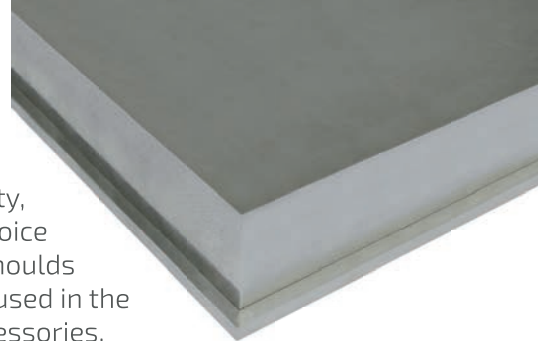




SPECIAL ALLOYS FOR MOULDS

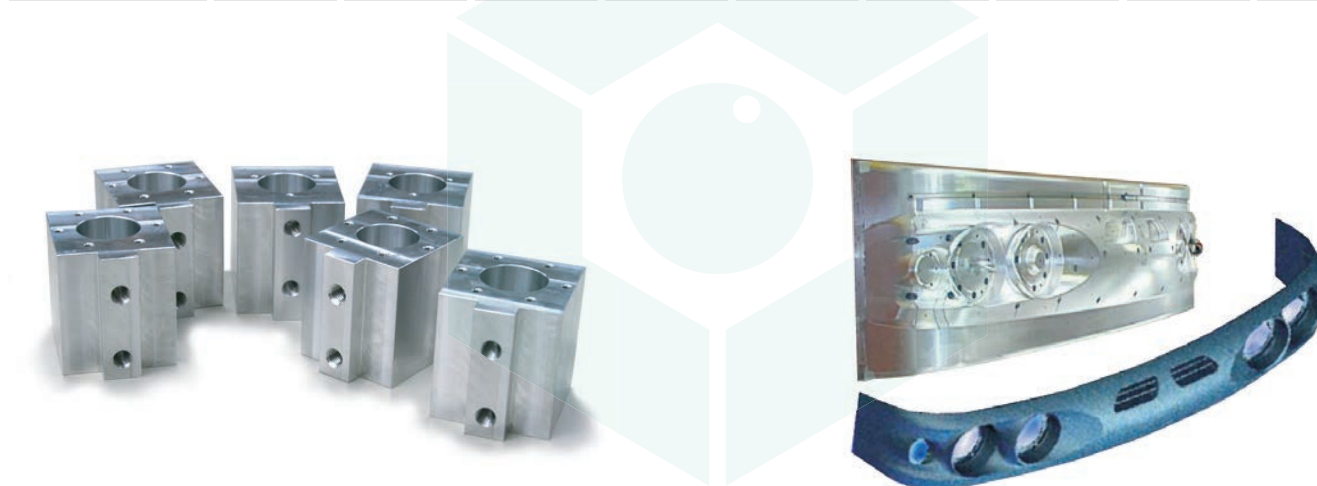
CERTAL® (Al Zn5Mg3Cu)

Certal® is an aluminium that offers a combination of excellent machinability, dimensional stability and high resistance. This makes this alloy an ideal choice in the production of industrial tools, including blow moulds and injection moulds that are used to create plastic bottles and containers. Certal® can also be used in the production of heating plates, mechanical guides, tool holders, jigs and accessories.



CHEMICAL COMPOSITION (WEIGHT %) (EN 573-3)

ELEMENTS	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti + Zr	Al
Minimum	-	-	0.5	0.1	2.6	0.1	4.3	-	-
Maximum	0.5	0.5	1.0	0.4	3.7	0.3	5.2	0.2	Rest



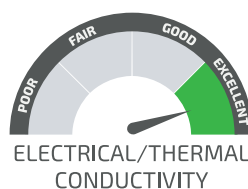
MAIN CHARACTERISTICS

- Excellent machining and 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
- Components of machines subject to high mechanical stress
- 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 (%)
7.9 - 12.5 mm	540	460	8
12.5 - 25 mm	540	460	8
25 - 50 mm	530	460	7
50 - 100 mm	500	420	6
100 - 140 mm	490	400	6

Information transcribed from the supplier datasheet.

TYPICAL MECHANICAL VALUES BY DIFFERENT THICKNESSES

THICKNESSES (from...to)	Rm (MPa)	Rp0.2 (MPa)	A50 (%)	HB - BRINELL HARDNESS
7.9 - 25 mm	555	495	9	170
25 - 100 mm	550	495	8	165
100 - 140 mm	545	490	7	165

Information transcribed from the supplier datasheet.

PHYSICAL PROPERTIES

DENSITY	2.76 g/cm ³
MODULUS OF ELASTICITY	72 000 MPa
LINEAR EXPANSION COEFFICIENT	23.6 10 ⁻⁶ K ⁻¹
THERMAL CONDUCTIVITY	120 - 150 W/mK
ELECTRICAL CONDUCTIVITY	18 - 22 MS/m

DELIVERY PROGRAM

PLATES

THICKNESSES (mm)	DIMENSIONS (mm)	PLATE WEIGHT (kg)	STOCK T651	THICKNESSES (mm)	DIMENSIONS (mm)	PLATE WEIGHT (kg)	STOCK T651
8	3020 x 1520	101.356	●	60	3020 x 1520	760.170	●
10	3020 x 1520	126.695	●	70	3020 x 1520	886.317	○
12	3020 x 1520	152.034	●	80	3020 x 1520	1013.560	○
15	3020 x 1520	190.043	●	90	3020 x 1520	1140.255	○
20	3020 x 1520	253.390	○	100	3020 x 1520	1266.950	●
25	3020 x 1520	316.738	●	110	3020 x 1400	1283.621	●
30	3020 x 1520	380.085	●	120	2520 x 1270	1059.973	○
35	3020 x 1520	449.859	●	120	3020 x 1270	1270.285	●
40	3020 x 1520	506.780	○	130	3020 x 1020	1105.248	●
45	3020 x 1520	570.128	●	140	3020 x 1020	1190.267	●
50	3020 x 1520	633.475	○				

Average production weights.

● Standard: generally available from stock
○ Semi-standard: generally not available from stock
○ Non-standard: generally not available from stock, manufactured to order and subject to special conditions.