

BRIEF GUIDANCE ON THE USE OF ADHESIVES

Essential requirements of the backgrounds to receive ceramic tiles fixed in adhesives.

Maturity

Before commencing tile fixing obtain confirmation that the backgrounds are sufficiently dry and dimensionally stable.

Flatness

Surfaces to be tiled using adhesives should be sufficiently flat. Screeds and other sub-floors should meet the SR1 (surface regularity 1) requirement i.e. maximum 3mm gap under a 2 metre straight edge. Wall surfaces should be plumb and when checked with a 2 metre straight edge any gaps under the straight edge should not exceed 3mm.

Strength

Check that the installed background has sufficient strength to support the tiling. Weight of wall tiling will be restricted on backings such as gypsum plaster and paper-faced plasterboard. Bases to receive floor tiling should provide rigid support for the ceramic floor tiling. This is critical where the sub-floor is a suspended construction.

Background		
Walls	Drying Time*	Additional Guidance
Concrete in situ	At least 6 weeks	Remove release or curing agents on surface
Concrete blockwork	At least 6 weeks	May require rendering
Cement sand render	At least 2 weeks	Cure for first few days
Gypsum plaster	At least 4 weeks	See TTA guidance
Plasterboard	Not applicable	Fix directly on facing paper.
Aerated concrete	At least 6 weeks	Maximum 13mm render
Existing ceramic tiling	Not applicable	Correct cleaning required
Wood based boards	Condition boards**	See TTA guidance paper
Composite boards	Not applicable	Follow manufacturer's recommendations
Brickwork	At least 6 weeks	Check for soluble sulfates

Floors		
Concrete	At least 6 weeks	Cure for one week before drying. Remove curing agents before air drying
Cement sand screed	At least 3 weeks	Cure for 3 days then allow screed to dry
Hard flooring asphalt	Not applicable	Flooring grade I
Ceramic floor tiles	Not applicable	Correct cleaning required
Anhydrite screeds	See TTA guidance	Prime abraded surface
Wood based floors	Conditioning **	See TTA Guidance
Proprietary sheets/boards	Not applicable	Follow manufacturer's recommendations

*These drying times are for optimum drying conditions, 20°C and 65% RH. These times require considerable extension in cool site conditions.

**Wood based sheets and boards should be stored under the humidity and temperature conditions that will prevail once tiled

Restrictions on tile weight and loads

Gypsum plaster

Maximum tile weight 20 kg per square metre, this is equivalent to ceramic tiles about 8 mm thick and natural stone tiles about 7 mm thick. Adhesive bed thickness maximum 3 mm.

Paper faced plasterboard

Maximum tile weight 32 kg per square metre, this is equivalent to ceramic tiles about 12.5 mm thick and natural stone tiles about 10 mm thick. Adhesive bed thickness maximum 3 mm.

Screeds

Screeds should be sufficiently sound to support the loads placed on the floor tiling. The BRE (in situ crushing resistance) screed tester will assess the likely performance of the screed to anticipated loads. Note that the cohesive strength of the screed is not normally assessed but if the surface appears to be weak and friable this will impair the adhesion of the floor tiling.

Wall Tile Fixing

Internal dry locations

- Ribbed adhesive bed.
- Aim to achieve at least 50% contact between adhesive and back of tile.
- Note that the object is to achieve as much contact with the back of the tile as is practicable.
- Bed tiles whilst adhesive ribs are still wet and pliable (i.e. within the 'open time') so adhesive 'wets' the back of the tile.
- Press tiles into the ribbed bed squashing the ribs as flat as possible so that the wet adhesive comes into maximum practicable contact with the backs of the tiles.

Wet internal locations

- Solid bed fixing is required in locations such as showers, swimming pools, swimming pool hall walls and similar locations.
- The 'floating and buttering' technique requires smearing a thin layer of the adhesive on the back of each tile and immediately before pressing the tiles into ribbed adhesive bed so that, as far as is practicable, no voids remain under the tiles.

External locations

- Solid bed fixing is required in all external locations

Floor Tile Fixing

- Internal and external locations require floor tiles to be solidly bedded regardless of the exposure to water.
- Normal slump-free adhesives require the use of the floating and buttering technique to ensure that the floor tiles are solidly bedded.
- Adhesives that are designed to be used as pourable adhesives may not require the backs of the tiles to be buttered but the fixer should still check during fixing that the floor tiles are solidly bedded.
- Fluid pourable adhesives are best for achieving solid bedding with large format tiles.