

AA 2219

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BRIEF DESCRIPTION

AA 2219 has been specifically developed to achieve the best combination of strength at low and high temperatures, together with a good shape stability and machinability.

AA 2219 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 possible
filler alloy 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

AA 2219 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)

PHYSICAL PROPERTIES (nominal values)

Density	2.84g/cm ³
Elastic Modulus	72400 MPa
Lin. thermal expansion coefficient (20°C-100°C)	22.3 10 ⁻⁶ K ⁻¹
Thermal conductivity	130 W/mK
Electrical conductivity	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

TOLERANCE

Plate thickness (over ... to ...)	Temper	Thickness tolerance	Flatness [mm/m] 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