Lightweight aggregates
UNI EN 13055-1

POMICAL 0-14
PUMICE FOR LIGHTWEIGHT CONCRETE

COMPOSITION
POMICAL is a mixture of pumice (alveolar product of remarkable lightness, with insulating properties, resulting from the natural expansion of effusive magmatic mineral) with a particle size distribution curve of 0-14 mm *(5/8"- US Mesh)* and used in the production of lightweight thermo-insulating and soundproof concrete with a low specific weight and is easily pumped.
This is a product that contains no Free Crystalline Silica.

FIELDS OF APPLICATION	
LIGHTWEIGHT, PUMPABLE STRUCTURAL CONCRETE FOR THERMAL AND ACOUSTIC INSULATION	LIGHTWEIGHT FILLINGS
INTERIOR AND EXTERIOR SUBSTRATE SCREEDS	LIGHTWEIGHT BUILDING PRODUCTS
RESTORING AND REINFORCING FLOORS	LIGHTWEIGHT FILLINGS
RESTRUCTURING AND LIGHTENING MASONRY AND REINFORCED CONCRETE WORKS TO REDUCE THE PERMANENT LOAD ON THE STRUCTURE	

PHYSICAL PROPERTIES	
COLOR	Grey
GRAINS FORM	Polyhedral
GRAIN SIZE	0-14 mm *(5/8"- US Mesh)*
RESISTANT AGAINST FRAGMENTATION/CRASHING	1.24 N/mm^2 *(1.18 ski)*
TOTAL WATER CONTENT	29.5%
WATER ABSORPTION	18.3%
SPECIFIC WEIGHT IN PILE	0,54 Mg/m^3 (33.71 *lb/ft^3)*
SPECIFIC WEIGHT DRY SATURATED SURFACE	1,54 Mg/m^3 *(96.14 lb/ft^3)*
TEMPERATURE RESISTANT	1140°C - 1150°C *(2084°F - 2102°F)*

CHEMICAL PROPERTIES	
ALKAL-SILICA REACTIVITY (average expansion % after 90 days)	0.0205% (not reactive)
CHLORIDES	< 0.001%
SOLUBLE SULPHATES IN ACID	< 0.05%
TOTAL SULFUR	< 0.04%
CONTENT DETERMINATION OF HUMIC/SUBSTANCE	clearer (absent)
CONTAINS NO FREE CRYSTALLINE SILICA	

Using POMICAL 0-14, cement, water and any additives, an OPTIMIZED CONCRETE is obtained with following properties:	
LIGHTNESS	Dry density below 1,000 kg/m^3 *(62.43 lb/ft^3)*
RESISTANT AGAINST COMPRESSION	RCK circa 10 N/mm^2 *(1.45 ksi)*
THERMAL CONDUCTIVITY	λ=0.09 W/(mK) (1)
SOUND INSULATION	46 dB 8 cm *(3.2 inches)* partition wall + plaster 1.5+1.5 cm *(0.6+0.6 inches)*
TRANSPIRABILITY	μ=4 (2)
GRAIN SIZE	0-14 mm *(5/8"- US Mesh)*
EXCELLENT WORKABILITY	BLEEDING ABSENCE
FIRE-RESISTANT	DURABILITY
EXTREMELY EASY PUMPING	ENVIRONMENTALLY FRIENDLY
EXCELLENT VISUAL APPEARANCE OF THE SURFACE	

APPLICATION PROCEDURE
- Place the volume of POMICAL 0/14 in regard to the specific weight
- Volume of water needed is approx 200-250 l/m^3 *(1.25-1.55 gal/ft^3)* of POMICAL 0/14
- At first insert approx. 80% of water into the concrete mixer
- Insert POMICAL 0/14 and cement in the needed quantity
- Continue adding water until obtaining the desired consistency
- Pumping with standard pumps

NECESSARY DOSING
- Approx 1.20 m^3 of Pomical 0-14 per 1 m^3 of concrete, mid gross-weight until reaching 750-850 Kg/m^3. *(Approx 42.38 ft^3 of Pomical 0-14 per 35.31 ft^3 of concrete, mid gross-weight until reaching 46.82-53.06 lb/ft^3).*

AVAILABLE BULK, in BIG-BAGS of 1.8 m^3 *(64 ft^3)*, in BAGS of 33 l. (*7.26 gal*) on pallets of 55 bags/each.

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

CONTRACT SPECIFICATIONS

LIGHT CONCRETE WITH POMICAL 0-14

Natural concrete, lighted (density in dry condition < 1,000 Kg/m^3 *(62.43 lb/ft^3)*), with transpirability μ=4, thermal insulation (λ= 0.164 W/mK), fire-resistant, compression resistance: RCK=10 N/mm^2 *(1.45 ksi)*, consisting of natural pumice with a grain size of 0-14 mm *(5/8"- US Mesh)*, bearing the CE marking, extracted from Pitigliano (GR) Pian di Valle Nardeci quarry and consisting of cement with CE marking, applicable for:

- Internal and external jumpable plaster for floor application, also those sensitive to water (wooden, resilient....)
- Support and filling of cloistered vaults, arches and domes,
- Thermal insulation of attics
- Safety positioning of abandoned underground tanks, and for filling of cavities.

The min. thickness of application of the lighter substrate should be 5 cm *(2 inches)*.
For larger thicknesses one or more electro-welded net layers or plastic net have to be inserted.

The regulation layer must have always a break down picked up from the load-bearing components by inserting suitable sound insulations (floating solids).

During tempering the final thickness is resulting from the thermo-physical calculation based on a thermal conductivity of λ= 0.09 W/mK.

The substrates' drying time reaching the residual moisture of 2%, in accordance to the actually applicable standards, is 5 days per every cm of the substrate at a temperature of 18°C *(64.4°F)*. Higher temperatures reduce the drying time, and lower ones increase it.

The light concrete should not be performed at temperatures lower than 5°C *(41°F)* or higher than 35°C *(95°F)* and it has to be protected from frost during the first 15 days.

In case of strong winds use anti-evaporation surface products.

Not suitable for the realization of supporting load-bearing structures

For further technical information and how to use Pomical in the concrete packaging and pumping phases, you can contact the Europomice S.r.l sales offices directly.

(1) Lab certificate. Certimac SQM_043_2024 dated 03/27/2024
(2) Certificated by Politecnico of Torino n° 1470 dated 06/08/2004
(3) Theoretical value by calculation

*The corresponding **Imperial Measurements** are shown in brackets.*