging is possible under certain conditions. The reduction of the resistance in the welding area must be considered.