



Lightweight
aggregates
UNI EN 13055-1

VOLCANIC LAPILLUS FOR BUILDING INDUSTRY

COMPOSITION: OPEN CELLS ALVEOLAR LAPILLUS

Effusive magmatic mineral (Vulsini Volcanite from the Pleistocene period) naturally calcined at high temperature, **POROUS, INSULATING, LIGHTWEIGHT**. 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	
RESTRUCTURING MASONRY AND REINFORCED CONCRETE (RC)	THERMAL AND ACOUSTIC INSULATION
RESTORING, STRENGTHENING AND REINFORCING FLOORS	ROAD EMBANKMENTS
SUBSTRATE INSULATION	STABILIZED DRAINAGED
LIGHTWEIGHT FILLINGS	GREEN BUILDING
THERMAL AND SOUND INSULATING BLOCKS AND PANELS	

PHISICAL AND CHEMICAL PROPERTIES

Bulk density: approx. 950-1,140 kg/m³ *
 Water absorption (WA24): approx. 12-15% *
 Granules density (S.S.A.): approx. 1,850 kg/m³ *
 Crushing resistance: approx. 1.60 N/mm² *
 Temperature resistance: 1140 °C - 1150 °C
 Thermal conductivity: λ = 0.15 W/(mK) **
 Mineral containing no active limestone and no Free
 Crystalline Silica: (NON-TOXIC PRODUCT - Silica free)

Imperial Measurements Lapillus 4x6, 3/8"x4, 5/8"x3/8" US Mesh:

Bulk density approx 59.31-71.17 lb/ft³
 Granules density (S.S.A.) approx 115.49 lb/ft³
 Crushing resistance approx 0.232 ksi
 Temperature resistance: 2084 °F - 2102 °F

MEDIUM CHEMICAL ANALISYS 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

FUNCTIONAL PROPERTIES

Sound insulation
 Transpiration skill
 Excellent workability
 Fire-resistant
 Durability
 Color: red amber /brown

AVAILABLE TYPES	GRAN SIZE		APPENT DENSITY	
			Material in a wet quarry	
SAND	0 - 3 mm	6- US Mesh	950 - 1,150 Kg/m ³	59.31 - 71.79 lb/ft ³
GRANULES	3 - 5 mm	4 x 6 US Mesh	850 - 1,050 Kg/m ³	53.06 - 65.55 lb/ft ³
GRANULES	5 - 10 mm	3/8" x 4 US Mesh	830 - 1,000 Kg/m ³	51.82 - 62.43 lb/ft ³
GRANULES	10 - 16 mm	5/8" x 3/8" US Mesh	760 - 1,000 Kg/m ³	47.45 - 62.43 lb/ft ³
GRAVEL	20 - 70 mm	+1 US Mesh	750 - 1,200 Kg/m ³	46.82 - 74.91 lb/ft ³

* Data refers to Lapillus grain sizes 0-3, 3-5, 5-10, 10-16 mm (Lapillus grain sizes 4x6, 3/8"x4, 5/8"x3/8" US Mesh)

** Certificated by Lab. Certimac SQM_046_2024 of 27/03/2024

AVAILABLE BULK, IN BAGS (BIG-BAGS) 1,5 MC SIZE (53 ft³) AND IN 33 LT (7.26 gal) BAGS PACKED ON PALLETS (50 bags/each)

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.