

3D DURASTONE PATTERN LAYOUT AND VARIATION

Everstone's 3D Durastone is an innovative product recognised as the first full body 3D unglazed porcelain tile in the world. The creativity of this unique design has launched our new generation Durastone porcelain range, with a perfect modern twist to feature the elegance of classic handcrafted three dimensional natural stone.

3D Durastone is thoughtfully designed with a continuous pattern flow from tile to tile. The undulating surface and natural touch texture is formed using a dedicated three dimensional mould. The pattern and surface of every tile is made precisely the same size and setting shape before kiln firing; however after the kiln firing process the final tile finishes smaller than the original pressed tile, this is called kiln fire shrinkage. In flat or even surface tile production this shrinkage can be ignored, but it strongly affects the layout and pattern alignment in 3D porcelain tiles:

The strong variation in depth of the tile surface causes more movement and shrinkage over the tile body when compared to a general flat surface tile.

This extra shrinkage leads to some unpredictable movement away from the original pattern design set by the mould within each individual 3D tile. The outside dimensions of the final tiles are made uniform during the rectifying process, however movement and variation in surface pattern is unavoidable.

Presently within the tile industry there is no standard to specify deviation caused by the natural firing process in this type of pattern design. For the best measure and control, we have to refer to existing standards developed for similar production methods and performance characteristics; such as uneven surface tile with natural finish edge and shape. Please refer to the attached files:

ASTM C499 (refers to pressed trim tile) and ISO 13006-2012 (refers to natural extruded ceramic tile) for determination of dimensions and surface quality.

The maximum allowance of movement in one tile body is:

-3.1 to +3.1mm, (with a combined total of 6.2mm) for ASTM C499.

-4.0 to +4.0 mm, (with a combined total of 8mm) for ISO 13006-2012;

Based on the above technical guidelines, during production the 3D tiles are kept under a maximum ± 3.1 mm tolerance deviation in the pattern continuity; as a result the movement or difference in the pattern alignment from point to point between 2 tiles is kept within a 6.2 mm maximum. Furthermore, according to ISO 10545-1 standard, it is acceptable for one tile out of ten or one conjunction point out of ten to be outside the allowable tolerance.

For the best result and performance of design layout, we recommend the grout joint width to be not less than 3mm; although a larger grout joint will achieve a better alignment of visual effect on design pattern. This is very similar to standard floor tiling grout joint practice; a bigger grout joint ensures tile surface warpage is less revealing

In summary, variation in the alignment of the 3D tile pattern is unavoidable but limited within the allowable tolerance, and you will achieve a satisfactory visual effect with our spectacular 3D tile under appropriate installation.

Please contact Everstone's sales office or your local authorised distributor for further assistance.