

Declaration of Performance

DOP/2-10/1-1-2015

**The undersigned, representing
LAVA MINING AND QUARRYING S.A.**

19,3 km Markopoulou Avenue 19002 Paiania Athens - Greece

Declares that

**PUMICE (2/10mm), Lightweight aggregate for concrete, mortar and grout
Conforms to the Annex ZA of the harmonized European Standard: EN 13055-1:2002
CPR ANNEX V System 2+**

The Notified Body Bureau Veritas Certification Denmark A/S, Oldenborggade 1B, 7000 Fredericia, Tlf. 77 31 10 00, identified No. 0615, performed the initial inspection of the manufacturing plant and of factory production control and the continuous surveillance, assessment and evaluation of factory production control, and issued the certificate of constancy of conformity of the factory production control (0615/CPR/9981).

Loose bulk density (dry) (Mg/m ³)	0,68 (0,58-0,78)	EN 1097-3																					
Loose bulk density (wet) (Mg/m ³)	0.78(Min/Max: 0.73/0.83)																						
Apparent Particle density ρ_{La} (Mg/m ³)	1.62±0.15	EN 1097-6:, annex C																					
Oven dry Particle density ρ_{Lrd} (Mg/m ³)	1.09±0.15																						
Grading (%)	<table border="1" style="width: 100%; text-align: center;"> <thead> <tr> <th>Sieve (mm)</th> <th>Passing (%)</th> <th>Range (%)</th> </tr> </thead> <tbody> <tr> <td>10</td> <td>99</td> <td>95-100</td> </tr> <tr> <td>8</td> <td>88</td> <td>80-96</td> </tr> <tr> <td>6.3</td> <td>60</td> <td>48-72</td> </tr> <tr> <td>4</td> <td>33</td> <td>22-44</td> </tr> <tr> <td>3.15</td> <td>18</td> <td>11-25</td> </tr> <tr> <td>2</td> <td>14</td> <td>9-19</td> </tr> </tbody> </table>	Sieve (mm)	Passing (%)	Range (%)	10	99	95-100	8	88	80-96	6.3	60	48-72	4	33	22-44	3.15	18	11-25	2	14	9-19	EN 933-1 ⁽²⁾
	Sieve (mm)	Passing (%)	Range (%)																				
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2	14	9-19																					
Fines (%)	≤10%	EN 933-1 ⁽²⁾																					
Water absorption (%)	20±4%	EN 1097-6: annex C																					
Water content	19-33%	EN 1097-5 (on dry mass)																					
	16-26%	EN 1097-5 (on wet mass)																					
Crushing resistance (N/mm ²)	NPD ⁽¹⁾	EN 13055-1:, annex A																					
Percentage of crushed particles (%)	NPD ⁽¹⁾	EN 933-5																					
Resistance to disintegration (%)	NPD ⁽¹⁾	EN 13055-1 annex B																					
Freezing and thawing resistance (%)	max 1,74%	EN 13055-1 annex C																					
Chloride (%)	0.003- 0.043%	EN 1744-1 clause 7																					
Acid soluble sulfate (%)	0.0- 0.07%	EN 1744-1 clause 12																					
Total sulfur (%)	0.0- 0.034%	EN 1744-1:, clause 11																					
Organic contaminators (%)	No harmful contaminators	EN 1744-1 15.1, 15.2																					
Alkali – silica reactivity	Non reactive	ASTM C289																					
		XP-P18594																					
Dangerous substances. In particular:																							
Emission of radioactivity	NPD ⁽¹⁾																						
Release of heavy metals																							
Release of polyaromatic carbons																							

⁽¹⁾ No Performance Determined ⁽²⁾: dry sieving

The performance of the product identified above is in conformity with the declared values. The present Declaration of performance is established under the full responsibility of LAVA SA.

Signed on behalf of the manufacturer

Date:1/5/2015

Full Name:E. Iliodromitis

Position: Quarries Manager