



Glossary

TILE+STONE DEFINITIONS

The lexicon of the ceramic tile and stone sectors increases as new products, processes and technologies expand the potential for use of these essentially 'green' materials in our built environment.

ABRASION RESISTANCE: The degree to which a floor tile's surface will withstand friction, such as the wear of foot traffic. Resistance is determined by abrasion tests. Australian Standard AS 4459-7 classifies tiles from Group I (suitable for light residential traffic) to Group V (suitable for commercial traffic).

AGGLOMERATE: Refers to a collection or mix of natural stone materials. Engineered stone, for instance, is manufactured using a stone/cement or resin agglomerate.

ANTI-MICROBIAL TILES: Products which possess the capacity to clean the air and reduce the risk of infection

APPARENT JOINT: Decorative feature that simulates grout lines or joints on a single tile so that a large tile, for instance, may appear to be four smaller tiles.

BASALT: A hard, dense dark volcanic rock composed primarily of plagioclase, pyroxene and olivine; often having a glassy appearance. Basalt constitutes most of the ocean floor and is the commonest type of lava. A term used widely in Australia when referring to **bluestone**.

BAS-RELIEF: Decorative technique in which design elements are sculpted or carved to be raised slightly from the background.

BED: Layer of mortar or other adhesive that covers the surface to be tiled and onto which the tiles are set.

BENCH TOPS: Natural and engineered stone are the prime products employed on kitchen bench tops, however the emergence of slimmer, lightweight, hard surface panels/slabs of porcelain and sintered compact materials, provides specifiers with new possibilities.

BEVELLED EDGE: An edge of a structure that is not perpendicular to the faces of the piece. The words bevel and chamfer overlap in usage although they may be differentiated in technical literature. A bevel is typically used to soften the edge of a piece for the sake of safety, wear resistance or aesthetics.

BICOTTURA: Literally 'two firings', referring to the separate firing of the clay body and the glaze. Bicottura glazes are not as scratch resistant and are predominantly used on walls.

BODY: The structural portion, such as the clay material or mixture, of a ceramic tile as distinct from the glaze.

BULLNOSE TILES: These tiles feature a rounded edge used to finish walls or to turn outside corners. They are also applied to the leading edge of steps.

BUTTERING OR BACK BUTTERING: To apply a quantity of adhesive to the back of a tile using the flat side of the trowel.

CLADDING: External wall covering, usually fixed mechanically at heights above 3 metres.

CLINKER TILES (also KLINKER): Natural clay tile, generally extruded and unglazed, vitrified or impervious to moisture.

COVE TILES: Cove tiles feature a rounded top edge and are used to finish off or decorate splashbacks.

CRAZING: A network of fine cracks that appear across the surface of a tile.

DUST-PRESSED TILE: Tiles formed by the compaction of finely-milled raw materials in moulds before firing. The majority of indoor tiles are produced this way.

EFFLORESCENCE: Crystalline deposit that sometimes appears on the surface of grout joints or unglazed tiles as a whitish powder or crust. It is caused by moisture reacting with impurities in the mortar.

EPOXY: Resin material used in mortars and grouts for thin-set tile installations.

EXPANSION JOINT: Separation provided between adjoining parts of a structure to allow movement at stress points to prevent uncontrolled cracking.

EXTRUDED TILES: Malleable raw clay is forced through a mould and then cut into tiles before firing.

FINISHES: Textural or visual characteristics of a tile surface. For glazed tile this may be high gloss, satin or matt. Generally, for porcelain tiles, finish can be *natural, polished, lapato, honed or lapped*. Other finishes include *bush hammered, raised, embossed, dimpled, etched, scored, ribbed, etc.*

FIRING: The final step of the tile manufacturing process is when the raw material is 'baked' at high temperature – up to 1250°C for porcelain tiles – to harden the tile body and glaze.

FORMAT: The size of the tile. Sizes vary greatly, from 10 x 10mm mosaics to formats which may exceed 1 metre square. Larger formats will be defined as 'panels'.

FROST RESISTANCE: The ability of certain ceramic tiles to withstand freeze/thaw conditions with minimal effect. Frost resistance of ceramic tile is dependent on the tile's porosity and water absorption levels.

GLAZE: Glassy opaque or transparent coating fired or fused onto the ceramic tile body, creating a smooth, impermeable surface.

GLAZED PORCELAIN: Currently the most popular type of indoor floor tile. The tile is made from porcelain clays but glazed for aesthetic effect. Glazed porcelain tiles are dense, strong and may require cutting with a wet saw.

GRANITE: A visibly granular, igneous rock ranging in colour from pink to light or dark grey and consisting mostly of quartz or feldspars. Granite is denser in appearance than marble, and is frequently used for benchtops, wall and floor tiles, cladding and paving.

GROUT JOINT: The space left between the tiles to be filled with grout. The space may be extremely narrow or wide depending on the required installation and/or its aesthetics. The normal joint width is 3mm.

IMPACT RESISTANCE: The ability of ceramic tile to resist breakage – either throughout the body or as surface chipping – as the result of a heavy blow. In general, ceramic tile is not a resilient material and care should be taken to avoid dropping heavy or sharp objects on its surface. Glazed tiles are more susceptible to surface chipping than unglazed tiles.

INSETS: Small, sometimes decorative, tiles used in combination with larger or plain tiles to create patterns. Small square inserts are also known as a *taco* or *tozzetto*.

INK-JET PRINTING The rapid development of ink-jet printing processes for decoration of ceramic tile provide tile manufacturers with enormous potential to add in-line colour to product, which can be identical on each piece, or widely varied to produce different effects on each tile.

LARGE FORMAT Format is a term which is usually employed to describe the size of a tile. Large format products have become immensely popular. Currently the most popular wall tile format is 300 x 600mm, while home owners frequently buy 600 x 600mm for their internal floors. Formats like 300 x 900mm and even larger formats are available, particularly in thin tile.

LIMESTONE: A sedimentary rock composed principally of calcite or dolomite or a combination of the two. Recrystallised limestone, compact microcrystalline limestone and travertine that are capable of taking a polish, are also included in the category 'commercial marble' and may be sold as either limestone or marble.

LIPPAGE: In finished installations, lippage refers to the condition where one edge of a tile is higher than an adjacent tile. Excessive lippage can cause trips and falls.

LISTELLO: A narrow decorative border tile, often designed to compliment a range of field tiles.

MARBLE: A true marble is a metamorphosed limestone capable of taking a polish, which exhibits a recrystallised interlocking texture composed principally of the carbonate minerals calcite and/or dolomite. However, some stones in the industry are referred to as green marbles, many of which are composed principally of mineral serpentine and by geological definition, should not be included in

the marble definition. It is important to distinguish between these two types of marbles, since some, but not all, green marbles are dimensionally unstable. Marble is widely used in slab and tile form.

MECHANICAL FIXING: Tile or stone is attached to a building façade or interior above a certain height using post and rails instead of adhesive.

MODULAR FORMAT: Combining different tile formats is a popular trend, which may be described as 'modular'. Generally, a mixture of sizes from the same tile series are laid together to create a more interesting pattern.

MOHS' SCALE: Created in 1812 by the German mineralogist Friedrich Mohs, the scale is used to express the measure of a material's hardness and is based on 10 readily available minerals. Talc sits at the bottom of the scale with an absolute hardness of 1. As the hardest known naturally occurring substance, diamond is at the top of the scale at number 10.

MONOCOTTURA: Tiles produced with only one high temperature firing, generally with harder glaze and denser body than wall tiles with moisture absorption below 3 per cent.

MONOPOROSA: Single-fired tiles with higher porosity and water absorption levels than monocottura tiles.

MOSAIC TILES: Generally less than 15 cm square and mounted in sheets on a mesh backing for easy installation. Ceramic mosaic tiles may be glazed or unglazed. Mosaics are also available in a range of stone, pebble, glass and metal or mixtures of each.

PENCIL TILES: Narrow rectangular tiles (e.g. 2 x 20cm), sometimes with a rounded surface, used on tiled walls as accent pieces.

PORCELAIN STONEWARE: Dust-pressed ceramic tiles with water absorption levels less than 0.5 per cent in accordance with ISO Classification B1a. Featuring high mechanical strength and resistance to staining. The surface of these tiles may be polished or natural (un-polished). Often specified for exterior installations, they are also referred to as fully vitrified.

POROSITY: Volume of pores relative to volume of tile body and capable of absorbing moisture (and therefore stains).

QUARRY TILES: Traditional term for single extruded natural clay tiles with a water absorption level not exceeding 6 per cent. Can be glazed or unglazed.

QUARTZITE: A hard, metamorphic rock originating as sandstone. Because of its hardness, it sits at about 7 on Mohs' scale. Pure quartzite is usually white to grey. Quartzites often occur in various shades of pink and red due to varying amounts of iron oxide.

QUARTZITIC SANDSTONE: Sandstone containing at least 90 per cent free silica (quartz grains plus siliceous cement), which has a compressive strength over 69 MPa (ASTM C119, Quartz-based Dimension Stone Definition II).

RECTIFIED: Rectified tiles typically exhibit a very square edge – cutting or grinding the edges off a tile allows the dimensions and squareness to be precisely controlled. Rectified tiles are installed with minimal grout lines.

RUSTIC FINISH: Rough or uneven tile surface designed for a non-mechanical, artistic effect.

SANDSTONE: A sedimentary rock composed primarily of sand-sized grains that may be of any composition, but are predominantly quartz. Specific types of sandstones are generally named according to the composition of the grains.

SATIN GLAZE: Glaze that produces a low-gloss finish.

SCREED: Uneven concrete floors often receive a fine 12–20mm screed of sand and cement prior to tile or other flooring being laid in adhesive. Certain types of tile can be successfully laid in the screed as work progresses e.g. terracotta.

SEALERS: A clear coating which is used on some relatively porous ceramic and natural stone materials to provide a barrier against spills of liquid contaminants like red wine, cooking oil, balsamic vinegar, lemon juice, etc. Sealers are designed to prevent immediate staining by providing the user with an opportunity to remove the potential contaminant before it seeps into the stone. The Australian Stone Advisory Association (ASAA) has produced a free 'Categorising, Sealing and Maintaining Natural Stone Guide' which can be downloaded from www.asaa.com.au

SELF-LEVELLING COMPOUND: Some screeded floors are not entirely flat or smooth. Application of a thin coat of a two-part levelling compound will provide a flat surface, suitable for tiling. These materials will dry rapidly.

SLATE: A microcrystalline metamorphic rock most commonly derived from shale and composed mostly of micas, chlorite and quartz. Slate is a popular stone that has many applications.

SLIP RESISTANT TILES: Tiles treated to prevent slipping either by adding an abrasive grit to the glaze or a texture to the design of the tile surface structure such as ribs, studs etc.

TERRACOTTA: Traditional clay used to produce unglazed, cream to red body tiles, generally extruded and 12 mm thick or more. Surface may be rustic, smooth, polished or waxed.

TESSELLATED TILES: Precisely calibrated floor tiles that have been extensively used in the UK and Australia, but have their origins in France. Typically the body of the tile is compact and vitrified, boasting porosity values of 3 per cent or lower. Tile patterns frequently feature geometric motifs.

THIN-SET INSTALLATION: Use of ceramic tile adhesive in preference to sand and cement. Adhesive which is applied with a suitable serrated trowel. Extra adhesive can be applied to the back of the tile and the substrate to overcome slight irregularities in the substrate.

THIN TILES AND PANELS: The latest revolutionary tile product. Standard ceramic wall and floor tiles usually have a thickness of 8–10mm. Thin tile products vary in thickness from 3–7mm. The corresponding reduction in weight, and the availability of a wide range of formats has introduced opportunities to use thin tiles as cladding, on walls and floors, and benches. Formats vary from large panels to conventional formats. The larger formats are ideal for use on external facades, and interior commercial walls. Smaller formats can be used to tile over existing tiles; a process which can drastically reduce the cost of residential renovations.

TRAVERTINE: A pale, dense, banded limestone derived from the evaporation of hot springs. Travertine is popular for paving patios and garden paths and is one of the most frequently used stones in modern architecture, commonly seen as facade material, wall cladding and flooring. It is characterised by naturally occurring pitted holes and troughs in its surface. These holes can be filled or left open; hence the stone can be purchased 'filled' or 'unfilled'.

UNGLAZED TILES: Unglazed tiles derive their colour and texture from their raw materials or may be coloured by means of oxides dispersed throughout the body. They are generally fully vitrified.

VITRIFIED TILES: Vitreous tiles absorb less than 3 per cent moisture whereas fully vitrified tiles are made from fine particles and fired to high temperatures (1250° C) which results in a denser tile with extremely low porosity (moisture absorption of less than 0.5 per cent). Porcelain stoneware tiles are fully vitrified making a layer of glaze unnecessary for the tile to be impervious to water.

WASTAGE: Generally add 10 per cent to the amount required for wastage due to cutting etc. If the installation is complicated or a lot of cutting is involved, the amount for wastage may need to be increased to 15 per cent.