

# Mosa.

## Porcelain Facade Cladding, unglazed

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### **Product description**

Mosa Porcelain Facade panels are manufactured using the Ultragres procedure: dry-pressed, single-fired, fully vitrified, and are in compliance with EN 14411 Class BIa. The tiles are dimensionally stable, available in an extensive range of sizes, with various surface designs and structures, and Cradle to Cradle (C2C) Silver certified; designed for the technosphere and safe for the biosphere. Combined with a low-maintenance profile.

### **Product advantages**

**Appearance:** Each panel is a unique product in a natural appearance, available in an extensive range of sizes and in smooth and textured finishes.

**Functional:** Non-combustible, UV resistant, hard-wearing, high resistant to chemicals, easy maintenance, frost resistant, thermal shock proof, dimensionally consistent and modular.

### **Sustainability and Cradle to Cradle**

Mosa is the first ceramic tile company in the world to have gained Cradle to Cradle (C2C) Silver certification for nearly its entire tile collection. Mosa's externally-validated life-cycle analysis (LCA) supports the sustainable character of our tiles. The C2C label enjoys widespread recognition and contributes to positive scores for Dutch and international green building labels such as LEED, BREEAM, DGNB, and HQE. In various (inter)national databases, the impact of Mosa tiles on these sustainability labels is clarified.

From design to production process, Mosa focuses intensively on sustainability in the sense of Cradle to Cradle. On the basis of five main criteria, we strive to reduce waste, to save energy, and to take social responsibility: pure raw materials, great recycling potential, low energy consumption, environmentally-friendly water management, and good terms and conditions of employment.

In collaboration with market leader in aluminium subframe systems Mosa Facades was granted a C2C Silver certification for a complete ceramic facade system (Mosa Facade tiles including anchoring and subframe).

### **NEN-EN-ISO 14001**

Since 2007, Mosa have organized their environmental management system according to the international ISO 14001 standard.

### **Recycling**

Mosa Facade tiles contain up to 45% recycled material, depending on product type.

### **KOMO**

Mosa Ultragres unglazed Facade tiles are KOMO certified in compliance with the Dutch Soil Quality Decree (certificate no. IKB1466).

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### Technical data

In accordance with standard EN 14411 Bla properties and Mosa standard<sup>A</sup>

The Mosa standards mentioned below cover the following production sizes:

Rectified: 30 x 60, 30 x 120, 37,5 x 75, 45 x 90, 60 x 60, 60 x 120, 75 x 75, 90 x 90, 100 x 100 cm.<sup>B</sup>

Specifications	ISO test	EN 14411 Bla requirements	Mosa standard
Tolerances:			
Length and width	10545-2	+/- 0,6%, max. 2,0 mm	+/- 0,3 mm
Thickness	10545-2	+/- 5% , max. 0,5 mm	+/- 3%
Straightness of sides	10545-2	+/- 0,5%, max. 1,5 mm	+/- 0,3 mm
Rectangularity	10545-2	+/- 0,5%, max. 2,0 mm	+/- 0,5 mm
Edge curvature	10545-2	+/- 0,5%, max. 2,0 mm	> 30 cm - ≤ 60 cm: max. +/- 1,1 mm > 60 cm: max. - 1,2 / + 1,8 mm
Centre curvature	10545-2	+/- 0,5%, max. 2,0 mm	30 x 60 / 37,5 x 75 / 60 x 60 / 75 x 75 cm: max. +/- 1,5 mm other: max. +/- 1,8 mm
Warpage	10545-2	+/- 0,5%, max. 2,0 mm	max. +/- 1,4 mm
Properties:			
Water absorption	10545-3	≤ 0,5%	≤ 0,1%
Breaking strength <sup>C</sup>	10545-4	≥ 7,5 mm: ≥ 1300 N	≥ 7,5 mm: ≥ 1700 N
Bending strength	10545-4	≥ 35 N/mm <sup>2</sup>	45 N/mm <sup>2</sup>
Wear resistance	10545-6	≤ 175 mm <sup>3</sup>	120 +/- 30 mm <sup>3</sup>
Coefficient of linear thermal expansion	10545-8	not required	8 x 10 <sup>-6</sup> [K <sup>-1</sup> ]
Thermal shock resistance	10545-9	required	resistant
Frost resistance	10545-12	required	resistant
Chemical resistance	10545-13		
- Acids and logs			
- Low concentration		not required	Class ULA
- High concentration		not required	Class UHA
- Household chemicals and swimmingpool additives		≥ Class UB	Class UA <sup>D</sup>

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Other properties	Standard	Mosa Value
UV resistance	DIN 51094	Resistant
Thermal conductivity		1,55 W/mK
Flammability	CWT	A1 <sub>FL</sub>
Non-combustibility	EN 13501-1 ASTM E136	Class A1 Meets requirements, Option A
Weight		12 mm: 27,8 kg/m <sup>2</sup> 13 mm: 30,1 kg/m <sup>2</sup>
Cradle to Cradle		Silver

A Assuming there is no change to the surface of the tiles. A treatment applied to Mosa tiles by third parties after installation, such as a chemical or mechanical treatment, can have a negative impact on the appearance and physical properties of the tiles. Mosa does not accept any liability for this.

B Dimensionality, straightness and curvature (ISO 10545-2) of all (specially produced) different and derivative sizes and products comply at least to the requirements stipulated in EN 14411 group Bla.

C Breaking strength requirements (ISO 10545-4) do not apply to oblong sizes.

D Chemical resistance to acids and alkalis: Class ULA (low concentrations) and UHA (high concentrations); A = highest class.

### Dimensions

#### *Modular dimensions vs manufacturing dimensions*

The documentation and production are based on manufacturing dimensions, in accordance with Mosa's modular system. The modular size is expressed in centimeters, while the manufacturing size is expressed in millimeters. A modular size of 60 x 120 cm is equivalent to a manufacturing size of 597 x 1197 mm, suitable for 3 mm joints.

Mosa Facades can offer the possibility to produce tiles in other manufacturing sizes to design a façade in a modular pattern with other joint sizes. For more information about this possibility please contact Mosa Facades.

### Shades and design

Tiles are a natural product. Colour differences may occur. Mosa sorts products by shade which is indicated on the box. When applying plank patterns consisting of different sizes, different shades may be supplied.

The surface design of Mosa unglazed Facade tiles is the result of a randomized scattering process; every tile is unique. The surface of supplied tiles may deviate from shown samples.

### Light reflectance value

The light reflectance value (LRV) is the ratio of the total quantity of light reflected from a surface to the total quantity of incident light on the surface. See the Mosa documentation or [www.mosa.com](http://www.mosa.com) for the indicative LRV for each colour.

### Installing recommendations

Mosa tiles according to EN14411 class Bla are suitable for ventilated façades and may only be processed and fixed in accordance with our ETA - 09/0348 and ETA - 11/0465 approvals. No other tile-fixing method should be used. If another method is used, we accept no liability whatsoever in this respect.

Due to the random scattering pattern during the production process, the tile surface has a directional pattern. Please keep this in mind when placing the tiles. An arrow at the backside of the tile indicates the direction of the pattern.

Mosa unglazed Facades tiles are modular and can be used to create a continuous pattern. Due to the flatness tolerances of the substrate and the planks, slight unevenness in the facade cannot be ruled out when tiles are installed in a brickwork pattern. Any resulting shadows will be accentuated by raking light.

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### Article coding on the packaging

The following information can be derived from the coding on the packaging:

Sample article coding on packaging: **216 V 060060 1 77 AA 0 X03**

216	colour	
V	surface indication	V: Smooth; RL/RQ/MR: Textured
060060	nominal size 60 x 60 cm	
1	grade	Mosa only packages and delivers grade 1 tiles.
77	calibre designation	Manufacturing size 597 x 597 mm
AA	tint designation	
0	thickness designation	Standard 0. If a standard article is to be produced in a non-standard thickness, a different thickness designation will be shown here.
X03	packaging code	Indicates the type of box and the number of pieces per box.

### Certifications, approvals and assessments

Please contact Mosa for more information about country specific certifications and requirements.

### Maintenance

Please contact Mosa for maintenance recommendations.

### General questions

Customer care

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[www.mosa.com](http://www.mosa.com)