

BASIC PROPERTIES

- Refractoriness up to 1700°C
- High mechanical strength
- High electrical resistivity
- Resist to chemical attacks e.g. hydrogen and other reduced gases
- Very hard
- Abrasion-resistant
- Can be milled with great precision
- Can be polished
- Stable at high temperatures
- No open porosity
- Excellent electrical properties
- High corrosion resistance
- Chemically inert
- Suitable for high vacuum

CHEMICAL COMPOSITION

Alumina 99,7%
Silicon : 0,05%
Magnesia : 0,03 %
Sodium Oxide : 0,15%
Iron Oxide : 0,02%
Calcium Oxide : 0,03%
Titanium Oxide : <0,01%
Boric Oxide : <0,02%

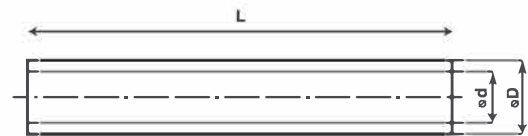
MATERIAL	C799 according to DIN VDE 0335	ALUMINA 99,7%
Chemical Formula		Al ₂ O ₃
Aspect / color		
Porosity		Impervious
Mechanical		Measuring unit
Poisson's ratio	-	
Hardness Mohs	Mohs	
Hardness Vickers		1800
Young modulus	GPa	310
Bending strength	MPa	250
Crushing strength at 20°	MPa	1800
Tenacity	MPa.m_{1/2}	4,6
Max. use temperature	°c	1850
Max. use temperature in air	°c	1750
Opened porosity	%	0
Absolute density	g/cm³	3,9
Density	g/cm³	3,8
Melting point	°c	2050
Electrical		
Electrical resistivity at 20°	Ohm, m	1014
Electrical resistivity at 600°c	Ohm, m	108
Loss tangent for 1 Ghz	Hz	2,5 x 10⁻⁴
Loss tangent for 1 Mhz	Hz	6 x 10⁻³
Thermal		
Thermal conductivity at 1000°c	W/m. °K	9,1
Thermal conductivity at 20°c	W/m. °K	29
Thermal conductivity at 500°c	W/m. °K	12,1
Thermal choc resistance	°c	medium
Linear expansion	x 10⁻⁶	8,6

**These values are for informational purposes only and do not bind company's responsibility.*

Outer Diam. (in mm)	Inner diam. (in mm)	Outer Diam. (in mm)	Inner diam. (in mm)
1	0,5	30	23
1,5	0,8	32	25
1,6	1	35	27
1,8	1,2	38	30
2	1	42	34
3	1,5	46	38
3	2	50	40
4	2	58	48
5	3	60	50
6	3	65	55
6	4	75	65
7	4	80	60
8	5	80	70
9	6	90	80
10	6	95	85
11	7	100	85
12	8	105	90
15	10	110	95
15	11	115	100
16	8	120	105
17	12	130	110
20	15	140	120
24	18	150	130
25	20	170	150
27	20		

SCERAM stocks significant quantities of tubes, allowing great responsiveness and quick delivery.

- Standard length on stock: 1000 to 1500 mm (Longer tubes on demand: up to 4000 mm, depending on outer diameter)
- Dimensions not included in the table can be custom made upon request.
- General tolerances are in compliance with DIN 40680 norm.



SCERAM provides tubes machining services :

- Cutting to requested length
- Hole drilling
- Outer and inner diameter extremities threading
- Extremities outer and inner diameter grinding
- Half tube longitudinal cutting (on limited length)
- Flanges cementing (with refractory cement)
- Customized tolerances upon request