

AA 7035

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BRIEF DESCRIPTION

AA 7035 plate and blocks are principally used to build moulds for medium and low pressure processing of plastics. The material can also be used for prototype injection moulds.

The material properties are enhanced by its stringent casting process which insures a minimal porosity throughout the thickness of the plate.

Examples of applications :

- Gas or water-assisted injection moulds
- RIM moulds (or RRIM provided an adequate surface coating)
- Thermoforming moulds (moulds temperature below 110°C)
- RTM moulds (provided an adequate surface coating)

PROCESSING METHODS

Weldability

TIG/MIG excellent
Filler alloy AA 5183
AA 5356

by resistance excellent

Anodizing

technical good
decorative not suitable

Machinability excellent

Corrosion behaviour

good in normal atmosphere
critical in marine atmosphere

AVAILABILITY

AA 7035 is available in temper T6 (solution heat treated – quenched – artificially aged) in thicknesses above 150 mm to 600 mm with following dimensions :

Thickness (over... to...) Dimensions

150 – 350 mm	1520 x 3020 mm
350 – 400 mm ¹⁾	1520 x 3020 mm
400 – 600 mm ²⁾	1450 x 2500 mm

¹⁾ Plates are supplied in rough width of 1620 mm

²⁾ Plates are supplied in rough width of 1520 mm

(other dimensions on request)

CHEMICAL COMPOSITION (weight %)

Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti + Zr
max. 0.15	max. 0.25	0.05 0.30	max. 0.10	2.5 3.5	max. 0.05	4.3 5.5	max. 0.25

PHYSICAL PROPERTIES (nominal values)

Density	2.75 g/cm ³
Elastic modulus	72000 MPa
Lin. thermal expansion coefficient (20°-100°C)	23.6 10 ⁻⁶ K ⁻¹
Thermal conductivity	150 W/mK
Electrical conductivity (20°C)	19 – 23 MS/m

MECHANICAL PROPERTIES

Guaranteed minimum tensile properties (Temper T6, at 1/4-thickness)

Thickness (over ... to)	Rm [MPa]	Rp0.2 [MPa]	A50 [%]
150 – 600 mm	310	280	1.5

Typical mechanical properties for various thicknesses (at 1/4-thickness)

Thickness (over .. to)	Rm [MPa]	Rp0.2 [MPa]	A50 [%]	HB
150 - 400 mm	345	320	3.0	135
400 - 600 mm	325	300	2.5	130

TOLERANCES

Thickness (over ... to ...) Thickness Width Tolerances Length

150 – 350 mm	+ 5 / - 0 mm	+ 8 / - 0 mm	+ 40 / - 0 mm
350 – 600 mm ¹⁾	+ 5 / - 0 mm	+ 20 / - 0 mm	+ 40 / - 0 mm

¹⁾ 400 mm thick plates are obtained by scalping the ingot; thickness tolerance is +8/-0 mm. Other thicknesses are obtained by slicing.

Thickness (over ... to) Longitudinal flatness (typical value)

150 – 350 mm	2 mm / 1000 mm
350 – 600 mm	2 mm / 1000 mm