



## POLYFLEX 54 - ULTRA FLEX GRANITE TILE ADHESIVE MORTAR – C2TES1

### Description :

POLYFLEX 54 is a high-performance, polymer-modified cementitious tile adhesive designed for demanding interior and exterior tile installations. The reduced slip property ensures stable tile positioning on vertical surfaces, while the extended open time allows greater flexibility during installation. Its deformable structure provides resistance against thermal expansion, shrinkage, and minor substrate movement.

### Advantage:

- High tensile adhesion strength.
- Extended open time for easier installation.
- Reduced vertical slip for wall applications.
- Flexible performance (S1 deformability).
- Crack-bridging capability.
- Suitable for thermal movement areas.
- Frost-resistant after curing.
- Excellent workability.

### Area of Use:

- Interior and exterior wall and floor tiling.
- Ceramic, porcelain, and granite tiles.
- Large format tile installations.
- Residential and commercial buildings.
- Bathrooms, kitchens, and wet areas.
- Balconies and terraces.
- Underfloor heating systems.
- Renovation projects (tile-on-tile applications with proper surface preparation).
- High-traffic areas.

### Surface Preparation:

- Substrates must be sound, free from oil, grease, and sufficiently dry.
- Cementitious substrates must be cured.
- The plaster and weak particles that do not adhere to the surface well enough should be removed from the surface prior to the application.
- The damaged sections of the concrete, the fractures and static cracks on the concrete surface should be repaired with the POLYFLEX REPAIR mortar. The application of the POLYFLEX 54 should be started 3 - 4 days late.
- The surface should be primed with POLYFLEX UNI PRIMER depending on to absorbency of the substrate before application.
- To increase adhesion strength before application on gross concrete surfaces, the surface should be primed with POLYFLEX BRUT PRIMER.
- If they are dusty the back sides of the ceramic tiles should be washed with water.

### Mixture Preparation:

- Pour POLYFLEX 54 on 6.5 – 7.25 L of clean water slowly and mix to obtain a homogeneous paste free from lumps.
- A low-speed mixer is recommended to mix. Do not add any substance which is not mentioned in the instructions for the application.
- The prepared mortar is left to rest for 5-10 minutes so that it matures after which it is mixed for 1-2 more minutes and then it becomes ready for application.

### Application:

- The mortar is applied to the surface and its thickness is adjusted with the notched trowel according to the size of the ceramic and the smoothness and evenness of the application surface. As the size of the ceramic increases it is recommended to do a double-sided application.
- Care should be taken to ensure that the mortar does not form a film on the surface during application.
- Any adhesive that has formed a film on the surface should be scraped off and should not be reused.
- The tiles should then be placed onto the combed mortar surface with the help of a rubber hammer.
- The troweled mortar should be applied within a maximum of 15-20 minutes. Applications exceeding this time should not be performed on the mortar, and the mortar should be scraped off the surface.
- The fresh mortar should be used up within 2.5 - 3 hours. Under no circumstances should the expired mortar be used.
- Consumption is 4 – 5 kg/m<sup>2</sup>

### Aftercare / Post-Application Instructions:

- Protect tiles from traffic: Avoid walking on freshly laid tiles for at least 24 hours.
- Avoid water exposure: Do not expose the tiled surface to water for at least 24 hours; for floor installations, wait 48 hours if ambient temperature is low.
- Grouting: Apply grout after 12 hours for walls and 24 hours for floors, ensuring the adhesive has sufficiently cured.
- Cleaning: Clean the tiles using a damp sponge or soft cloth. Avoid harsh chemicals that can damage the tile surface or interfere with curing.
- Curing: Maintain normal indoor conditions (20–25°C, moderate humidity) during curing to ensure optimal adhesion.



- Temperature precautions: Protect the installation from frost, direct sunlight, or high heat during the first 48 hours.
- Check adhesion: Ensure all tiles are firmly bonded before applying heavy loads or subjecting the surface to stress.
- Long-term maintenance: After full curing (7 days), clean the tiled surface regularly with neutral pH cleaners to preserve tile and grout integrity

#### Precautions in Application:

- Surface condition: Ensure the substrate is structurally sound, clean, dry, and free from dust, grease, or loose particles.
- Ambient temperature: Do not apply at temperatures below 5°C or above 35°C. Extreme temperatures may affect adhesion and curing.
- Moisture: Avoid applying the adhesive on wet or damp surfaces unless the substrate is properly prepared.
- Mixing: Always add powder to water, not water to powder, to avoid lumps. Do not use more water than recommended.
- Open time: Apply tiles within the adhesive's open time; exceeding this may reduce adhesion.
- Tile type: Check tile manufacturer recommendations, especially for natural stone or moisture-sensitive tiles.
- Protective gear: Wear gloves and goggles during mixing and application to prevent skin and eye irritation.
- Avoid contamination: Do not mix with other adhesives, chemicals, or additives unless explicitly recommended.

#### Packing:

25 kg craft bags.

#### Storage and Shelf Life:

Must be stored at temperatures between +5°C and +35°C. Under proper storing conditions, the product's shelf life is 12 months from production date if kept in original packaging unopened and undamaged. Packaged products must be shaken before use.

#### Security Information:

Use protective clothes, gloves, glasses and mask compatible with Health and Safety regulations during the application. It should not contact skin and eyes. In case it contacts to skin and eyes, rinse it with water and if swallowed ask for medical help. Food and beverage should not be allowed in the application area. It should be stored at the reach out of the children. The Material Safety Data Sheet (MSDS) should be read for detailed information.

#### Technical Properties:

Appearance	Grey and White Powder	-
Pot Life	5 hours	-
Application Temperature	Between +5°C and +35°C	-
Mixing Ratio	5.25 – 7.25 L water / 25 kg powder	-
Grouting	12 hours on wall; 24 hours on floor	-
Consumption	Approx. 3 – 5 kg/m <sup>2</sup>	-
Open Time	≥ 30 minutes	EN 1346

#### PERFORMANCE

Slip	≤ 0.5 mm	EN 1308
Initial Tensile Adhesion Strength	≥ 1 N/mm <sup>2</sup>	EN 1348
Tensile Adhesion Strength After Water Immersion	≥ 1 N/mm <sup>2</sup>	EN 1348
Tensile Adhesion Strength After Heat Aging	≥ 1 N/mm <sup>2</sup>	EN 1348
Tensile Adhesion Strength After FreezeThaw Cycles	≥ 1 N/mm <sup>2</sup>	EN 1348
Open Time Tensile Adhesive Strength (after 20 minutes)	≥ 1 N/mm <sup>2</sup>	EN 1348
Deformability	≥ 2.5 mm	EN 12002
Reaction to Fire	A1	EN 13501-1

Hereby technical values and product application instructions are obtained in the wake of tests conducted in environment of +23±2°C temperature with relative humidity of %50±5. Higher temperatures will shorten the time span, while lower temperatures will extend it.

#### Standards:

EN 12004-1:2017, Class: C2TES1

- C: Cementitious • 2: Improved • T: Reduced Slip
- E: Extended Open Time • S1: Deformable

