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# ALS

## OUTDOOR PORCELAIN

ALS Outdoor Porcelain is an extensive range of long-lasting porcelain outdoor tiles that retain their colours and appearance over the years, even in extreme weather conditions.

## USE

ALS tiles are frost proof, which means they can be used in all outdoor environments, both for private use and mode-rate collective use. Their excellent dimensional properties make them perfect for use with an adhesive or installation on pedestals

## DIMENSIONAL PROPERTIES

ALS tiles are rectified and calibrated, which means that the following dimensional properties are guaranteed (according to EN ISO 10545-2):

Length/width	+ - 0.03 %
Thickness	+ - 2.5 %
Diagonals	+ - 0.2%
Surface Flatness	+ - 0.06%



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## TECHNICAL PROPERTIES

Standard		International requirements	Average Value
Water Absorption	EN ISO 10545-3	≤ 0.5%	0.01 massa %
Breaking Load (60x60x2cm)	EN ISO 10545-4	≥ 1300 N	12360 N
Flexural Strength (MOR)	EN ISO 10545-4	R ≥ 35 N/mm <sup>2</sup>	46 N/mm <sup>2</sup>
Wear Resistance	EN ISO 10545-6	≤ 175 mm <sup>2</sup>	118 mm <sup>3</sup>
Frost Resistance	EN ISO 10545-12	Frost proof	Frost proof
Slip Resistance	DIN 51130		R11
Stain Resistance	EN ISO 10545-14	Class 2 or higher	Class 4 easy to clean

## MAINTENANCE

The fact that ALS tiles have low water absorption makes them almost maintenance-free, since dirt, moss and moulds cannot attach themselves to the surface. Regular sweeping or cleaning with water and a non-aggressive soap are sufficient to keep the surface clean.

Avoid the use of sealers and maintenance products that contain oil. The low porosity of the tiles means that the oil or sealer will form a greasy layer on the surface.



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## INSTALLATION INSTRUCTIONS

### General guidelines

- After delivery on site, the tiles must be adequately protected from wind and rain
- Broken or damaged material is to be used where possible by sawing off the damaged part.
- Important: 'Installation is acceptance'. This means that after installation no complaints will be accepted, except for hidden faults.
- Carefully mix the tiles to achieve a harmonious appearance of colours and shades.
- Always seek professional advice before installing any products.

### Advice

- The joint between the tiles and the brickwork must be lower than the level of the damp proof course.
- Expansion joints are to be provided along all fixed elements around and on the patio: brick walls, kerbs, pillars etc.
- Provide adequate expansion joints: Surfaces exposed to the sun: every 20m<sup>2</sup> or 4 linear metres. Surfaces not exposed to the sun: every 25m<sup>2</sup> or 5 linear metres.
- Fit the tiles on a slope of 1.5% - away from the brickwork – to avoid stagnant water on the surface.
- The minimum joint width outdoors is 5mm. Approximately 4 weeks after joining, clean once only with a cement residue remover (eg Lithofin KF cement residue remover) to get rid of any cement residue.

### Installation on a wet bed

- Sub-foundation: minimum 15cm of rubble, well rolled.
- Foundation: lean or no fines concrete, minimum 10cm. Composition: 150kg cement per m<sup>3</sup> - 8/22 or 10/20 granulate.
- Reinforced screed: minimum 5cm. Composition: washed river sand (0/5 mm) mixed with max. 250kg cement per m<sup>3</sup> sand.
- Apply adhesive to both surfaces (contact surface 100%)
- ALS Porcelain tiles

### Installation on a concrete bed

- Foundation: traditional concrete bed
- Drainage mat + separation mat (follow the manufacturer's installation instructions here)
- Apply adhesive to both surfaces (contact surface 100%)
- ALS Porcelain Tiles

### Installation on pedestals

- The substrate onto which the pedestals are installed must be sufficiently sturdy and be able to bear the load.
- Avoid stagnant water on the substrate, for example by providing a slope (+- 2cm per linear metre).
- With tiles larger than 60/60cm, add an extra pedestal in the middle of the tile. For rectangular tiles, six to eight pedestals will be needed depending on the format.