Technical Datasheet

AA- 2039

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Euralco Europe BV
www.euralco.com

BRIEF DESCRIPTION

AA-2039 has been specifically developed to achieve the best combination of mechanical properties at low and high temperatures, together with a good shape stability and machinability. AA-2039 is best suited for the plastic forming machineries operating at high temperatures up to 200°C, which is the temperature for shaping of rubber and other elastomers.

PROCESSING METHODS

Weldability

- TIG/MIG possible
  With filler alloy: AA-2319
- By resistance good

Surface treatments

Anodising

- technical moderate
- decorative not adapted

Polishing excellent

Hard chroming good

Nickel plating good

Texturing good

Machinability excellent

AVAILABILITY

AA-2039 is delivered in T851-temper (quenched – stretched – artificially aged) for thicknesses up to 100 mm. Thickness greater than 100mm, AA-2039 is delivered in temper-T852 (quenched – cold compressed – artificially aged).

Thickness	Max. width
20 – 60 mm	1520 mm
60 – 100 mm	1020 mm
101 - 150 mm	1520 mm

(Other dimensions on request)

CHEMICAL COMPOSITION (weight %)

Si	Fe	Cu	Mn	Mg	Ag	Zr	Ti
max. 0.20	max. 0.30	4.50 5.50	0.20 0.40	0.40 0.80	0.05 0.50	0.10 0.25	max. 0.15

PHYSICAL PROPERTIES (nominal values)

Density	2.81 g/cm^3
Elastic modulus	72000 MPa
Lin. thermal expansion coefficient (20°-100°C)	23.5 10^{-6} K^{-1}
Thermal conductivity (Temper T851)	128 - 138 W/mK
Electrical conductivity (Temper T851, 20°C)	17 - 19 MS/m

MECHANICAL STRENGTH

Min. tensile properties (Temper T851 / EN Standard 485-2)

Thickness (over ... to)	Rm [MPa]	Rp0.2 [MPa]	A50 [%]
20 – 40 mm	470	420	7.5
40 – 80 mm	460	410	6.5
80 – 150 mm	455	405	6.0

Typical strength for various thicknesses

Thickness (over ... to)	Rm [MPa]	Rp0.2 [MPa]	A50 [%]	HB*
20 – 40 mm	510	450	8.5	155
40 – 80 mm	490	430	7.5	150
80 – 150 mm	480	420	7.0	150

* Only for information