

BRIEF DESCRIPTION

Alumold-350[®] has been specifically developed to achieve the best combination of strength at low and high temperatures, together with a good shape stability and machinability.

Alumold-350[®] is particularly suitable for plastic forming machinery operating at temperatures up to 200°C, which is the temperature for moulding of rubber and other elastomers.

PROCESSING METHODS

Weldability

- TIG/MIG filler alloy possible AA 2319
- by resistance good

Surface treatments

Anodizing

- without aesthetic aspect moderate purposes
- technical not suited

Polishing	excellent
Hard chroming	good
Nickel plating	good
Texturing	good

Machinability excellent

AVAILABILITY

Alumold-350[®] is delivered in temper T851 (quenched – stretched – artificially aged) for thicknesses up to 203.2 mm, then in temper T852 (quenched – cold compressed – artificially aged) for thicknesses up to 304.8 mm.

Available dimensions :

Thickness (over ... to)	Max. width	
	T851	T852
7.9 - 25.0 mm	2020 mm	
25.0 - 123.0 mm	2020 mm	
123.0 - 148.0 mm	1520 mm	
148.0 - 203.2 mm	1020 mm	1520 mm
203.2 - 304.8 mm		1520 mm

(other dimensions on request)

CHEMICAL COMPOSITION

Alumold-350[®] is based on alloy of the 2000 series.

PHYSICAL PROPERTIES (nominal values)

Specific weight	2.84 g/cm ³
Elastic modulus	72400 MPa
Lin. thermal expansion coefficient (20°C-100°C)	22.3 10 ⁻⁶ K ⁻¹
Thermal conductivity (temper T851)	130 W/mK
Electrical conductivity (temper T851, 20°C)	18 MS/m

MECHANICAL STRENGTH

Min. tensile properties (Temper T851/T852)

Thickness (over ... to)	Rm [MPa]	Rp0.2 [MPa]	A50 [%]
7.9 - 50.8 mm	428	317	7
50.8 - 76.2 mm	428	310	6
76.2 - 101.6 mm	414	304	5
101.6 - 127.0 mm	407	297	5
127.0 - 152.4 mm	393	290	4
152.4 - 203.2 mm	380	280	2
203.2 - 254.0 mm	355	270	1
254.0 - 305.0 mm	320	240	0.5

*only for information

Typical strength for various thicknesses

Thickness (over ... to)	Rm [MPa]	Rp0.2 [MPa]	A50 [%]	HB
7.9 - 50.8 mm	465	366	9	145
50.8 - 76.2 mm	465	366	9	145
76.2 - 101.6 mm	465	366	8	145
101.6 - 127.0 mm	460	365	7	140
127.0 - 152.4 mm	455	360	6	135
152.4 - 203.2 mm	420	330	4	125
203.2 - 254.0 mm	390	315	3	120
254.0 - 305.0 mm	360	310	2	110

TOLERANCES

Plate thickness [mm/m] (over ... to ...)	Temper	Thickness tolerance	Flatness	
			long.	transv.
7.9 - 60 mm	T851	+ 1.8 / - 0 mm	0.2	0.2
60 - 80 mm	T851	+ 2.2 / - 0 mm	0.2	0.2
80 - 100 mm	T851	+ 3.0 / - 0 mm	0.2	0.2
100 - 203.2 mm	T851	+ 3.5 / - 0 mm	0.2	0.2
152 - 305 mm	T852	+ 6.0 / - 0 mm	0.4	0.2

Heating the alloy can result in loss of strength of properties or of capability for fabrication, assembly or application in a particular case. Whenever a new application of this alloy is contemplated, and if this application involves special properties such as corrosion resistance, toughness, fatigue strength, it is strongly recommended that the user should consult the producer in order to make a precise and appropriate selection of the material.

The information in this publication does not imply a guarantee of properties or of capability for fabrication, assembly or application in a particular case. The appendix to technical datasheets is an integral part of this datasheet. The processing instructions presented in the appendix shall be taken into account by the user. Constellium Valais Ltd reserves the right to modify this data sheet without prior warning. This edition replaces all previous editions.