

GUIDELINES FOR THE LAYING AND MAINTENANCE OF NATURAL MARBLE,
GRANITE, SLATE, QUARTZITE, LIMESTONE AND SANDSTONE TILES

Congratulations on your decision to purchase natural stone floor and wall tiles. Once correctly laid and properly maintained, your natural stone tiles will last a lifetime, and still be a source of pride and joy, long after most synthetic manufactured tiles would require replacement having reached the end of their lifespan. Besides being more durable than most synthetic tiles, natural stone tiles are not subject to the fickle dictates of fashion as their beauty is timeless.

(1) STORAGE PRIOR TO USE:

All natural stone tiles should be stored undercover, to prevent soiling. It is also recommended that sufficient tiles are purchased to not only cover the area to be tiled, but also to retain a small quantity of extra reserves for possible future repairs, as similar matching tiles may not be available in the future due to the depletion of natural reserves.

(2) SELECTION PRIOR TO LAYING:

Please check the tonality variation inherent in the natural tiles you have purchased before actual laying commences by removing a few tiles from several boxes to determine whether a random mix of the natural variations would be preferable to a complete selection where all the tiles are laid out loose prior to fixing to facilitate re-arrangement, to obtain the desired "flow" in terms of veining and/or texture and shade variation.

(3) LAYING:

a) Granite Tiles: Granite Tiles are usually calibrated to an even thickness and bevelled on the edges to facilitate installation. Good quality proprietary brand cementitious tile adhesives and grouts should be used, following manufacturers instructions. The methodology would be similar to that used for ceramic tiles, including expansions joints and other technical details. Work cleanly ensuring excess adhesive and grout is cleared off tile surfaces immediately before they dry. Do not use felt tip pens or other water soluble ink pens to mark the backs of tiles. The moisture hydration process of the adhesives cause these inks to be drawn to the surface of the tiles, manifesting in "Stains" on the tile surface. (see maintenance of marble tiles further on). While Granite Tiles are usually manufactured to accurate tolerances with regard to size, which would allow for butt jointing, this method of laying is not recommended and a joint width of 1mm to 2mm is advisable to prevent "creeping" (due to minor variations in tile size) and lifting of tiles at later stages due to differences in co-efficients of expansion and contraction between the tile and the substrate.

b) Marble Tiles: All that has been stated above with regard to granite tiles applies to marble tiles as well. However - only two additional points need be noted :

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sometimes moisture sensitive in that they could buckle or warp marginally when in contact with the water in cementitious tile adhesives. We suggest you test the sensitivity to water of your batch of Green Marble Tiles by immersing a tile partially in water for an hour. If it is not stable, either use an epoxy adhesive system or test the use of a bonding liquid applied to the back of the tiles, and allowed to dry before laying into a normal cementitious adhesive.

c) Slate, Quartzite, Limestone and Sandstone Tiles:

These natural material tiles are produced by extracting the tile material from the quarry along the natural cleft plain. This results in the thickness of the tiles varying as the natural cleft plains are not consistent. While the tiles are cut to size accurately with a tolerance of $\pm 1,5\text{mm}$, the thickness can vary from $\pm 6\text{mm}$ to 18mm . The tiles are selected into batches of similar thicknesses with variations of $\pm 4\text{mm}$ to facilitate laying. These tiles should be laid into a thick bed cementitious powder adhesive to accommodate the variation in thicknesses. Once laid, the top surfaces of the tiles will be perfectly level, with the adhesive accommodating the thickness variations. Prior to grouting we suggest the tiles be sealed with "S.Q.T. SEALER" to prevent the tile absorbing grout which could be difficult to remove. After grouting, the tiles should be cleaned and then re-sealed or alternatively "dressed" with "S.Q.T. DRESSER". Joint widths should be 4mm to 8mm to accommodate the minor variations in tile sizes. Use a proprietary brand floor tile grout following the manufacturers instructions. Certain slates and quartzites (e.g. Glitter Quartzite) do sometimes have a small percentage of tiles in a batch that appear to have a "loose" layer or "loose" particles on the surface. This is quite normal and this "loose" material should be removed the day after laying, before cleaning and sealing of the tiles, by brushing with a stiff bristle brush or scraping with a paint scraper. No damage will be caused by this. Once the "loose" material is removed, a firmly bonded layer of material will be exposed.

(4) MAINTENANCE:

Natural stone tiles are usually a sizeable investment in any building and it therefore makes good service to maintain them correctly to prevent sometimes irreparable harm, or damage that is costly to repair, when incorrect maintenance techniques are attempted.

Please read this section carefully before you attempt any cleaning or maintenance. The correct maintenance procedures are very simple and not expensive.

- a) Granite Tiles: Natural granite tiles are very hard wearing and require minimal maintenance. We suggest the use of S.Q.T. Tile Cleaner on both polished and flamed tiles for routine cleaning. (S.Q.T. Tile Cleaner is available from your natural stone tile distributor, and is specially formulated as an effective neutral (PH7 balanced) detergent that will not harm natural materials). As a general rule, do not use acids or acid based cleaners to maintain any natural material. It is advisable to consider applying S.Q.T. Impregnator to all natural stone surfaces. S.Q.T. Impregnator is designed to penetrate below the surface of the natural stone, bonding to the stone and coating the individual minerals below the surface of the stone. Water oil and

dirt are restricted from entering the natural stone, yet it allows the stone to "breathe". If certain natural stones are completely "sealed" to the extent that they cannot "breathe", especially externally, this can cause surface spalling or the formation of surface stains as vapours are prevented from escaping through the stone surface. Flamed Granite tiles can be sealed for internal areas with S.Q.T Tile Sealer if it is desired to bring out the natural colours of the material. However, polished Granite Tiles require no sealing, and only regular routine maintenance is needed in the form of sweeping to remove dust particles and washing with S.Q.T. Tile Cleaner. Impregnation with S.Q.T. Impregnator is recommended.

- b) Marble Tiles: If properly cared for, marble tiles will offer generations of use and look elegant throughout this period. Only S.Q.T Tile Cleaner should be used for routine maintenance after regular sweeping to remove loose dust and abrasive dirt. (S.Q.T. Tile Cleaner is available from your natural stone tile distributor). Do not use scouring cleaners, acid based detergents or ammonia based cleaners, or any other type of detergent that could harm natural marble. Mop up any spillages of red wine, vinegar, lemon/orange juice, coke, tomato sauce or any other similar substances as soon as possible. It is possible to use S.Q.T poultice to remove most stains. (Please request separate detailed instructions from your marble distributor). Etched or corroded surface areas can be re-polished to restore its original shine using S.Q.T Polishing Powders. However this usually requires specialised knowledge and equipment, please consult UNION TILES for further details. S.Q.T surface impregnator can also be used to render the surface oil and water resistant, and so less likely to absorb any type of stain. This impregnator will slow down the absorption rate of oils and staining by water based products allowing time to mop up the spillage before it is absorbed by the stone surface.

It will not render the stone surface totally oil and water repellent. (see comments on "Surface Impregnators" under the heading of Granite Maintenance).

We do not advise the use of the re-crystallization (also know as vitrification) process to restore or maintain marble floors. This is undertaken using steel wool in combination with a pink or cream coloured fluid. It is an acid based system that causes permanent damage to marble by causing long term corrosion of the material surface.

- c) Slate, Quartzite, Limestone and Sandstone Tiles:

These materials, while exceptionally beautiful, are relatively porous, and must therefore be protected from staining and permanent soiling. As a general rule, do not use acids or acid based detergents to clean these natural products. It is recommended that these materials be sealed (with one or two coats of S.Q.T. Tile sealer - available from your natural stone tile distributor) and there after top dressed (with S.Q.T. Tile Dresser - available from your natural stone tile distributor) the dresser protects the sealer and enhances the natural tones and colours in the natural material. One coat of S.Q.T Dresser produces a faint luster while additional coats progress this through a greater sheen to a high gloss. (It goes



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without saying that these natural stone tiles should be thoroughly cleaned before sealing and dressing, otherwise dirt will simply be sealed into the surface). After initial sealing and dressing, maintain the tiles as described above for marble tiles, with S.Q.T. Tile Cleaner. Occasional re-dressing with S.Q.T. Tile Dresser may be necessary in high traffic areas.

Please contact the Technical Department at Union Tiles for any further advise or specific problem solving.