



## Making the most out of your Outdoor Space

With homeowners now paying more attention to their outdoor space, one sought after look that is proving increasingly popular, is external wall and floor tiling. Not only does this chic style transform the appearance of an outdoor space, it provides a low maintenance, long lasting and quality finish.

### Here's a step-by-step guide to achieving this contemporary style:

The **first consideration** for external wall and floor tiling should always be the **environment and temperature** to which a substrate is applied. In outdoor environments it's essential to allow sufficient time for substrates to dry, fully cure, and ensure that planning includes time for adverse weather conditions. This is to ensure tiling is protected from changing environmental conditions until the adhesive and grout is fully dry. You should also consider the following:

- The background tile and adhesive must be able to withstand changing weather conditions. Exposure to thermal effects, water penetration, pollution and frost.
- Tiling should not be carried out during periods of extremely high or low temperatures. If such conditions occur after tiling has commenced, the operation should be suspended until the conditions improve or adequate and suitable precautions have been taken.
- The approximate temperature range within which the installation can be satisfactorily carried out with normal methods and materials is 5°C to 25°C (taking into account prevailing humidity levels and the degree of air movement)
- Any areas of potential water penetration e.g. the top edges of parapet walls, suitable flashing, trims and sills must be protected. This is in order to prevent ingress from water and waterborne dirt/contamination behind the tiling.
- Generally, tiling cannot be undertaken satisfactorily on backgrounds having temperatures in excess of 40°C. The effects of temperature variation on these tile installations, such as shrinkage or expansion, should be taken into account.
- When the prevailing temperature is outside this range precautions are necessary to enable work to proceed e.g. for external work cocooning against cold or shielding against direct sunlight.
- It's also very important to consider the background structure, as it can act as heat or cold sinks and might not therefore reach suitable working temperatures for some time after corrective steps have been taken.

### The second consideration, when undertaking **outdoor tiling** work, chosen materials for the job should withstand **changing weather conditions**.

The tiles must be frost resistant, such as mosaics, architectural terracotta and architectural faience tiles. But weather resistant materials aren't the only considerations when undertaking outdoor tiling works:

- Wherever tiling is undertaken with a standard adhesive (setting time between 16-24 hours) then individual tiles should be supported to ensure that they are not put under undue strain.
- When fixing smaller ceramic tiles up to a first storey height (approx. three metres high) or when using mosaics, no special consideration is normally required for mechanical fixing. However when considering the use of larger format ceramic tiles, natural stone tiles or slabs, further advice must be sought from the Dunlop Adhesive technical advice line\*.
- For mesh backed mosaics, the backing material and its adhesive should not occupy more than 25% of the area of each tesserae; the critical factor is the spread of the adhesive over the backs of the tesserae. The backing material and its adhesive must not deteriorate in service and must be compatible with the mortar or adhesive bed, in accordance with the mosaic manufacturer's instructions.
- And last but certainly not least, when tiling using large format tiles, 300mm x 300mm or larger, mechanical fixing should always be used.

# HOW TO TILE OUTDOOR TILING GUIDE



**Backgrounds** - plasterboard, fibre building board, plywood and wood chipboard should not be used as backgrounds for tiling and mosaics in external situations. Some **proprietary sheets** and **boards** that are **dimensionally stable** in changing moisture conditions are suitable for use on walls as a backing for external wall tiling. Confirmation should be obtained from the manufacturer on the suitability for the height of the installation, as well as the weight of tiling and degree of exposure to the weather. Such proprietary sheets and boards should be fixed in accordance with the manufacturer's instructions to provide a rigidly supported surface suitable to receive ceramic tiling. Sealing the back and edges of the board with a bonding agent, such as Dunlop's Universal SBR Bonding Agent, will also help to improve strength.

**Durability - movement joints** need to be considered, to lessen the risk of adhesion failure or tiles cracking due to structural movement or drying shrinkage, movement joints should be incorporated in the installation as follows:

- Movement joints in external wall tiling should be incorporated as outlined in British Standards (BS 5385: Part 2: 2006, clause 10). Briefly, this document requires that joints be located over existing movement joints.
- Where tiling abuts other materials, at junctions between different background materials (when cladding is continuous across varying types)
- At external angles vertically within 0.25metres to 1metre from the angle and also at storey heights horizontally and approximately 3metres to 4.5metres apart vertically (ideally, these joints should be located over movement joints in the structural background and at structural material changes, for example horizontal joints at the bottom of floor slabs, vertical joints at internal corners and at junctions with columns). Care should also be taken to ensure that the joints are properly formed and extend through the tile, bed and rendering, and are a minimum of 6mm wide. The joints may be filled with a suitable sealant to ensure a stronger hold.

**Now it's time to apply tiling:** once a sound flat interface has been achieved then it's time to apply the suitable, fully vitrified, or frost resistant tiles to a solid-bed of adhesive. It's important to ensure there are no voids beneath the tile as these will allow water to collect, which could freeze and expand, causing the tiles to crack and spall - as an alternative, mechanical methods can be used. Preferably tiling should begin from the highest point of the building, however where standard adhesives are used then tiling should begin from the base of the top floor, and then proceed around the circumference of the building allowing the adhesive to dry before proceeding to the next row, to ensure there is no slumping of the adhesive.

A highly polymer modified cement based tile adhesive should be used on walls and floors, such as Dunlop Set Fast Plus, Dunlop Floor and Wall Tile Plus, Dunlop Floor and Wall Adhesive with Dunlop Flexible Additive or Dunlop Rapidset with Dunlop Flexible Additive.

In instances when only the floors are being tiled professional builders should opt for Dunlop Large Format and Natural Stone Adhesives or Dunlop Two Part Rapidset Flex. It should be noted that dispersion adhesives should never be used for tiling externally and that Dunlop Flexible Additive can be used to modify an adhesive, if required by the background surface.

The working time and setting time of the tile adhesive will vary with the outdoor temperature. In high temperatures this time period will be reduced and in colder conditions it will increase.

**The grouting** should be carried out as soon as possible after fixing to ensure that the joints are kept free from dust or any other deleterious material. Suitable cement based grouts include Dunlop Flexible Wall Grout when the joint width is up to 5mm wide and Dunlop Flexible Floor and Wall Grout when the width is up to 20mm. To further enhance the physical and mechanical properties of grout, professional builders can also use a flexible additive. After completion, all tiling should be protected for as long as possible with plastic sheeting or a similar material.

## About us

Dunlop Adhesives is a pioneering manufacturer of tile adhesives, grouts and related products. The company prides itself on offering product solutions that combine technical quality with exceptional ease of use - ultimately allowing its customers, which includes trade professionals and DIY enthusiasts alike, to create the perfect finish for their tiled surfaces.

More information on Dunlop Adhesives, its extensive product range and its commitment to its customers (as demonstrated by such initiatives as a dedicated training centre and on-line video 'how to' guides) can be found at [www.dunlop-adhesives.co.uk](http://www.dunlop-adhesives.co.uk)

