

Introduction to Tile Fixing

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Key concepts, tools, materials, and step-by-step procedures for a successful tile installation.

1. Why Proper Tile Fixing Matters

- **Durability:** Correct bonding prevents cracks, loosening, and water infiltration.
- **Aesthetics:** Even spacing and alignment give a professional look.
- **Safety:** Properly fixed tiles reduce the risk of tripping or surface failure.
- **Longevity:** Reduces maintenance costs and extends the life of the floor/wall.

2. Types of Tiles & Typical Applications

Tile Type	Common Uses	Key Characteristics
Ceramic (glazed)	Bathrooms, kitchens, walls	Low porosity, easy to cut
Porcelain	High-traffic floors, exterior	Very low water absorption, dense
Natural stone (marble, slate, travertine)	Premium flooring, countertops	Variable porosity, needs sealing
Mosaic	Backsplashes, decorative accents	Small format, often pre-mounted on mesh
Glass	Shower walls, decorative panels	Non-absorbent, requires special adhesive

3. Core Components of a Tile Fixing System

1. **Substrate** – Surface to receive the tile (concrete slab, plywood, backer board, etc.)
2. **Primer/Sealer** – Improves adhesion on porous or smooth substrates.
3. **Adhesive (Mortar)** – Bonds tile to substrate.
 - **Thin-set cement** (polymer-modified) – Most versatile.
 - **Mastic** – For light-weight wall tiles in dry areas.
4. **Grout** – Fills joints; available as sanded (1/8") or unsanded (1/8").
5. **Sealer (optional)** – Protects grout and porous tiles from stains and moisture.

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4. Essential Tools & Safety Gear

Tool	Purpose
Notched trowel (1/4", 1/2", 3/8")	Spreading adhesive uniformly
Tile cutter / wet saw	Cutting tiles to size
Rubber mallet	Seating tiles without damage
Level & straightedge	Checking flatness and alignment
Spacers (1/2", 1/4", ?")	Maintaining consistent joint width
Grout float	Applying and smoothing grout
Sponge & bucket	Cleaning excess grout
Safety glasses, ear protection, dust mask	Personal protection

5. Preparing the Substrate

1. **Inspect for flatness** – Deviation >1mm per 2m requires leveling.
 2. **Clean** – Remove dust, grease, loose particles.
 3. **Repair** – Fill cracks, patch holes, and ensure structural integrity.
 4. **Prime** (if required) – Apply compatible primer on smooth concrete, glass, or existing tiles.
 5. **Install backer board** (if needed) – Cement-backed gypsum or cement board for wet areas.
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6. Selecting the Right Adhesive

Situation	Recommended Adhesive
Standard ceramic on concrete	Unmodified thin-set (type N)
Porcelain or stone on exterior	Polymer-modified thin-set (type S)
Large format tiles (>600mm)	High-performance thin-set with larger notch
Light wall tiles in dry rooms	Pre-mixed mastic
Over existing tile	Flexible thin-set or epoxy mortar (check manufacturer)

*Always follow the manufacturer's open?