



**Fine grade expanded perlite. Natural, non-toxic, inert, lightweight, thermoinsulating, non combustible product based on siliceous volcanic rock subjected to a particular thermal expansion and screening process, for cryogenic insulation.**

The use of particular raw materials originally selected and the thermal expansion process with methane burners allow to get an inorganic product, stable and chemically inert.

After expansion Perodic is placed in bags/big bags or sent to silos for bulk delivery.

Perodic can withstand biological attacks and will not deteriorate or rot, even after long storage periods.

## Special treatments

On request, Perodic can be heat treated with polymers in an aqueous solution, thus offering excellent water repellency performance and greatly reducing water absorption capacity and moisture retention (CSI Certificate 151/A4 FCO 3/93 11/10/1993).

## Chemical-physical characteristics

<b>Aspect</b>	solid granular	
<b>Particle size</b>	0,1÷1 mm	
<b>Loose bulk density</b>	50 ± 15 kg/m <sup>3</sup>	
<b>Compacted bulk density</b>	65 ± 15 kg/m <sup>3</sup>	
<b>Color</b>	white	
<b>Thermal conductivity CE</b>	0,040 W/mK	
<b>λ<sub>mean</sub> at +20 °C</b>	Test report 0010-A/DC/TTS/06 - Certificate of Conformity 0497/673/06 Lab. Istituto di Certificazione CSI - Bollate (Italy)	
<b>Thermal conductivity</b>	at +4°C	0,035 W/mk
	at -82°C	0,032 W/mk
	at -129°C	0,025 W/mk
	at -184°C	0,018 W/mk
<b>Reaction to fire</b>	Class A1 – non combustible	
<b>Specific heat</b>	837 J/Kg°K	
<b>Fusion point</b>	1.200°C	
<b>pH</b>	6,5 ÷ 7,5	
<b>Solubility</b>	<ul style="list-style-type: none"> <li>• insoluble in water, organic and mineral acids at low and high temperature</li> <li>• soluble in strong alkali, in according to the temperature and time of contact and in hydrofluoric acid</li> </ul>	
<b>Humidity content after production</b>	< 0,3% in weight	

### PERODIC SILICONATO (WATERPROOF)

<b>Thermal conductivity CE</b>	0,045 W/mK
<b>λ<sub>mean</sub> at +20 °C</b>	Test report 0067-B/DEU/CPD/06 - Certificate of Conformity 0497/677/06 Lab. Istituto di Certificazione CSI - Bollate (Italy)
<b>Water repellency</b>	WR ≥175 ml (UNI EN 14316-1 – App. E)

## Raw material chemical composition

Silicon	SiO <sub>2</sub>	70 ÷ 75%
Aluminum Oxide	Al <sub>2</sub> O <sub>3</sub>	10 ÷ 15%
Iron Oxide	Fe <sub>2</sub> O <sub>3</sub>	< 3%
Sodium Oxide	Na <sub>2</sub> O	< 5%
Potassium Oxide	K <sub>2</sub> O	< 7%
Calcium Oxide	CaO	< 1%
Magnesium Oxide	MgO	< 0,5%

## Particle size distribution

1 mm sieve	0 ÷ 2%
0,5 mm sieve	1 ÷ 15%
0,25 mm sieve	5 ÷ 25%
0,125 mm sieve	25 ÷ 40%
0,063 mm sieve	15 ÷ 30%
Sieve residue < 0,063 mm	15 ÷ 25%

## Packing, storage and shelf life

### Packaging

- paper bags of 80 liters, measured in loose bulk (uncompacted).
- big cloth bags 3 m<sup>3</sup>
- in bulk, loaded on tank trucks

### Storage

Protect from frost and moisture

### Shelf life

Perodic has no expire date and presents a very good storage stability.

## CE mark

Perodic e Perodic Waterproof are CE marked following the norms UNI EN 13055-1:2003 "Lightweight aggregates for concrete and plasters" and UNI EN 14316-1:2005 "In-situ thermal insulation formed from expanded perlite (EP) products", as indicated in the European Construction Products Directive 89/106/CEE, adopted in Italy with D.P.R. 246/1993.

## Quality

Perodic is produced under a quality system and all the activities, which have a bearing upon quality, are set out in written procedures, in accordance with EN ISO 9001:2000.

Test equipments and all materials are subjected to systematic and regular checks.

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The purpose information of this data sheet is to provide about uses and applying method of the material. The information given in this data sheet is based on actual tests and is believed to be typical of the product. They must be properly verify by the user in relation to his needs and specific application.

No guarantee of results is implied however, since conditions of use are beyond our control. Perlite Italiana reserves the right to make changes at any time.