

BRIEF DESCRIPTION

DOKIMA® rolled plates have moderate strength properties, a very low level of impurities, an excellent corrosion resistance, a very good dimensional stability and high thermal and electrical conductivity.

DOKIMA® is recommended for sensitive applications in nuclear, pharmaceutical, food, semi-conductor and telecommunication industries.



Combined with DOKIMA ENDURANCE®, Constellium's proprietary anodization process, the alloy gives an oxide layer with excellent resistance to aggressive environments.

PROCESSING METHODS

Weldability

- WIG/MIG filler alloy: excellent (AA 4043, AA 5356)
- By resistance: excellent

Anodizing

- DOKIMA ENDURANCE®: excellent
- hard / technical: excellent
- decorative: good

Machinability

excellent

Corrosion behaviour

- excellent in inland atmosphere
- good in marine atmosphere

CHEMICAL COMPOSITION (weight %)

Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti
0.20	max.	max.	max.	0.45	max.	max.	max.
0.6	0.35	0.10	0.10	0.9	0.10	0.10	0.10

Chemical composition limits according to AA 6063 (weight-%).

DOKIMA® plates are produced in a AA 6063 alloy variant with moderate magnesium and silicon levels. All other elements are tightly controlled to very low levels.

PHYSICAL PROPERTIES (nominal values)

Density	0.098 lb/in. ³
Elastic modulus	9.9·10 ⁶ psi
Lin. thermal expansion coefficient (68° - 212°F)	13.1 µin./in.°F
Thermal conductivity (Temper T651, 77°F)	120 Btu/ft.h.°F
Electrical conductivity (Temper T651, 68°F)	50 %IACS

MECHANICAL STRENGTH

Min. tensile properties (Temper T651)

Thickness (over ... to)	Tensile [ksi]	Strength [ksi]	Elongation [% in 2" or 4D]
0.31" - 1"	37.7	31.9	7
1" - 2.3"	37.7	31.9	6
2.3" - 6"	37.7	31.9	5

Typical strength for various thicknesses

Thickness (over ... to)	Tensile [ksi]	Strength [ksi]	Elongation [% in 2" or 4D]	HB
0.31" - 1"	43.5	37.5	10	100
1" - 2.3"	43.5	37.5	10	100
2.3" - 3.9"	43.5	37.5	9	100
3.9" - 6"	43.5	37.5	8	100

AVAILABILITY

DOKIMA® plates are available in temper T651 in the following dimensions:

Thickness (over... to ...)	Max. width
0.31" - 4"	88.5"
4" - 4.8"	79.5"
4.8" - 6"	72.8"