

# Mosa. Tiles.

## Ultragres Porcelain Floor Tiles, unglazed

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### Collections

Global Collection, Globalgrip®, Terra Maastricht®, Size 75, Softline, Softgrip, Terra Tones, Terra XXL, Greys®, Beige & Brown, Quartz®, Mosa Solids, Mosa Scenes.

### Product description

Unglazed, dry-pressed, single-fired, fully vitrified porcelain floor tiles, manufactured with the Ultragres procedure, in accordance with EN 14411 annex G (Bla) and in compliance with ANSI A137.1 class P1\*, with a water absorption of < 0.05% on the surface and ≤ 0.3% on the body. Dimensionally stable tiles in sizes ranging from 4 x 4 to 40 x 40 inch, with various surface designs and structures, depending on the series and version. Cradle to Cradle (C2C) Silver certified; designed for the technosphere and safe for the biosphere.

### Product advantages

Natural appearance; each tile is a unique product. Extensive range of sizes, including planks and accessories. Smooth and textured versions with appropriate slip resistance properties for each application. Suitable for use with underfloor heating. Durable floor tile for indoors and outdoors. For domestic, utility and commercial use. Also suitable for wall and facade cladding. Rectified tiles can be used in conjunction with Xtreme Glass and Steel. Very hard-wearing. High resistance to chemicals. Easy maintenance. Frost resistant. Dimensionally consistent. Modular. An extensive range of accessories, including skirting, stair and recess shower tiles, that fit with the modular range of wall and floor tiles.

### Benefits of the Ultragres procedure

With the Ultragres procedure the surface and body of the tile have optimal properties: the surface is highly wear resistant and easy to clean, while the body ensures high strength, very good dimensional stability and good adhesion in cement mortar and tile adhesive.

### Sustainability and Cradle to Cradle

Mosa unglazed floor tiles are Cradle to Cradle (C2C) Silver certified. The composition of Mosa tiles is pure, clean and suitable for inclusion in the cradle-to-cradle cycle. This means that they do not release any hazardous substances during or after their long service life. Mosa tiles are produced in our own factories in Maastricht (NL). We utilise renewable energy sources and local materials whenever possible, resulting in a favourable CO2 balance. Specific data about Mosa tiles are included in the National Environmental Database for calculation of the material-related environmental performance conform the Dutch Building Decree. An Environmental Product Declaration (EPD type III) and MRPI sheet (containing environmentally-related product information) are available upon request via [info@mosa.nl](mailto:info@mosa.nl). Mosa tiles are ideally suited for use in sustainable buildings and contribute to the award of hallmarks or points from organisations such as LEED and BREEAM. For current information see [www.mosa.nl/us/mosa/sustainability](http://www.mosa.nl/us/mosa/sustainability).

### NEN-EN-ISO 14001

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

### Recycling

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

### Soil Quality Decree

Mosa Ultragres unglazed porcelain floor tiles are KOMO certified in compliance with the Dutch Soil Quality Decree (certificate no. IKB1466). This means that Mosa Ultragres unglazed floor tiles meet or exceed all the environmental requirements of the Dutch assessment guidelines BRL1010 and are suitable for outdoor use including facades.

### Our limited warranty

Royal Mosa warrants that its first choice porcelain floor tiles are manufactured to specifically mentioned ASTM and ISO standards and meet or exceed the requirements of those standards unless specifically mentioned and excluding other standards.

Please consult Royal Mosa's sales conditions for complete product warranty details.

\* Specifications not in exact accordance with ANSI A137.1 are tagged and EN 14411 requirements mentioned.

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### Technical data

In accordance with standard ANSI A137.1 properties and Mosa standard.<sup>A</sup>

The below mentioned Mosa standards cover the following production sizes:

calibrated; 4 x 4, 6 x 6, 6 x 12, 12 x 12 inch

rectified; 12 x 24, 12 x 48, 15 x 30, 18 x 18, 18 x 36, 24 x 24, 24 x 48, 30 x 30, 36 x 36, 40 x 40 inch<sup>B</sup>

Properties	ASTM test	ANSI A137.1 P4 requirements	Mosa standard
Facial dimensions (range)	C 499	calibrated: +/- 0.5% or +/- 0.08" rectified: +/- 0.25% or +/- 0.03"	≤ 4": +/- 0.5% other calibrated: +/- 0.3% rectified: +/- 0.012" <sup>C</sup>
Actual thickness (range)	C 499	≤ 0.04"	thickness < 0.4": +/- 4% thickness < 0.4": +/- 4%
Warpage edge	C 485	calibrated: +/- 0.75% or +/- 0.09", rectified: +/- 0.4% or +/- 0.05" <sup>D</sup>	≤ 4": max. +/- 0.015" >4" < x ≤ 8": max. +/- 0.025" >8" < x ≤ 12": max. +/- 0.03" >12" < x ≤ 24": max. +/- 0.05" >24": max. - 0.05" / + 0.07"
Warpage diagonal	C 485	calibrated : +/- 0.5% or +/- 0.08" rectified : +/- 0.4% or +/- 0.07"	4": max. - 0.015" / + 0.025" 6": max. +/- 0.03" other calibrated: max. +/- 0.05" 12 x 24 / 15 x 30 / 18 x 18 / 24 x 24 / 30 x 30": max. +/- 0.06" other rectified: max. +/- 0.07"
Wedging	C 502	calibrated: +/- 0.5% or +/- 0.08" rectified: +/- 0.25% or 0.03"	calibrated: +/- 0.5% rectified: +/- 0.02"
Water absorption	C 373	≤ 0,5%	surface: < 0.05% body: ≤ 0.3%
Bond strength	C 482	≥ 50 psi	> 200 psi
Breaking strength <sup>E</sup>	C 648	≥ 250 lbs	thickness ≤ 0.4": > 400 lbs thickness ≥ 0.4": > 700 lbs
Modulus of rupture	C 674		> 6000 psi
Abrasive wear	C 1243	≤ 175 mm <sup>3</sup>	< 100 mm <sup>3</sup>
Thermal shock	C 484	Pass	Pass
Freeze-thaw cycle	C 1026		Unaffected
Chemical resistance	C 650	As reported	Class A
Coefficient of friction	C 1028	≥ 0.6 (SCOF) BOT 3000 ≥ 0.42 (DCOF)	V/VE/VV: 0.89 (dry) / 0.77 (wet) RL: 0.94 (dry) / 0.8 (wet) V/VE/VV/LS/RL: ≥ 0.70 RQ/RM/AS: ≥ 0.63 MR: ≥ 0.51
Cradle to Cradle			Silver

A Assuming there is no change to the surface of the tiles. A treatment applied to Mosa floors 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 floor tiles. Mosa does not accept any liability for this.

B Dimensionality (C499) and warpage (C485) of all (specially produced) different and derivative sizes and products comply at least to the requirements stipulated in ANSI A137.1 class P1 (Porcelain Tile).

C Including Terra Maestricht 6" x 6" rectified (V and RL)

D +/- 1.3 mm for sizes ≤ 24" x 24" and +/- 1.8mm for sizes > 24" x 24"

E Breaking strength requirements (C648) do not apply to oblong sizes (planks).

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### Dimensions

Modular size vs actual size

Production is based on Mosa's modular system. The nominal size is expressed in centimetres, while the actual size is expressed in millimetres. A nominal size of 15 x 15 cm (6 x 6 inch) is equivalent to an actual size of 146 x 146 mm (5 3/4" x 5 3/4"). The tiles are intended for installation with 1/8 to 3/16 inch joints.

### Calibrated

Calibrated (non-rectified) floor tiles may have other manufacturing dimensions (=calibres), within the tolerances of the Mosa standard. The calibre code is shown on the floor tile packaging. Mosa pallets always contain tiles of a single calibre. Always use tiles of the same calibre when working on a single large surface.

### Rectified

All tiles larger than 12 x 12 inch have rectified edges and can be installed with an 1/16 to 1/8 inch joint width.

### Shades and design

Tiles are a natural product. Shade 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 design of Mosa unglazed floor tiles is the result of a randomized scattering process; every tile is unique. Design and shade of supplied tiles may deviate from shown samples.

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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**

<b>216</b>	color	
<b>V</b>	surface indication	V/VV smooth surface RG/RL/RM/RQ/MR/AS/LS/TS/WS/XS textured/anti-slip
<b>060060</b>	nominal size 60 x 60 cm (24 x 24 inch)	
<b>1</b>	grade	Mosa only packages and delivers grade 1 tiles.
<b>77</b>	calibre designation	Manufacturing size 597 x 597 mm (24 x 24 inch), modular with 1/8 inch grout line.
<b>AA</b>	shade designation	
<b>0</b>	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.
<b>X03</b>	packaging code	Indicates the type of box and the number of pieces per box.

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### HACCP

Various series include matching, modular thin coved bases and skirting with internal and external corners for rounded transitions between tiled walls and floors. The use of thin cover skirting is particularly recommended in areas subject to HACCP requirements, such as:

- bakeries
- fruit and vegetable processing areas
- hotels, restaurants and cafés
- supermarkets
- slaughterhouses and butcher shops
- fish processing and retailing areas
- food preparation areas
- dairy production and processing areas
- breweries
- changing and shower rooms

The Global Collection and Softline series also include an extensive range of slip resistant products and special solutions for curved wall/floor transitions and corners.

### Light reflectance value

The light reflectance value (LRV) is determined according to ASTM C609 and is the ratio of the total quantity of light reflected from a surface to the total quantity of incident light on the surface. The LRV can be used to determine the contrast between different colors. LRV may be useful when preparing a lighting plan and selecting colors for non-ventilated facades. See the Mosa documentation or [www.mosa.nl/en](http://www.mosa.nl/en) for the indicative LRV for each color.

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### Facade cladding

Because they are manufactured using the Ultragres procedure, in accordance with ANSI A137.1 class P1, Mosa unglazed porcelain floor tiles are frost resistant and suitable for use as facade cladding. Attachment and anchoring must be carried out in accordance with the instructions of the constructor and/or the work specifications. For detailed information about facade cladding, visit [www.mosafacades.nl](http://www.mosafacades.nl) or contact Mosa Facades bv; Tel: +31 (0)43 368 88 50; Fax: +31 (0)43 368 88 40.

### Installation recommendations

Mosa floor tiles can be installed with any conventional installation method, using any mortars, adhesives and grout compounds suitable for fully vitrified porcelain tiles and in compliance with ANSI 108 and 118 or ISO 13007. 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.

### Planks

Planks from the Mosa unglazed floor tile collection are modular and can be used to create a continuous pattern with floor tiles of sizes 24 x 24, 36 x 36 and 24 x 48 inch. For use on walls, floors and facades. Due to the flatness tolerances of the substrate and the planks, slight unevenness in the tiled wall cannot be ruled out when tiles are installed in a brickwork pattern. Any resulting shadows will be accentuated by raking light (see also TCNA Handbook for recommendations).

For detailed installation recommendations see the Mosa documentation or [www.mosa.nl/us](http://www.mosa.nl/us).

### Maintenance

See [www.mosa.nl/us](http://www.mosa.nl/us) for the latest maintenance recommendations.

### General questions and samples

Sales Support: [info@mosausa.com](mailto:info@mosausa.com)



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Like any material, Royal Mosa's porcelain tiles can become slippery when wet. Care should be taken to keep the surface dry at all times. Our tiles should be installed in accordance with the current application guides of the Tile Council of America and/or American National Standards Institute guides and standards. Errors and omissions excepted. 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 Terms and Conditions of Sale. No rights can be derived from the contents of this Technical Product Sheet. We take no responsibility for typographical errors. This technical product sheet replaces all previous versions. For the most actual version see [www.mosa.nl](http://www.mosa.nl).