

VOLCANIC LAPILLUS FOR BUILDING INDUSTRY CLS LIGHT STRUCTURE

COMPOSITION: ALVEOLAR LAPILLUS WITH OPEN CELLS

Mainly it is a magmatic effusive mineral (Vulsini Volcanite from the Pleistocene period) naturally calcined at high temperature, **POROUS, INSULATING, LIGHT**. Because of its properties it is added to materials which allow the reduction of energetic consumption in conformity with the executive decree 192/05 norm and the executive decree 311/06.

APPLICATION FIELDS	
CLS LIGHTLY PUMPABLE STRUCTURE (Rck 15 - 40 N/mm ²)	THERMAL AND SOUND INSULATING BLOCKS AND PANELS
CLS LIGHTLY PUMPABLE INSULATING AND SOUNDPROOF	ROAD EMBANKMENTS
RESTRUCTURING OF MASONRY AND REINFORCED CONCRETE TO MAKE IT LIGHTER SO THAT THE LOAD-BEARING STRUCTURE ISN'T LOADED	UNDERGROUND ISOLATION
	LIGHT FILLING
RESTORING, STRENGTHENING AND ATTACHMENT OF ATTIC WITH PERMANENT REDUCTION OF THE CHARGE ON THE STRUCTURE	CLAY COURT BOTTOMS
	DRAINAGED STABILIZATION FOR SQUARES
STRUCTURES WHICH NEED A HIGHER LEVEL OF FIRE-RESISTANCE AND A BETTER THERMICAL INSULATION COMBINED WITH A SMALL CONDUCTIVITY	MULCHING
	GREEN ROOFS AND GRASSY PARKING LOTS
BIOCONSTRUCTION	DRAINED UNDERGROUNDS FOR SPORTS CAMPS
MINERAL LAYER FOR BIO-FILTRATION	

PHISICAL AND CHEMICAL PROPERTIES:

Thermal diffusivity: $\lambda = 0,13 \text{ W/(mK)}$
 Acoustic insulation
 Perspiration skill
 Optimal suitability
 Fire-resistant
 Durability
 Color: red amber /brown
 Average content of water: 7% in bulk
 Specific weight in cluster: see table
 Specific weight S.S.A.: $1,9 \text{ Mg/m}^3 \pm 5\%$
 Porosity compared to the volume: 40% - 60%
 Temperature Resistance: 1140°C - 1150°C
NON TOXIC PRODUCT (Silica free)

MEDIUM CHEMICAL ANALYSIS of representative samples of the front quarry	
SiO ₂	56 %
Al ₂ O ₃	16,5 %
K ₂ O	4,9 %
Fe ₂ O ₃	6,5 %
CaO	8,8 %
Na ₂ O	2,2 %
TiO ₂	0,8 %
MgO	3,1 %
P.F.	1,2 %
pH	7-8

AVAILABLE TYPES	GRAN SIZE	APPENT DENSITY Material in a wet quarry
SAND	0 - 3 mm	1050 - 1150 Kg/m ³
GRANULES	3 - 5 mm	950 - 1050 Kg/m ³
GRANULES	5 - 10 mm	880 - 980 Kg/m ³
GRANULES	10 - 16 mm	850 - 950 Kg/m ³
GRAVEL	20 - 70 mm	820 - 920 Kg/m ³

AVAILABLE UNPACKED, IN BAGS (BIG-BAGS) 1,5MC SIZE AND IN 33LT BAGS PACKED ON PALLETS (50 bags on each pallet)

THEORETICAL DESIGN MIX			
MECHANICAL RESISTANCE (N/mm²)	Min. dose of cement 42,5 (kg/m³)	Ratio binding water	Specific weight (kg/m³)
Rck 15	320	0,65	1.650
Rck 20	350	0,60	1.680
Rck 25	380	0,56	1.710
Rck 30	410	0,52	1.740
Rck 35	440	0,48	1.770
Rck 40	480	0,45	1.810

N.B. ALL THE FORMULAS MUST BE TESTED PREVENTIVELY BY A QUALIFIED LABORATORY

This mineral is a natural raw material. All data indicated above are therefore approximate and do not provide any warranty.