

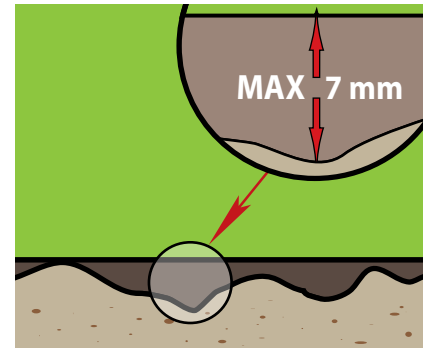


## SUBSTRATE PREPARATION

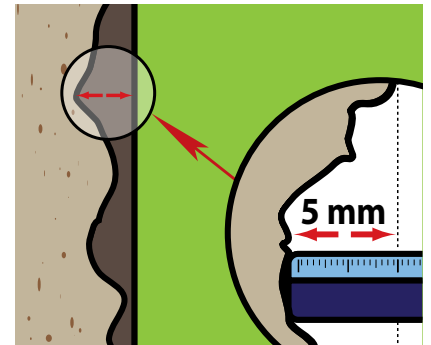
### SUBSTRATE FLATNESS

The substrate should be flat for an accurate and easy tiling application.

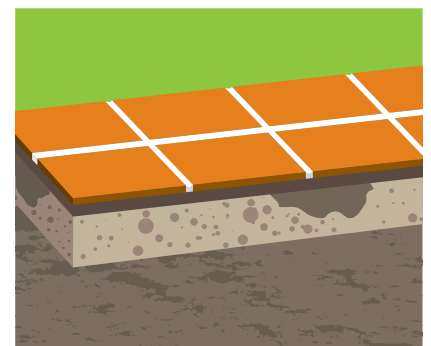
- The deepest point of the application surface in 2 m long straight gauge should not exceed 7 mm.



- The surface deviation is limited to 5 mm under 2 m long straight gauge for substrates of floors exposed to heavy loads and heavy pedestrian traffic, external facades, and pool shell screeds and walls.



- For larger deviations, the surface should be smoothed with either surface repairing and smoothing plasters or leveling materials.



- Tile adhesives are not leveling materials. Thus, it is improper to use them for substrate smoothing and leveling purposes.

## SUBSTRATE STABILITY

Disbonding, cracking, covering deformation and etc. problems may arise at later stages of tiling or during servicing life of the tiled areas. The substrate should be stable in order to prevent problems originated from bonding failures of the adhesive on the substrate.

■ Hardness and resistance of the existing plaster or screed should be well checked. The surface hardness can be checked by scratching it with a pointed tool (i.e. hammer, screwdriver) superficially in random places of the substrate.

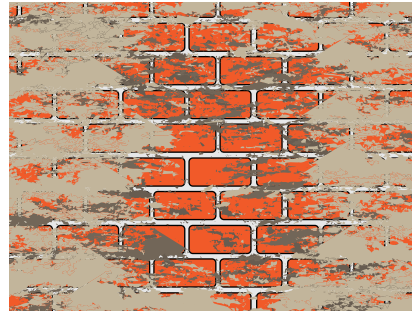
■ Loose and unstable surfaces should be removed until the sound and stable layer. Then, the substrate should be leveled with surface repairing and smoothening materials.

In case of an existing covering:

■ Loose and bloated existing paint should be removed mechanically. Notching or sanding the surface will provide suitable bonding adhesion of the adhesive.

■ Wooden floors and pannels must not move or flex when exposed to loading (stepped on or pressed), which will cause instability of the covering leading to disbonding and cracking problems. The loose boards or parts should be replaced, pannels laid on joists or battens should be reinforced and fixed to stabilize by anchoring every 30 cm max.

■ Adhesion and rigidity of the existing tile or PVC covering should be checked by tapping a hammer or scraper. Loose or poorly adhering covering should be removed and replaced by similar covering or the substrate should be reconstituted with a suitable repairing product.



## SUBSTRATE CLEANLINES

The substrate should be clean for a proper bonding of the adhesive.

Surfaces should be clean and free from dust, dirt, grease or any other contaminating barrier.

- It is recommended to wash and clean up the surface with pressurized water.

- Residues and stains on existing tiles can be cleaned by appropriate cleaning materials.

- Subsequently hardened or polished surfaces and laitance (concrete and etc.) must be removed by scabbling.



## PRIMING THE SUBSTRATE

Substrates with different formats may have different surface absorptivities (water permeability).

- Gypsum (board, pannel and plaster), wooden (board, pannel and OSB), cement (board, plaster and screed) based substrates have high surface absorptivity.

- Surface absorptivity for concrete substrate is very low, where glazed tiles or painted surfaces have almost any.

Surfaces with high absorptivity absorb the mixing water of the cementitious adhesive or other mortars very fast. Thus, the mortar loses out its mixing water and this will cause early but improper setting leading to weak adhesion and disbonding of the covering.

- To control surface absorptivity the surface should be wetted. If the surface absorbs the water fast (in 30-45 seconds), then the surface is segmented as high surface absorptive.

- Sealing with appropriate primers; the high absorptivity of surfaces should be reduced and balanced, where surface adhesion should be improved for impervious substrates with primers including thick fillings (thick fillings expand bonding surface)



When tiling during hot, windy and dry conditions, it is inevitable that the mortar will lose its mixing water very fast due to rapid evaporation. Prior to spreading the mortar on the substrate, wetting or damping will decrease substrate surface temperature reasonably. For better performance, the surface should be sealed with appropriate primers.

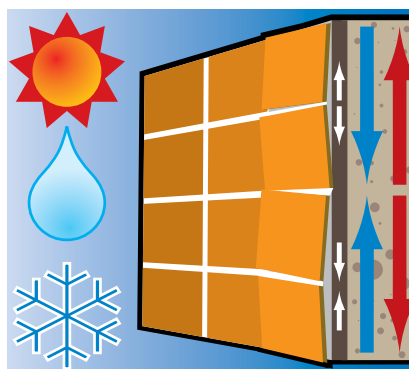
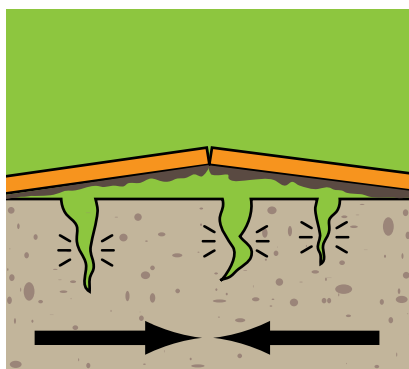
- Primers are liquid and can be applied easily on the surface with a roller or brush. The surface should be completely sealed in one or two coats, forming pinhole free film coat.



## FRESH SUBSTRATES

It should not be tiled onto new screed, plaster or concrete. Leave fresh substrate for at least 6 weeks to fully set, before substrate repairing, surface smoothing and tiling.

- In external facade applications, the duration extends to minimum 3 months. Otherwise, mechanical and thermal movements (shrinkage, expansion and contraction) on the substrate arising during curing period may reinforce bonding problems.



SUBSTRATE PREPARATION