

# TILE TENTING EXPLAINED

**Tile tenting or popping happens when your floor tiles detach from the concrete floor below. They pop up, looking like a tent, as the tiles push against each other. You might even hear a loud cracking noise as the tiles pop up.**

As concrete naturally expands and contracts, pressure builds up under the tiles and the adhesion between the tile and the substrate fails, causing the tiles to detach. Without stable adhesion to the substrate, tiles tent (or pop up) because the tile surface area becomes larger than the concrete they're laid on. It can affect any hard flooring, from tiles to parquet and laminate.



## Four causes of tile tenting

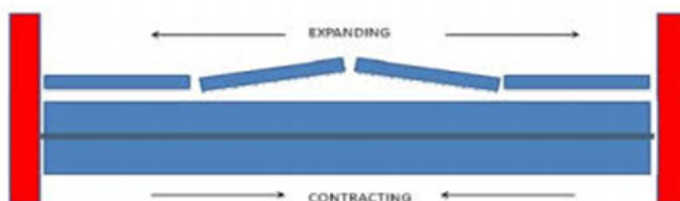
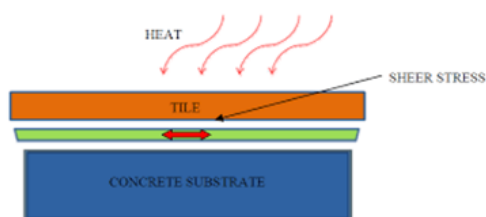
### 1. Tiles laid too soon

Tenting may occur in newly developed properties as the concrete substrate cures. The rate of contraction slows as the concrete ages, so the time between the concrete being poured and the tiles being laid is important. The shorter the time, the more likely that tiles will tent.

### 2. Thermal expansion

Thermal expansion is the most common cause of tenting. Ceramic tiles aren't good conductors of heat, and the concrete substrate, which is much cooler, expands at a slower rate. The adhesive fails, and the tiles pop because the surface area of the tile becomes greater than the surface area of the substrate.

Tile tenting tends to occur more often in the winter as the concrete shrinks, and tiles subject to heat and sunlight exposure will often tent as they absorb the heat and expand. Winter is known as the 'tile popping season' in the tiling industry because the difference in minimum and maximum temperatures is at its highest, and so is the rate of tile expansion and contraction.



### 3. Moisture expansion

It's rare, but it can happen. Some ceramic tiles contain crystalline structures of clay that react by swelling when they come into contact with water. This type of tile also suffers from glaze stability and tends to 'craze' – forming small cracks on the tile's surface.

#### 4. Tile size and laying

Tile tenting has increased with the trend toward using larger tiles, as these require a special adhesive. The adhesive's type, quality and coverage determine the bond strength between the tile and the concrete.

Concrete with a low cement content is highly porous and can suck the moisture from the adhesive. This weakens the strength of the bond and causes the tile to detach.

#### Ways to prevent tile tenting

The secret to avoiding tile tenting is how the tiles are laid. So, if you buy a property with existing tiles, it's too late to take any preventative measures.

When laying new tiles, make sure your tiler lays them in accordance with Australian Standard AS 3958.1 – Ceramic Tiles, which is the minimum standard for laying tiles.

Inserting expansion joints when the tiles are laid is the most common way to allow for movement and tile growth.

These flexible joints are inserted along all areas where the tiles meet the building and across the floor at intermediate spacings. Your tiler must also use an adhesive suitable for the type and size of tile and the expected temperature fluctuations to prevent tenting.

#### Insurance and tile tenting

Tile tenting is something that occurs over time, but insurance only protects against sudden and unforeseen events.

As most tile tenting is caused by atmospheric conditions and tiles being laid incorrectly, strata insurance doesn't provide cover.

Only an expert can determine the cause of tile tenting and whether other factors, such as an earthquake or a water leak, have caused the adhesive to fail and the tiles to tent.



**If you have any questions about Tile Tenting,  
please contact your local BCB office.**

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##### QUESTIONS?

Please contact your nearest BCB office for any queries or advice.

