

## Declaration of Performance

DOP/0-8/30-1-2020 (replaces version of 1-1-2019)

**The undersigned, representing**

**LAVA MINING AND QUARRYING S.A.**

19,3 km Markopoulou Avenue 19002 Paiania Attica - Greece

**Declares that**

**PUMICE (0/8mm), 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 <sup>3</sup> )	0.80 (Min/Max: 0.70/0.90)	EN 1097-3																								
Loose bulk density (wet) (Mg/m <sup>3</sup> )	0.84 (Min/Max: 0.74/0.94)																									
Apparent Particle density $\rho_{La}$ (Mg/m <sup>3</sup> )	1.77±0,15	EN 1097-6, annex C																								
Oven dry Particle density $\rho_{Lrd}$ (Mg/m <sup>3</sup> )	1.23±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>8</td> <td>99</td> <td>95-100</td> </tr> <tr> <td>4</td> <td>78</td> <td>68-88</td> </tr> <tr> <td>2</td> <td>54</td> <td>44-64</td> </tr> <tr> <td>1</td> <td>38</td> <td>30-46</td> </tr> <tr> <td>0.5</td> <td>27</td> <td>20-34</td> </tr> <tr> <td>0.25</td> <td>20</td> <td>15-25</td> </tr> <tr> <td>0.125</td> <td>15</td> <td>10-20</td> </tr> </tbody> </table>	Sieve (mm)	Passing (%)	Range (%)	8	99	95-100	4	78	68-88	2	54	44-64	1	38	30-46	0.5	27	20-34	0.25	20	15-25	0.125	15	10-20	EN 933-1 <sup>(2)</sup> :
	Sieve (mm)	Passing (%)	Range (%)																							
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Fines (%)	≤15%	EN 933-1 <sup>(2)</sup> :																								
Water absorption $WA_{24}$ (%)	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 <sup>2</sup> )	NPD <sup>(1)</sup>	EN 13055-1 annex A																								
Percentage of crushed particles (%)	NPD <sup>(1)</sup>	EN 933-5																								
Resistance to disintegration (%)	NPD <sup>(1)</sup>	EN 13055-1 annex B																								
Freezing and thawing resistance (%)	max 2.3%	EN 13055-1 annex C																								
Chloride (%)	<0.050%	EN 1744-1 clause 7																								
Acid soluble sulfate (%)	< 0.10%	EN 1744-1 clause 12																								
Total sulfur (%)	< 0.10%	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 <sup>(1)</sup>																									
Release of heavy metals																										
Release of polyaromatic carbons																										

<sup>(1)</sup> No Performance Determined, <sup>(2)</sup>: dry sieving

**The performance of the product identified above as PUMICE 0/8mm 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: 30/1/2020**

**Full Name: E. Christoforakis**

**Position: Manager**