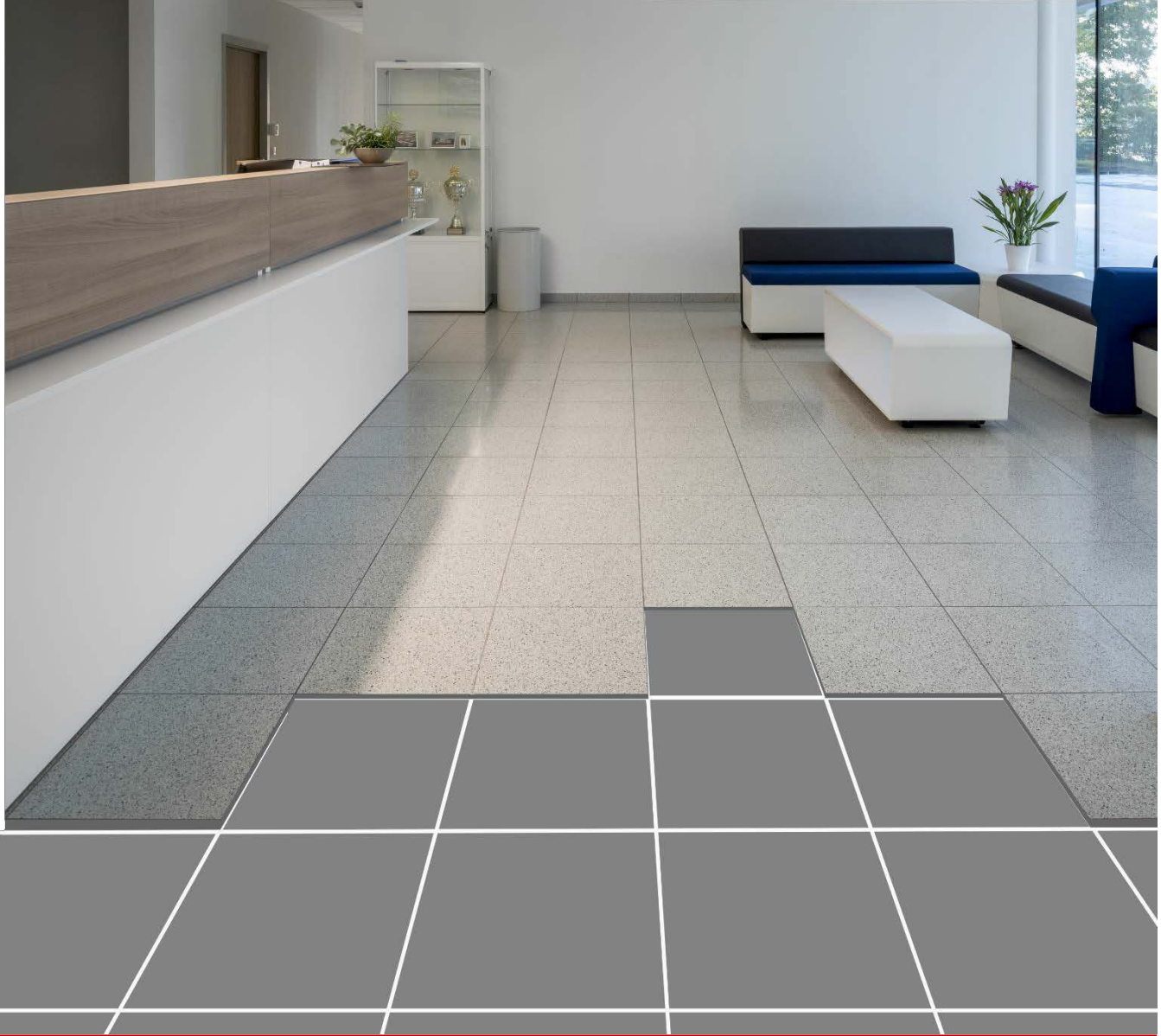




stonite

DECORATIVE STONE COVERINGS



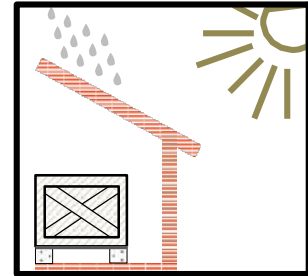
FLOORING APPLICATIONS AND MAINTENANCE GUIDE

STONITE TERASTONE

STONITE Terastone surface coverings are natural products which highlight the aesthetical and mechanical aspects of the materials they incorporate. They are manufactured by utilizing Italian Breton “vibro-compaction under vacuum” technology and have outstanding physical and mechanical properties. This technology allows aggregates like marble or granite bond strongly and closely with cement, so they can be used in a variety of covering applications as durable and aesthetic materials.

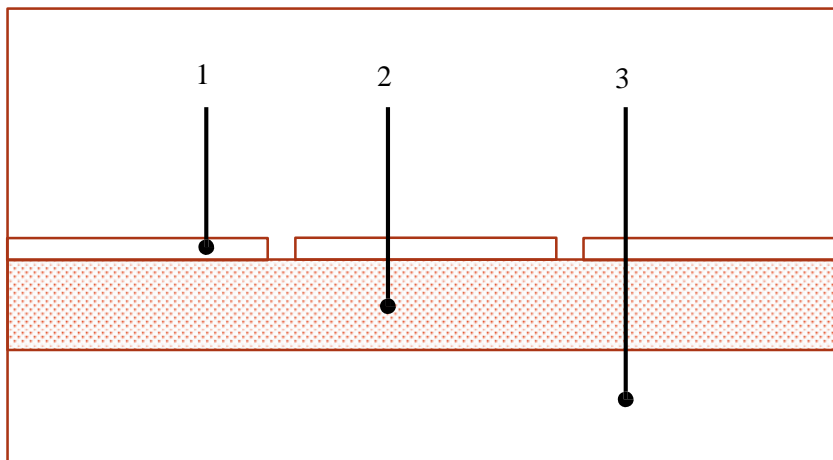
STORAGE AND WAREHOUSING

- STONITE products should be stored protected from weather conditions before installation.
- It is recommended that the products are installed as soon as possible after delivery.
- Please be sure that the products are not damaged upon delivery. Inform your seller before the application process if you observe a problem.



SURFACE PREPARATION

STONITE products are installed on concrete screed prepared on concrete floor. It can be applied rarely on other surfaces as well.



Picture 1 - (1) STONITE tile (2) Screed (3) Bearing foundation (Concrete Floor)

INSTALLATION OF STONITE PRODUCTS

STONITE Products can be installed as floor covering in two ways:

- Using traditional mortar
- Using adhesives

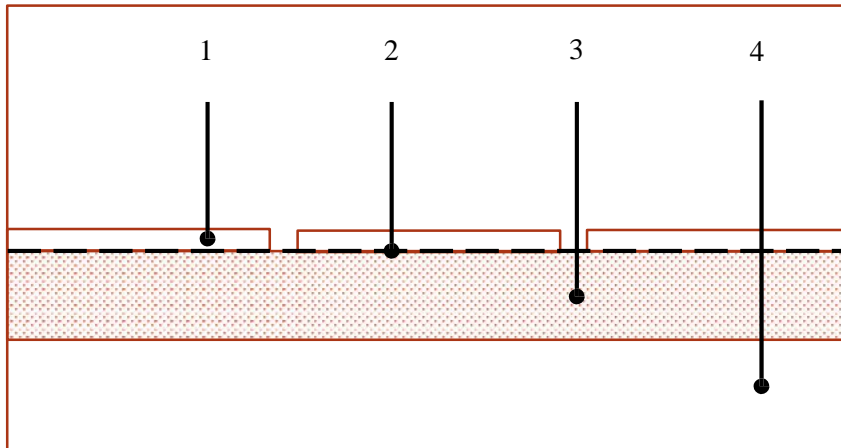
TRADITIONAL LAYING ON MORTAR

LAYING ON WET CEMENT MORTAR

- Prepare the mortar with 4 units of clean sand and 1 unit cement and add clear water. Quality materials are recommended. The sand should be clean and graded to a maximum 7 mm particles.
- Application surface should be cleaned from dust, old mortar, and etc. Dampen the floor surface lightly.
- The thickness of the cement mortar should be at least 15 mm and maximum 30 mm. If the thickness is less than 15mm, the bonding cannot be even and tiles may lift after installation. If the thickness is more than 30 mm, some tiles may collapse and leveling will be too difficult to obtain. If more than 30 mm filling is needed, a layer of leveling concrete should be applied first. Then after 3-4 days of setting you can proceed with installation.
- Do not apply mortar in large areas at once. The mortar may lose its softness after some time, depending on the environmental conditions.
- Once the cement bed is properly laid and levelled (foundation), its surface has to be evenly dusted with dry cement: "dusting" operation.
- STONITE tiles' back sides should be dipped in clean water and drained of extra water for ideal bonding. Afterwards, the tiles should be placed on the surface accordingly. Leaving a minimum 2 mm joint gap between the tiles is recommended.
- Press and gently tap the tiles with a rubber mallet or hand so as to position them flat, leveled, and with a uniform contact with the foundation, while making sure the cement mortar does not surface from the joints.
- Seal the joints after about 4-5 days minimum to allow cement mortar set. During sealing, clean up tiles as quickly as possible of any filler trace caused by excess sealing material in the joints.

LAYING ON SEMI-DRY CEMENT MORTAR

- For each of cubic metres of aggregates (the thickness of aggregate must be 0-4 mm) add 150-200 kg of cement and mix without water. If possible, the mortar must be machine-mixed.
- The setting bed must then be compacted and levelled to be as flat as possible.
- Right before the tile laying, a thin layer of pure dry cement should be 'dusted' onto the fresh mortar layer.
- Wet the tiles after laying. This way water will seep through the joint gaps and will help the mixture soften and the tiles settle easily. Furthermore, the water will help cement to achieve the right moisture level. Finally tap the tiles gently to ensure perfect bonding with the floor (Picture 2).
- The quantity of water used for wetting the tiles should be kept minimum, just enough to wet the mixture under the tiles. In the case of larger tiles this method is very risky since it would be difficult to ensure the water to get to the entire back face.
- Seal the joints after about 4-5 days minimum to allow cement mortar set. During sealing, clean up tiles as quickly as possible of any filler trace caused by excess sealing material in the joints.



Picture 2 - (1) STONITE tile (2) thin layer of pure dry cement (3) screed (4) bearing floor

STAGES OF LAYING WITH MORTAR

1. Spreading mortar
2. Compaction
3. Levelling
4. "Dusting"
5. Tile laying
6. Wetting (in case of laying on semi-dry mortar)
7. Tapping
8. Joint sealing

PLEASE NOTE: For outdoor applications, if the tiles are exposed to direct sunlight, cover them with a damp cloth or a large sack for 24 hours.

ADVANTAGES OF LAYING WITH MORTAR

- Thick layer of mortar used allows to compensate for any possible unevenness of the foundation. Therefore this method is advisable when the foundation needs to be raised significantly or uneven.
- Lower cost.

DISADVANTAGES AND RISKS OF LAYING WITH MORTAR

- Overuse of water can cause weak bonding and irregular surface finishes.
- Perfect bonding cannot be achieved if screed concrete is not completely wet.
- Blooming can occur if the sand used contains salts or dirty.

LAYING WITH ADHESIVES

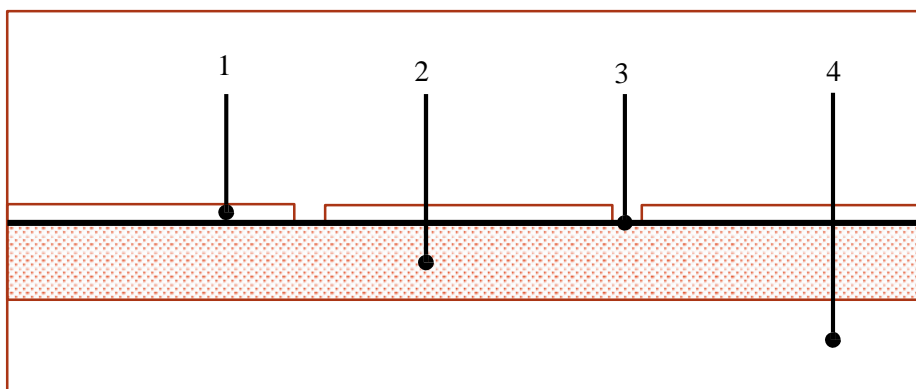
This application is recommended if the ground is perfectly leveled.

SCREED SPECIFICATIONS FOR THE APPLICATION WITH ADHESIVES

- The screed is prepared, levelled, float-finished and aged for at least 28 days (see Fig. 3).
- Screed should be compacted. You can check this by scratching the surface with a nail. This shouldn't cause any deep scratches nor any dust formation. Tapping with a hammer shouldn't leave a mark.
- Screed should be leveled. There must be no disparities more than 3mm with a 2m levelling bar.
- There shouldn't be any cracks (tiny hairline cracks are acceptable).
- The surface must be clean and dry.

APPLICATION

- With STONITE Products, cement based, two component and latex reinforced adhesives should be used.
- Adequate amount of adhesive should be applied both to the floor and to the back side of the tile.
- Placed tiles should be fully leveled by tapping with a rubber mallet.
- Joint gaps should be minimum 2 mm.
- STONITE products should be cleaned with a damp sponge right after bonding process.
- The area should be protected and isolated with a nylon mat for at least 24 hours.
- Don't put any object on, walk on, or wash the area for at least 1 day.
- Sealing process should start at least 24 hours after the laying completed.

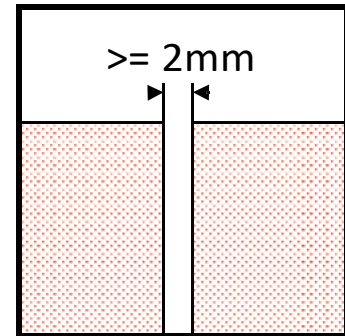


Picture 3 - (1) STONITE tile (2) screed (3) adhesive (4) bearing floor

JOINTS

STONITE Products should be laid with minimum 2 mm gaps. Less than 2 mm gap or edge to edge laying is not recommended.

- Cement based, two component and latex reinforced joint filling materials should be used.
- Joint fillings should be applied precisely with a help of plastic or rubber spatula.
- After the filling process wait for the agent to dry (the agent becomes non-transparent). Clean the surface with water and sponge or mop.



EXPANSION (DILATATION) JOINTS

- Follow and align with the construction expansion joints .
- For large areas, 1 cm expansion joints should be left accordingly:
 - For high traffic areas or surfaces under stress at each 5m x 5m,
 - For interior or stable surfaces at each 60 sqm.
- STONITE Products should be laid 1 cm. away from the walls, columns, edges and corners.
- Silicon based grouts must be applied over the expansion joints.
- If mechanical strength is needed, you can use two component polyurethane grouts.

SPECIAL FLOORING CASES

APPLICATION ON AN EXISTING CERAMIC FLOORS

- On a glazed tile, red or porcelain stoneware, or marble:
- Make sure the floor is clean and stable.
- Old flooring should be fixed to the ground, strong and crack-free. You can test this by hitting and listening.
- You can use warm water and 10-15% caustic soda mix in order to clean the area from the oil, dirt and stain.
- Mortar, cement, plaster or filler materials should be cleaned using by a trusted brand of cleaner.
- Polish or similar materials should be cleaned by polish cleaners.
- Paints and marble polish should be cleaned.
- After the cleaning process wash the area.

WALL TO WALL CARPET

Carpet should be removed. Remaining bonding agents should be removed and the floor should be cleaned by a vacuum cleaner.

UNDERFLOOR HEATING

In case of underfloor heating, either warm water system or electrical grids, the heating elements are placed under or into the screed. The screed should set for at least 21 days. After that, heating system should be turned on. Each day the temperature should be increased 5 °C, to the point where the maximum is reached in the end. Keep it at maximum for 10 days. After that reverse the process by decreasing 5 degrees every day then turn it off. While working on flooring in cold days, the temperature should remain at 15-18°C. Keep the warmth for 3 more days after the installation at the same temperature.

OUTDOOR APPLICATIONS

The back side of the tile should be 70% wet with adhesive for interior applications, however for outdoor applications this should be 100%. Use a spatula with a minimum of 10 mm teeth. In commercial areas, bonding agents should be applied both on the back side of the product and onto the floor.

CLEANING AND MAINTENANCE

- STONITE Products can be cleaned by soft soap. The amount of water can vary according the size of the area.
- Remove spillages immediately and clean by a quality cleaning agent which won't harm the polished surface.
- Instead of using a wet mop, floor cleaning machine is recommended.

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