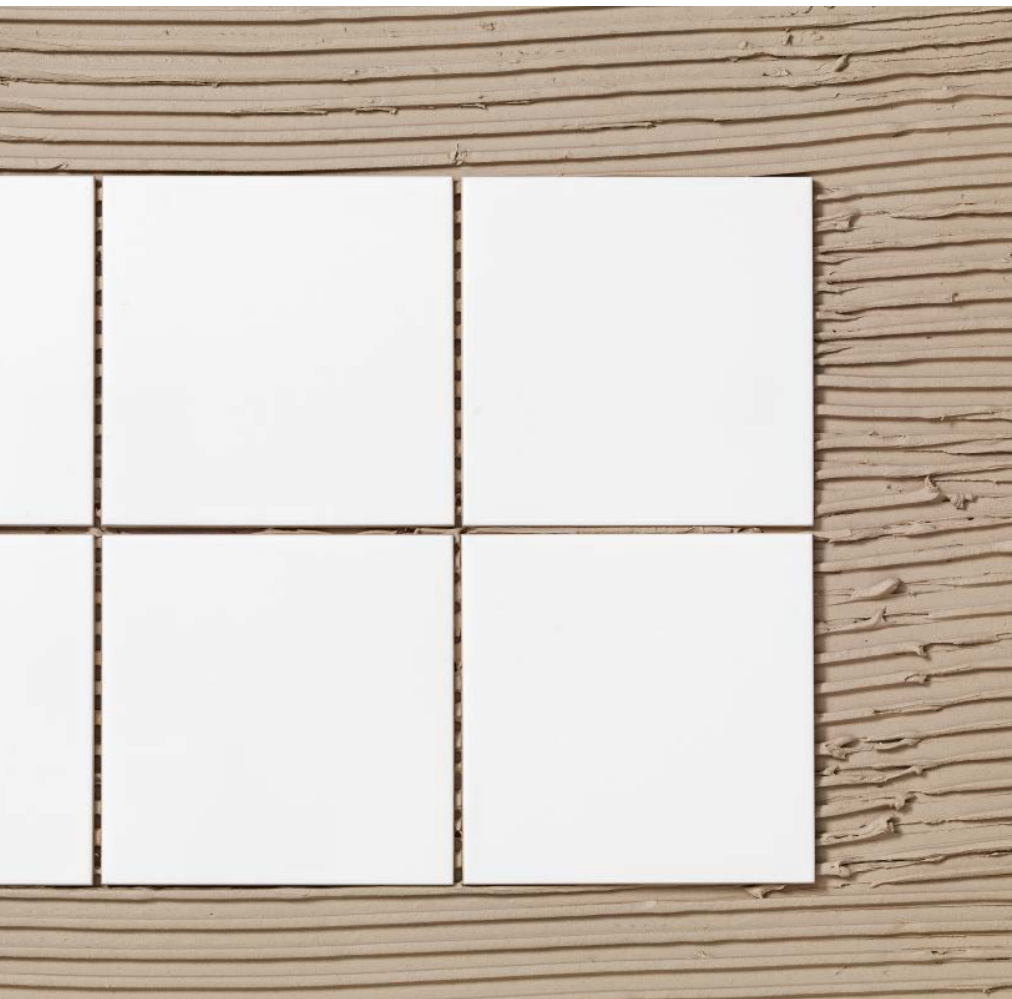

Guide to Ceramic Tile-Laying & Care



01 PRELIMINARY STEPS



Before proceeding to lay the tiles, make sure that you have enough tiles to complete the job. Also, check the shade and calibre of the tiles, particularly in the case of collections with a high degree of shade variation and mixture of colours. In the event of flaws that were visible before the tiles were used, claims will not be admitted once they have been laid. Décor and special tile pieces must be treated with care, because in many cases they are made with precious materials. Use the right tools to cut the tiles so as to avoid broken tiles or damaged edges.

Likewise, follow the instructions and recommendations of use given by the manufacturers of all mortars, adhesives and grouting materials used during the process, make sure that the substrate is properly prepared, comply with the necessary drying times, and include any necessary expansion joints in the surface.

The tiles should be laid by skilled professionals, using the right tools, so as to ensure perfect end results.

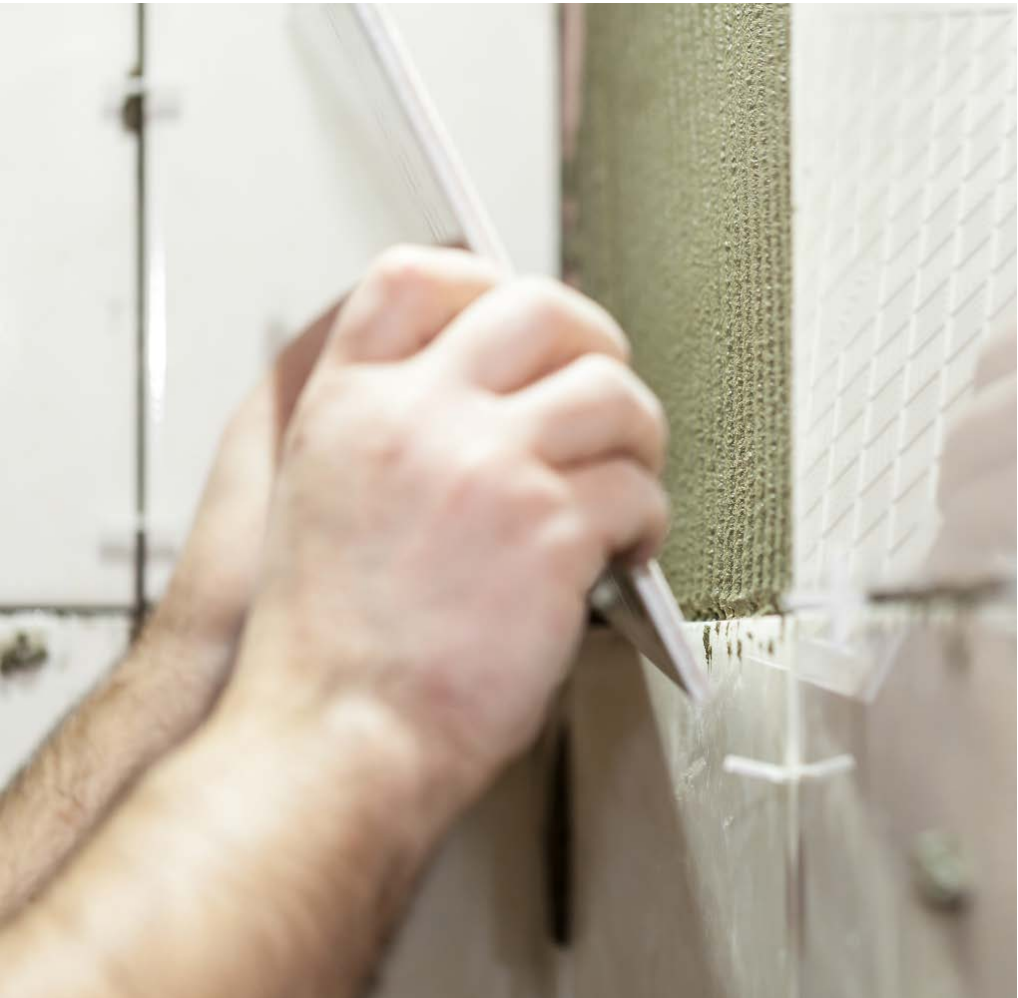
02 PREPARING THE SUBSTRATE





Before proceeding to lay the tiles, prepare the substrate by making a cement screed using sand and cement or specific pre-mixed products. Make sure that the prepared substrate is clean, dry and flat (with no unevenness of over 3mm, measured using a 2m straightedge). The substrate must be rigid and stable with no cracks. When the tiles are being laid, check for any possible defects in the flatness of the substrate before the tile adhesive dries completely. Always follow the instructions given by the manufacturers of the adhesives and materials used to prepare the substrate.

03 LAYING THE TILES



Due to the evolution of ceramic tiles in recent years, the system used to lay them has come to be known as the “thin-bed” system (using a chemical bond, as opposed to a mechanical bond or the “thick-bed” system). The “thin-bed” system consists of the application of adhesive either just to the substrate (single gluing) or to the substrate and underside of the tiles (floating and buttering). This second technique should be used when the tiles have a low water absorption rate, as in the case of porcelain tiles, tiles subject to high traffic, tiles with a pronounced relief pattern or tiles laid outdoors or on façades.

Generally speaking, tiles are laid in square or rectangular shapes. Square ones are usually laid orthogonally, at right angles to one another. As for rectangular tiles, as well as laying them at right angles to one another, it is normally advisable to lay each row in staggered fashion as follows:

- TILES WITH A LONG SIDE OF UP TO 60cm: up to 1/3 offset.
- TILES WITH A LONG SIDE FROM 60 TO 120cm: up to 1/4 offset.
- TILES WITH A LONG SIDE OF OVER 120cm: up to 1/5 offset.

Once the tiles have been laid, the surface should immediately be protected with cardboard or canvas to prevent it from being damaged by the remains of building materials, knocks, falling tools etc. until the building work is over.

04 ADHESIVES





Tile adhesives, traditionally known as cement adhesives, are used to bond tiles to a substrate. They have evolved with the development of new larger tiles with a lower water absorption rate, as is the case of porcelain tiles.

As a result, different bonding materials are available to suit different types of tiles and, in turn, the intended use of the tiled surfaces: on walls or floors, indoors, outdoors etc.

To use the right adhesive in each case, check the indications given by the adhesive manufacturer (as per the UNE EN 12004 standard),

05 TILE JOINTS & GROUTING



Joints must always be left between the tiles to guarantee the surface's proper technical performance.

Depending on the type of surface, the width of the tile joints may vary. When a minimum tile joint is needed, this is deemed to be a gap of 2mm between the tiles. In addition to the joints that are left between the tiles, all perimeter joints (between the wall and floor) and structural joints (at the meeting point with structural elements) must be left.

Likewise, depending on the use that is given to the tiled surface (i.e. on walls or floors), there are different types of possible grouting materials with different properties. These include elastic properties to absorb any expansion or contraction and even hygienic health-related properties. For further information, see the indications given by the different manufacturers of these materials.

To grout the tiles properly, it is important to take into the account the following points:

- Before grouting the tiles, make sure that the tile adhesive is completely dry.
- Make sure that the tile joints are clean and dry.
- Grout small areas of between 4 and 5 m², and remove any grout residues before the grout dries.
- Clean the surface with plenty of water, using a soft sponge, then wipe the whole surface and joints with a damp cloth.
- The following day, when the grouting material is dry, clean the surface thoroughly with an alkali-detergent.

06 CLEANING THE SURFACE ONCE LAID



Although tiled surfaces are hygienic, resistant to stains, and easy to care for, they must be cleaned properly once they have been laid and grouted to ensure a perfect finish and proper long-term care. For this purpose, the tile-layer must clean the surface thoroughly on completion of the tile-laying process, removing any cement residues that might form a film on the surface and trap further dirt. Failure to do so or any delay in removing these cement, adhesive and sealant residues may make it very hard for them to be removed at a later date. For this reason, it is fundamental to bear in mind that:

- The tiled surface must be given an initial clean 5 to 10 days after the tile-laying work is over.
- It will often not be possible to clean the tiles and tile joints just with water, and so in certain cases an acidic or specific cleaning product must be used, following the instructions of the product's manufacturer.

- First, wet the whole surface with water. Then spread the acid solution across it and leave it to act for 2 minutes, without letting it dry.
- Always carry out a prior test with the cleaning product on one corner of the tiled surface or on a spot that can be concealed by a piece of furniture to check the product's efficiency and make sure that it does not damage the tiles in any way.
- Clean the whole surface, using the right cleaning utensils and plenty of water.
- Do not forget to clean more complicated areas (corners, areas high up on walls, tiles with relief patterns, non-slip tiles etc.)

07 EVERYDAY CLEANING

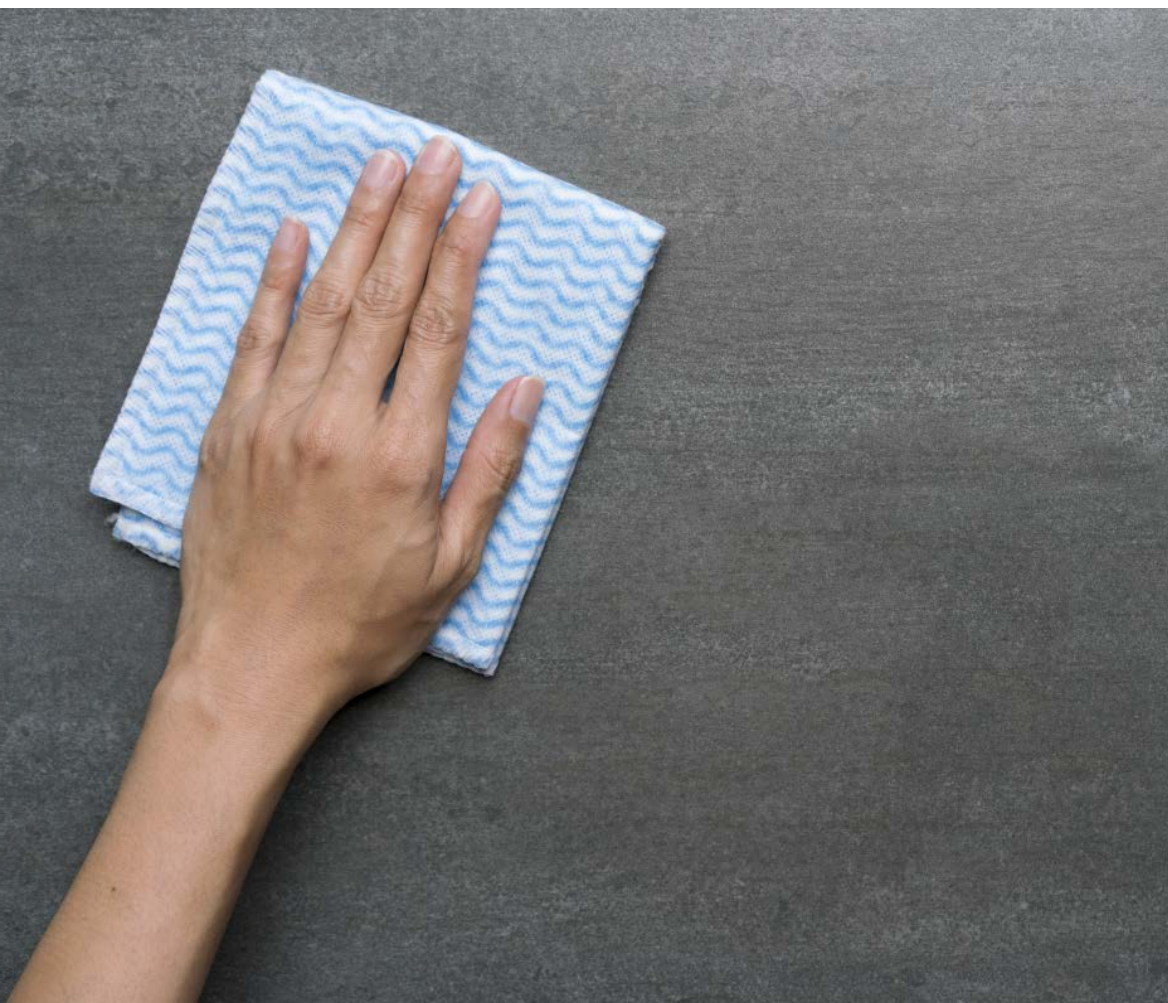


To care for the tiles on an everyday basis - that is, to remove dirt and stains -, it is sufficient to clean the surface with hot water and a neutral floor detergent, using a mop or soft cloth. When it is cleaned very often, clean water alone can be used. For large surfaces, specific cleaning machinery can be used, possibly combined with hand cleaning.

If a special clean is needed to remove tough stains, clean the surface as soon as possible, using specific detergents as shown in the following table:

STAIN TO BE REMOVED	TYPE OF DETERGENT
Beer, wine, coca cola, coffee, marker pen, nicotine, ink, hair dye.	ALKALINE DETERGENTS OR STAIN REMOVERS
Lime scale, rust, graphite.	ACID DETERGENTS
Animal and vegetable fat, ice cream, fruit, scratch-proof wax.	ALKALINE DETERGENTS
Engine oil, resin, varnish or candlewax.	SOLVENTS
Tyre and rubber sole marks	ALKALINE DETERGENTS

08 CARE





- Do not use metal cleaning utensils or brushes with hard bristles to clean the tiles as they might scratch the surface or leave marks.
- Remove any oil or fat stains with detergents containing organic solvents or with alkaline detergents (pH>9) and then rinse the surface well.
- Do not use detergents or waxes not suitable for cleaning tiles, as they will leave a viscous film on the surface and make it look dirty.
- Follow the instructions given by the cleaning product's manufacturer.
- Before proceeding to clean the surface, test the cleaning product on a sample tile or area of the tiled surface that is less visible

