

BASIC PROPERTIES

- Good electrical insulator
- Low dielectric loss
- Resists to chemicals
- Stability and precision of shapes
- Resistant to high temperature
- Excellent resistance to deep vacuum
- Good resistance to thermal shock
- Very low thermal expansion when heated to 1050°C

APPLICATIONS

Electrical engineering
Scientific research
Prototype parts and small series of insulating parts
Used to make small laboratories furnaces
Wear parts (sanding tubes, casting nozzles
MIG and TIG welding nozzle
Plasma nozzles
Welding assemble support and positioning templates

CHEMICAL COMPOSITION

Red loss: 4.69%
SiO₂ : 63.79%
Al₂O₃ : 27.83%
TiO₂ : 0.41%
Fe₂O₃ : 0.048%
CaO : 0.10%
K₂O : 2.96%
Na₂O : 0.25%

MATERIAL		UNHEATED PYROPHYLLITE	PYROPHYLLITE HEATED AT 1050°	PYROPHYLLITE HEATED AT 1300°
Chemical formula				
Aspect / color		White / Grey	White / Grey	White / Grey
Porosity				
Mechanical	Measuring unit			
Hardness	Mohs	2-3	5-6	7-8
Resilience	Joules/cm ²	0,11-0,13	0,18-0,2	0,21-0,25
Young modulus	bar x 10 ⁻⁵			0,7-0,8
Compression resistance	daN/cm ²	600-650	1200-1500	8000-9000
Flexion resistance	daN/cm ²	120-150	250-300	800-1000
Traction resistance	daN/cm ²	6000	3500	3500
Physical				
Max. use temperature in air	°c		1050	1300
Bulk density	g/cm ³	2,6	2,4	2,5
Water absorption	%	1,5-2	2-3	0
Structure		nearly compact	nearly compact	compact
Electrical				
Electrical resistivity 20°c	Ohms.cm	10 ⁹ -10 ¹⁰	10 ¹⁰ -10 ¹¹	10 ¹² -10 ¹³
Electrical resistivity 20°c	Ohms.cm	10 ⁷ -10 ⁸	10 ⁵ -10 ⁷	10 ⁶ -10 ⁷
Dielectric constant at 20°c and 1MHz				6,1
Dielectric loss factor at 20°c and 1MHz				86,19 x 10 ⁻⁶
Dielectric strength	kV/mm	9-10 (at 50 Hz)	6-7 (at 50 Hz)	12-17 (at 50 Hz)
Thermal				
Specific heat	mth/daN/°c			0,204
Linear expansion coefficient btw 20 - 1000°c	x 10 ⁻⁶ /°c	6,8	2-2,28	7,2-7,4
Thermal conductivity	mth/daN/°c		1,2	2,3

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