

## INSTALLATION TIPS FOR NATURAL STONE FLOORING AND CLADDING

The following tips are to be considered as guidelines for standard application in an indoor environment and in no way alter the responsibility of end users. If products are to be used in conditions other than those normally accepted for civil engineering, such as heavy loads or special thermal/hygrometric conditions, situations of high solar exposure or large size facilities, it is recommended to contact Furmanek Trading for installation guidance.

- Tiles as well as slabs must be stored in a dry covered place at a temperature not lower than 5°C.
- In standard conditions, fast-drying white cement-based bonding agents are recommended (for example: Mira), or the same bonding agents used for ceramics and natural stone. For large slab sizes, special support structures, or under stress conditions, adhesives with an S2 deformability rating must be used.
- The installation must ensure that the bonding agent adheres to the entire surface of the tiles or other stone elements.
- Flexible (silicone or PVC) expansion joints must be made along the walls to execute a 4/5 m x 4/5 m base section
- Stone products can be used for heated floors. In this case, the subbase must be absolutely dry and special attention must be paid to the execution of expansion joints.
- Tiles and slabs can be easily cut and customized for dry exterior installation with proper protection.
- After installation, all products, must be protected to avoid damage in the form of scratching when the work surface is opened.
- Stains caused by bonding or sealing agents must be removed quickly. Clean the work surface with natural detergents.

## QUICK REFERENCE GUIDE FOR INSTALLING NATURAL STONE FLOORING AND CLADDING

- Natural stone elements should be installed on a level, clean, compact and dry subbase (relative humidity not less than 2%, pulling strength not less than 1 N/m<sup>2</sup>). The minimum period between pouring the screed and installing the tiles should be about 6-7 weeks. In order to level uneven interior floors we recommend the use of self-levelling screeds which have a very wide range of applications and are fast-acting products. We do not recommend levelling a subbase with a thicker layer of adhesive!
- Immediately before installation, prime the subbase. Priming the subbase increases its adhesion and additionally limits the migration of batch water from the distributed adhesive into the subbase (this water is necessary for cement bonds, too little of it can cause the so-called adhesive burning).

- For priming of absorbent subbases we recommend Mira 4180 Primer.
- Non-absorbent subbases should be covered with a bonding layer to increase adhesion, for this purpose we recommend the use of Mira 4140 Contact Primer. Some tiles have a reinforcing mesh bonded using resin, to avoid tearing it off before bonding, this primer should also be applied to the bottom of the tile.
- For the installation of stone elements use a flexible natural stone adhesive based on white cement (we recommend Mira professional adhesives). First, apply adhesive to the back of the board using a 3 mm trowel. We recommend using type C2TES1 adhesive, which should be spread in one direction only. Next, spread the adhesive over the floor surface using a fifteen-millimeter serrated trowel with rectangular teeth or a ten-millimeter serrated trowel with triangular teeth. Be sure to follow the same direction as when applying adhesive to the back of the slab.
- Then finish the installation by applying a suitable sealant with a minimum expansion joint of 3 mm using spacers. Use only silicones or grouts designed for natural stone to seal voids. Use of products not designed for stone may result in stains on the stone material.
- When installing stone on terraces or balconies, we recommend using a hydro insulation dedicated to outdoor applications. In wet rooms (bathrooms) we should also remember to use tile hydro insulation. Hydro insulation is not only characterized by high water resistance, but also by mechanical resistance and especially resistance to water vapor diffusion.
- After installation of the elements, make sure the surface has been properly cleaned of any residual adhesive, grout and silicone. Use clean water or specialized stone care products to clean. Other products, especially those with an acidic reaction can cause loss of gloss and pitting on the texture of the stone.