

Mosa.

Porcelain façade cladding, unglazed

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, type BIa. The tiles are dimensionally stable, available in an extensive range of sizes, with various surface designs and structures, and Cradle to Cradle Certified® Gold; 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 Certified® Gold certification for nearly its entire tile collection. Mosa's externally-validated life-cycle analysis (LCA) supports the sustainable character of our tiles. The Cradle to Cradle 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 was granted a Cradle to Cradle Certified® Gold certification for a complete ceramic façade 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 façade tiles contain up to 45% recycled material, depending on product type.

KOMO

Mosa Ultragres unglazed façade 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, annex G, type Bla, and Mosa standard^A.

The Mosa standards mentioned below cover the following production sizes:

- rectified: 30 x 60, 60 x 60, 60 x 120, 90 x 90, and 100 x 100 cm^B.

Property	Test method	Standard EN 14411 Bla	Standard Mosa
Length and width	ISO 10545-2	+/- 0.6 %, max. +/- 2.0 mm	+/- 0.3 mm
Thickness ^C	ISO 10545-2	+/- 5 %, max. +/- 0.5 mm	+/- 3 %
Straightness of sides	ISO 10545-2	+/- 0.5 %, max. +/- 1.5 mm	+/- 0.3 mm
Rectangularity	ISO 10545-2	+/- 0.5 %, max. +/- 2.0 mm	+/- 0.5 mm
Edge curvature	ISO 10545-2	+/- 0.5 %, max. +/- 2.0 mm	L > 30 cm - ≤ 60 cm: max. +/- 1.1 mm L > 60 cm: max. -1.2 / +1.8 mm
Centre curvature	ISO 10545-2	+/- 0.5 %, max. +/- 2.0 mm	30 x 60 / 60 x 60 cm: max. +/- 1.5 mm other sizes: max. +/- 1.8 mm
Warpage	ISO 10545-2	+/- 0.5 %, max. +/- 2.0 mm	max. +/- 1.4 mm
Water absorption	ISO 10545-3	average ≤ 0.5 %; individual ≤ 0.6 %	surface: < 0.1 % body: < 0.3 %
Breaking strength ^D	ISO 10545-4	≥ 1300 N	≥ 1700 N
Bending strength	ISO 10545-4	≥ 35 N/mm ²	≥ 45 N/mm ²
Wear resistance	ISO 10545-6	≤ 175 mm ³	120 +/- 30 mm ³
Coefficient of linear thermal expansion	ISO 10545-8		8 x 10 ⁻⁶ [K ⁻¹]
Thermal shock resistance	ISO 10545-9	required	resistant
Frost resistance	ISO 10545-12	required	resistant
Chemical resistance against: - Acids and alkalis: - low concentrations - high concentrations - Household chemicals and swimming pool salts	ISO 10545-13	≥ class UB	class ULA class UHA class UA
Stain resistance	ISO 10545-14		≥ class 3

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	Test method	Mosa value
UV resistance	DIN 51094	resistant
Thermal conductivity		1.55 W/mK
Flammability	CWT ^E	A1 _{FL}
Non-combustibility	EN 13501-1 ASTM E136	class A1 meets requirements Option A fire-test
Weight		12 mm: approximately 28 kg/m ² 13 mm: approximately 30 kg/m ²
Cradle to Cradle Certified®		Gold

^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 anti slip 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, annex G, type BIa.

^C The thickness tolerance is related to production sizes and is the average of multiple measurements on one single tile. In case of specially cut tiles from production tiles the thickness may slightly deviate.

^D The breaking strength requirements (ISO 10545-4) do not apply to oblong sizes.

^E "Classified without testing" as per European Commission Decision 96/603/EC.

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 centimetres is equivalent to a manufacturing size of 597 x 1197 millimetres, suitable for 3 millimetres joints.

Mosa 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.

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 façade 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 for the indicative LRV for each colour.

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; MR/RL/RQ: relief tile (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 millimetres, modular with 3 millimetres grout.
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.

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Installing recommendations

Mosa tiles according to EN14411, type 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 façade 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 façade cannot be ruled out when tiles are installed in a brickwork pattern. Any resulting shadows will be accentuated by raking light.

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

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The text for this technical product sheet replaces all preceding versions and has been composed with the utmost care and in cooperation with the leading mortar and adhesive producers. All recommendations are based on the latest research. This technical product sheet contains information about Mosa products, properties, and applications, and should not be construed as a guarantee based on the provided recommendations. Mosa accepts no liability based on the content of this document. For information concerning warranties and liability please refer to our General Conditions of Sales, Delivery and Payment. No rights can be derived from the contents of this technical product sheet. We take no responsibility for typographical errors. For the latest version, see www.mosa.com.