

SPECIFICATIONS

- ▶ Chemical formula: Al_2TiO_5
- ▶ Chemical name: Aluminium titanate
- ▶ Characteristics: Sintered aluminium titanate
- ▶ Description of product: Parts made of aluminium titanate
- ▶ Colour: White

CHEMICAL CHARACTERISTICS (TYP.)^{1,2}

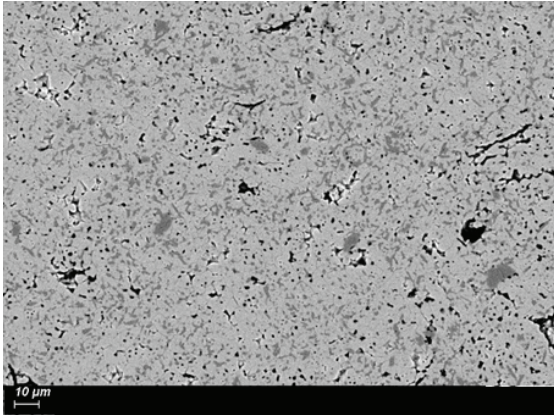
		AT 1201	AT 1203
$\text{Al}_2\text{O}_3 / \text{TiO}_2 / \text{SiO}_2$	[wt%]	> 99	> 99
Al_2TiO_5	[%]	88	85

MECHANICAL & PHYSICAL CHARACTERISTICS (TYP.)

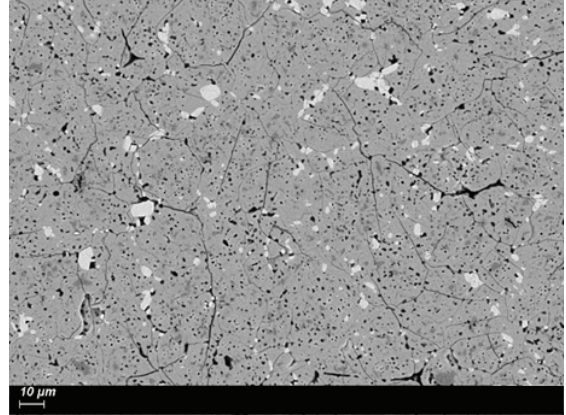
		AT 1201	AT 1203
Density	[g/m ³]	3.35	3.32
Flexural strength $\sigma_{b4,m}$ (RT)¹	[MPa]	40	25
	(1,000°C)	60	70
	(1,200°C)	100	80
Comparison strength σ_{ov}	[MPa]	47	26
Weibull modulus (RT)	[-]	40	60
Young's modulus (RT)	[GPa]	16	10
Fracture toughness²	[MPa √m]	3 - 5	3 - 5
Thermal conductivity (RT)	[W/mK]	1.4	1.4
Thermal conductivity (800 °C)	[W/mK]	1.6	1.4
Thermal expansion CTE (RT-1,000 °C)	[x10 ⁻⁶ /K]	1.6	1.25
Hardness (DPH)	[GPa]	5	5
Thermal shock coefficient R1 (calc. value)	[K]	1,500	2,000
Max. working temperature	[°C]	1,000	1,000
Currently applicable up to	[°C]	1,300	1,300

¹ 4-point-bending 40/20 mm

² Standardized strength related to effective volume $V_{\text{eff}} = 1 \text{ mm}^3$ and fracture probability $F_B = 63,2 \%$

SEM PHOTOMICROGRAPH

AT 1201, 30 µm, 15 kV, 9.5 mm, 500x



AT 1203, 30 µm, 15 kV, 8.9 mm, 500x

PACKAGING

StarCeram® AT products are individually packed, depending on size.
Packaging acc. to transport regulations.

STORAGE & HANDLING

Handle with care! Ceramic products may break if not treated properly. Storage and handling are subject to the rules and regulations in the country of use.

HAZARDS IDENTIFICATION IN ADVERTISING (REGULATION (EC) NO 1272/2008 ARTICLE 48)

none

DOCUMENTATION

An inspection document in accordance with EN 10204 is supplied with every shipment.

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