

TILES TILES TECHNICAL
HANDBOOK



TILES STORAGE

Avoid exposing the tiles directly to UV rays. Do not leave the materials outdoors without suitable protection. Tiles placed on A-frames or packed in cases must be stored indoors.



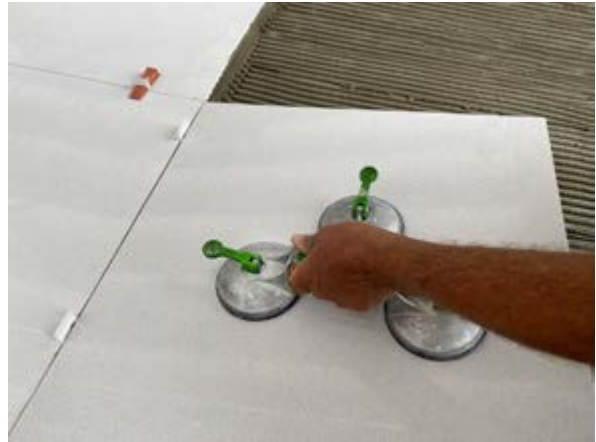
LAYING INSTRUCTIONS

PREPARING THE SCREED

Screeds must be completely dry, stable, solid, resistant to compression, sufficiently level and free from dust, grease, wax, paint, chemicals and anything else which may prevent them from fully adhering to the base. The residual humidity of the screed must not exceed 2,5%. Screeds generally mature in 6-8 days per cm of thickness, unless special quick-drying cements are used (Mapei's *Mapcem*, Mapei's *Topcem* or equivalent products from other brands). Any pre-existing screeds in concrete, tiles, ceramics or marble must show no signs of cracking and be solid, well fastened to the subfloor, able to withstand the expected loads and equipped with adequate structural joints.

HOW AND WHEN TO LAY THE TILES

The environmental temperature must be between +5°C and +30°C and the screed must be flat to within 3mm /1m. A diamond disc is required to cut the tiles. It is recommended to position large tiles using a suction cup. In order to ensure ideal contact with the screed, it is advisable to gently hammer the tiles with a rubber hammer, as this avoids the formation of air bubbles and empty spaces. To correctly lay the tiles, uniform, open grout lines must be created by using specially made nylon spacers.



RECOMMENDED ADHESIVES

Stone Italiana tiles are supplied finished and ready to be laid. They are calibrated, squared, polished and bevelled. Stone Italiana materials have a negligible water absorption capacity as they are made using high-pressure vacuum-forming industrial processes. This means that they display a high level of compactness, enhanced by their minimal percentage of heat-treated structural polyester resin. For Stone Italiana tiles, the traditional system of installing tiles using sand and cement (mortar) – which requires large quantities of water – absolutely must not be used due to the minimal percentage of water absorption. It is recommended to use quick-drying bi-component adhesives made from: component A (sack of cement) and component B (latex drum) specially designed for use with engineered stonebased materials with good resistance to physical and thermal stress (e.g. Mapei's *Granirapid*, C2F S1 class and Mapei's *Elastorapid*, C2FTE S2 class).

In hot climates, we recommend using only products in C2FTE S2 class to lay tiles of any format greater than 60x60 cm. The adhesive for laying the tiles should be prepared by mixing A & B in a mechanical mixer, being careful to pour the powder into the latex and not vice-versa:

- for *Granirapid*: 25 kg component A with 5.5 kg component B;
- for *Elastorapid*: 25 kg component A with 6.25 kg component B.

For particular cases we recommend the use of a high-performance adhesive such as Mapei's *Keralastic T* (bi-component polyurethane-based adhesive): this allows the tiles to stick to rubber, PVC, metal, wood, etc., especially where there is high humidity, where there are big jumps in temperature (resulting in the risk of expansion) – for example, in areas exposed to intense sunlight, in the case of large-format tiles.

The adhesive is made by pouring hardener B into the mixture and then mixing in a mechanical mixer until the mixture is completely smooth.

It is NOT recommended to use Stone Italiana materials for EXTERIORS, except in a limited number of cases, for example ventilated walls with suitable mechanical fastening systems. For information, please contact our Technical Office.

HOW TO USE THE ADHESIVES

When the adhesives are used correctly, Stone Italiana materials are guaranteed to stick well to the surface. It is recommended to apply the adhesive using a notched trowel, making sure that the quantity spread on the screed covers at least 80% of each tile.

When laying large-format tiles (60x60 cm and above) and for areas with intense foot traffic (airports, shopping centres, hospitals, etc.) it is recommended to use the double spreading system (adhesive also applied to the underside of the tile), as this will guarantee that 100% of the surface is covered. Once the tiles have been laid, it is advisable to apply a weight of 18/20kg on the four corners of the tiles for a number of hours, until the adhesive has completely hardened. The adhesive must be used in accordance with the quantities and instructions laid down by the manufacturer.

The size of the spatula must be chosen according to the size of the tiles and the state of the screed. We recommend applying a small amount of adhesive at a time and ensuring that the tiles are laid before the adhesive dries.



FILLERS FOR THE GROUTS

Tiles should never be laid without grouts.

The width of the spaces depends on the size of the tiles and should be in accordance with European standards (minimum values between 3 and 5 mm):

- 3 mm for: 30x30 cm, 40x40 cm;
- 4 mm for: 30x60 cm, 60x60 cm;
- 6 mm for: 30x120 cm, 60x120 cm; 120x120 cm.

The grouts must be sealed using a CG2WA class cement-based plaster in the desired colour (such as Mapei's *Ultracolor Plus*).

**EXPANSION JOINTS**

Expansion joints must be made after laying the floor, dividing the area into squares measuring 4x4 lm. It is advisable to leave sufficiently broad grout spaces to allow for filling with a F-25LM class mono-component silicon-based sealant (Mapei's *Mapesil AC*) around the perimeter and on walls, pillars, steps, etc. The gap between the floor and the walls must be at least 7mm.

**STRUCTURAL JOINTS**

Structural joints absolutely must be placed, clearly visible on the screed and specified in the plans; in the renovation of pre-existing buildings, they must be positioned where they formerly were.

AREAS SUBJECT TO DIRECT SUNLIGHT

When laying floors which will be exposed to significant amounts of sunlight (whether directly or through windows), we recommend first of all using Stopsol (UV BLOCK) windows and also a R2T class adhesive (EN:12004) such as Mapei's *Keralastic T* up to the expansion joint where the area not exposed to sunlight begins. Use of an adhesive such as *Keralastic T* is advised in certain situations where the Stone Italiana material is being installed in difficult conditions and/or on nonstandard foundations.

**UNDERFLOOR HEATING**

When underfloor heating systems are involved, the maximum size of tile which can be used is 60x60 cm. The best adhesive to use is the C2FTE S2 type (EN:12004, EN:12002), for example Mapei's *Elastorapid* or *Kerabond T + Isolastic*.

When floors are exposed to direct sunlight, the best adhesive to use is R2T (EN:12004), for example Mapei's *Keralastic T*.

REFERENCE FOR INSTALLATION PRODUCTS

www.mapei.com

CARE AFTER TILES INSTALLATION

Any excess adhesive on the tiles after laying must immediately be removed using a moist sponge in order to avoid any damage to the tile surfaces. If further work is to be carried out after the floor tiles have been laid, the tiles need to be covered with strong polyethylene sheets or special protective sheets which allow air to circulate. In areas with intense foot traffic, heavy construction work or movement of heavy loads and/or scaffolding, the floors should be covered using wooden planks.



CLEANING AFTER FLOOR INSTALLATION

End-of-works cleaning operations should be performed only when the grouts are dry.

Products containing acids, bathroom cleaning products, varnish cleaners, abrasive products, diluents and paint removers must NOT be used to clean Stone Italiana tiles, nor should alkaline and/or acidic detergents be used. The whole surface should be washed using a lightly acidic or neutral detergent mixed with water. Then rinse thoroughly with clean water and leave to dry.

N.B.: marble-based tiles and those containing mother-of-pearl must only be cleaned using a neutral detergent.

MAINTENANCE AND CLEANING

For daily cleaning, remove any dry dirt with a broom or vacuum cleaner. Wash the whole surface of the floor with a neutral detergent diluted in water, then apply the solution to the floor using a cloth or mop; lastly rinse thoroughly with fresh water and leave to dry.

	QUARTZ-BASED AND COSMOLITE® GLOSS, HONED, GRAIN 2.0, ROCPLAN 2.0	MARBLE-BASED AND QUARTZ-BASED WITH MOTHER OF PEARL GLOSS, HONED
ORDINARY MAINTENANCE	Neutral detergent	Neutral detergent
EXTRAORDINARY MAINTENANCE	Lightly acidic detergent	Concentrated neutral detergent

Examples of neutral detergents:

Stone Cleaner (Faber Chimica), *Fila Cleaner* (Fila), *Bravo* (Tenax).

Examples of lightly acidic detergents:

Stone Tile Cleaner (Faber Chimica), *Deterdek* (Fila), *AX Cleaner* (Tenax).



ISO 9001
ISO 14001
ISO 45001



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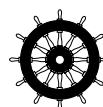
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