

Mosa. Tiles.

Installation advice XXL

General

For good tile installation a flat, stable substrate with sufficient load bearing capacity is required. For general guidelines and quality standards pertaining to the installation of wall and floor tiles and the substrate requirements, please refer to the following publications:

- URL 35-101 (dated 2009-03-16) – Installation of wall and floor tiles for regular applications (published in the Dutch language by IKOB-BKB)
- SBR/WTCB 468a.H.99-ISBN 90-5367-284-2

Additional information, concerning aspects such as flatness and the installation of tiles, can be found in the following DIN standards:

- DIN 18157 – Application of ceramic tiling using the thin-bed method
- DIN 18202 – Tolerances in building construction - buildings
- DIN 18352 – General technical specifications for building works - Tile laying works

The dimensional stability of the rectified Mosa XXL floor tiles makes it possible to achieve a regular grouting pattern in conformance with URL 35-101 group 1 if properly installed.

Mosa XXL unglazed floor tiles can be installed with any conventional tiling method, using any powder adhesive and grout suitable for double-hardened tiles. Installers must consult the respective adhesive manufacturers to determine the suitability and obtain instructions for use of these products.

Adhesives suitable for XXL unglazed floor tiles are manufactured in accordance with EN 12004: powder adhesive, medium-bed tile adhesive type C2TE.

Due to the random scattering pattern during the production process, the tile surface has a directional pattern. This can be taken into account when placing the tiles. An arrow on the reverse of the tile indicates this direction.

All XXL sized tiles are rectified and have ground edges; these can therefore be modularly installed with a grout line width of 3mm or with a minimum grout line width of 2mm (if not installed modularly).

Mosa XXL floor tiles in sizes 60x120, 90x90 and 100x100 cm weigh 22, 25 and 30 kg per box respectively. Mosa recommends that the tiles be handled by two people working together, using glass carriers or a mechanical lifting tool, such as the T-Bo (www.venema.com).

The substrate must be absolutely flat, dimensionally stable, have a high compression and tensile strength, and be permanently dry and free of dirt, separators and cracks.

Expansion joints must be placed in accordance with the instructions of the constructor and/or the work specifications. Existing expansion joints in the subconstruction must be carried through in the tile installation.

Cutting advice

Pieces can be cut to size using a tile cutter with mobile breaking mechanism with sufficient support and a Widia scoring wheel or with a water cooled diamond blade tile cutter.

Narrow jointing pieces must never be smaller than 1.5 x tile thickness (13 mm/0.52") = approx. 20 mm (0.8").

Small jointing pieces should first be cut to double the required width, and then cut in half. Other jointing pieces (diagonal, bevelled or narrower than 20 mm/0.8") must only be cut using a water cooled tile cutter with a diamond saw.

To prevent tile breakage, XXL tiles on light constructions can only be drilled using a watercooled diamond tipped drill.

Due to their extra strong top layer floor tiles in the colour Porcelain white are best cut using a water cooled diamond blade cutter.

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Drilling advice

To prevent tile breakage, XXL tiles on light constructions can only be drilled using a watercooled diamond tipped drill. Always use a support tool to help fix the drill, for example a drill support with suction pads. Small diameters must be drilled at a high speed, larger diameters at lower speeds. Don't hammer!

Tiles - not in place

Support the tiles over the entire surface, preferably on a wooden base; use a water cooled diamond drill - hollow drill set (ϕ 6 - 120 mm/ ϕ 0.24" - 4.8").

Tiles - on floor

Use a water cooled diamond drill - hollow drill set (ϕ 6 - 120 mm/ ϕ 0.24" - 4.8").

Tiles - on wall

Drill standard with suction pads and water cooled diamond drill - hollow drill set (ϕ 6 - 120 mm/ ϕ 0.24" - 4.8").

Installers must familiarise themselves with the latest techniques for the installation of large sized floor tiles.

For floors in indoor areas

Mosa recommends that the XXL tiles be laid using tile adhesive.

When the tiles are laid at least 95% of the tiles must have an adhesive contact area of at least 95%. For the remaining 5%, the adhesive contact area must not be less than 80%.

Use a half-round notched trowel in combination with the buttering floating method.

Mosa recommends that large sized tiles not be laid directly in the mortar, as the mortar will shrink as it dries, creating a risk of damage or detachment of the tiles. If you nevertheless decide to lay the tiles in a wet mortar bed, the application of a contact layer is necessary for all XXL sized tiles.

For walls in indoor areas

XXL tiles meet strict flatness requirements, but to achieve a smooth, flat tile wall the substrate must be sufficiently flat and the installation must be carried out by a professional with expertise. When using skimming light, any unevenness in the wall may be accentuated.

For this reason Mosa advises to install the light source at a distance of minimal 50 cm from the wall.

When the tiles are laid, the adhesive contact area must be at least 80%.

XXL format tiles must be installed using a 10x10 tooth coomb in combination with the buttering floating method.

The rectified XXL floor tiles can be mitred to achieve attractive outside corners. It is recommended that the saw blade depth be set 1mm below the finished surface of the tile. This ensures an undamaged edge along the corner cut.

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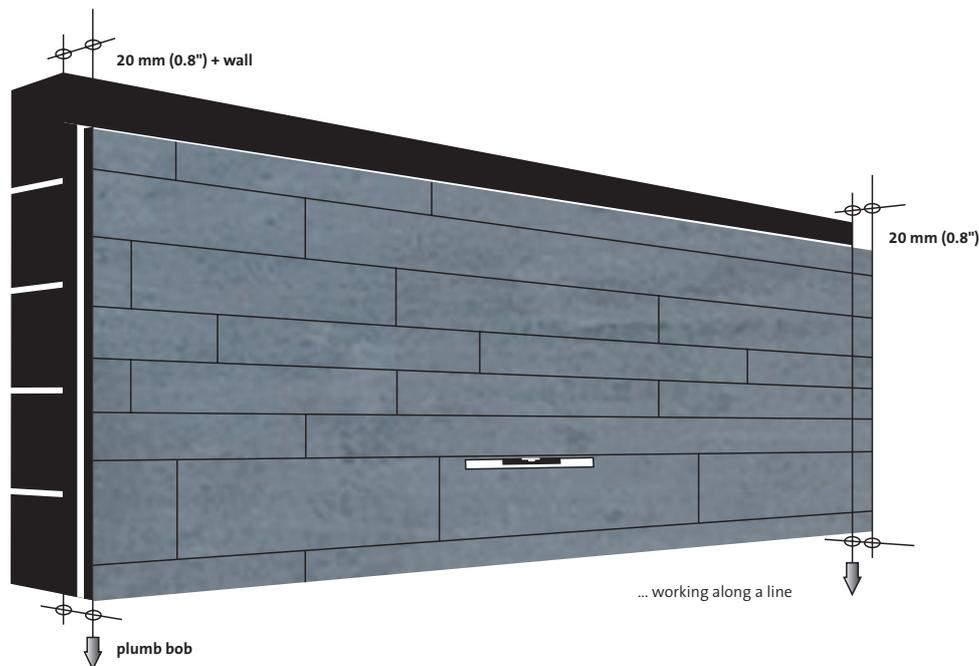
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XXL planks on a wall

Working method "Along a line"

Set out 20 mm (0.80") (= thickness of tile 13 mm/0.52" + residual thickness of adhesive) left and right on the wall to be tiled, using temporary anchors and a plumb bob, now fit tiles level "along the line", using these two plumb lines.

The line is suspended 20 mm (0.80") in front of the wall to be tiled.



Terra XXL can be used in different bonds and row patterns. See Mosa documentation or www.mosa.nl/en for examples.

For floors in outdoor areas

Because the unglazed floor tiles are manufactured using the Ultragres procedure, in accordance with EN 14411 Bla, with water absorbency of <math><0.05\%</math> on the surface and water absorbency of $\leq 0.3\%$ on the underside, they are frost-proof and suitable for use in outdoor areas.

Achieving a good installation for outdoor applications is dependent on many factors. Among other things, strict requirements are placed on the construction of the substrate to be tiled, and matters such as sufficient slope, full bed adhesive application (100%) and the elimination of water intrusion risks at junctions and expansion joints are of great importance. Moreover, professional skill and the quality of the employed adhesive and grouting system determine, to a large degree, the final quality and durability of the tile work.

For all outdoor applications, Mosa recommends seeking technical advice from the adhesive manufacturer.

As façade finish

Because they are manufactured using the Ultragres procedure, in accordance with EN 14411 Bla, with water absorbency of <math><0.05\%</math> on the surface and water absorbency of $\leq 0.3\%$ on the underside, the tiles are frost-proof and suitable for use as a façade finish. Attachment and anchoring must be carried out in accordance with the instructions of the constructor and/or the work specifications.

When attached using an adhesive, the adhesive manufacturer's instructions must be strictly followed. In connection with the building physics boundary conditions, contact must always be sought with the adhesive manufacturer and supplier before dimension and colour choices are made.

For detailed information about façade systems, see www.mosafacades.nl or Mosa Facades bv; Tel: +31 (0)43-3688850; Fax: +31 (0)43-3688840.

Grouting

Grout the tiles with a suitable grout in accordance with the manufacturer's instructions.

Mix the grout in accordance with the manufacturer's instructions.

Follow the recommendations for the powder-to-water ratio and ripening time to achieve optimal performance and quality.

The 'open time' of the mixed grout must also be kept in mind. Once the open time has been exceeded the grout will begin to break down and will lose its adhesive strength. If exceeded, the grout may no longer be used.

Water must not be added to grout that has become too dry, because doing so can have a severe negative impact on the quality and colour.

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A suitable tile grout will be classified as type CG2 according to EN 13888. Where necessary, grout with increased wear resistance (type CG2Ar) should be used.

For use in sanitary rooms or rooms with higher waterproof or hygiene requirements, low water absorption grouts (type CG2WAr) should be used. These are grouts that have been mixed with high quality synthetic binders.

Before applying the grout all dust and contaminants must be removed from the tiles with a clean, damp sponge. The residual film of water will fill any small irregularities in the tile surface and will make grouting easier.

Now grout the tiles with a grout float, and remove as much excess grout from the tile surface as possible during the process. Then allow the grout lines to dry until they begin to take on a dull appearance. This can take 15 to 45 minutes. (Tip: Once you can touch the grout with a clean fingertip and no grout sticks to your finger, the grout is ready to be sponged off.)

Hereafter, rub entire tiled surface with a slightly dampened sponge float or a well-wrung sponge in a circular motion. This pre-rinsing gives the grout an attractive, uniform appearance and prevents residual grout from adhering to the tiles.

Attention: Use as little water as possible! If too much water is used during pre-rinsing, the grout lines can become saturated, reducing their quality and resulting in colour variances.

For sponging off the tiles Mosa recommends the use of a wash boy (elongated pail with extraction rollers) with clean water and a sponge float. The water must be changed very frequently.

Wet the sponge float in the wash boy and use the rollers to squeeze out the excess water. Slowly draw the sponge float diagonally across the tiles (this allows the sponge to pick up the residual grout).

Rinse the sponge float in the wash boy after every sponging and squeeze out the excess water again.

Repeat this process until the entire tiled surface is completely clean, and remember to change the water often.

After the tiles have been sponged off, the tiles can be rubbed dry with a cloth or paper towels.

Important

It is best not to cover the tiled surface until all the residual moisture from the adhesive and grout has evaporated. This can take 24 to 72 hours. Should it nevertheless be desirable or necessary to cover the surface, it is recommended that you do so with a breathable material and not with plastic sheeting. We strongly advise against covering with plastic sheeting until all the residual moisture has evaporated.

When there is a danger of excessively quick drying as a result of heat, draughts or other factors, the grout must be re-dampened several times to prevent cracking, discolouration and loss of quality.

See www.mosa.nl for extensive advice and an instructional video on grouting and removal of old grout.

General questions

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The text for this installation advice 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 current state-of-the-art knowledge. This installation advice sheet contains information about Mosa products, properties and applications, and therefore may not to be used as a guarantee for the stated recommendations. Mosa will not be held responsible should this information be used as a guarantee. For warranties and liability we refer to our General Terms and Conditions of Sale. No rights can be derived from the contents of this installation advice sheet. Errors and price alterations excepted. For the most actual version see www.mosa.nl.
