Model Specification for Installation of Tekcem 220 Leveller onto Tiled Substrate Using Tekcem TekGrip (Bonded System)

1. Substrate Requirements

Substrate Type:
Existing ceramic, porcelain, quarry, or natural stone tiled surfaces suitable for bonded self-levelling systems.

Minimum Compressive Strength:
25 MPa (of the underlying structure or screed).

Condition:
- Tiles must be rigidly bonded and stable with no hollow or loose areas.
- Substrate must be clean, dry, and sound.
- Free from polish, sealers, wax, or contaminants that may inhibit adhesion.
- Cracked or damaged tiles must be repaired or replaced prior to levelling.
- Joints to be filled and the surface rendered flat before priming.
- Underfloor heating systems, if present, must be fully commissioned and switched off at least 24 hours prior to priming or levelling.

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2. Mechanical Surface Preparation

Method:
Mechanically abrade tile surfaces using diamond grinding or equivalent to remove any glaze and improve mechanical key.

Cleaning:
Vacuum thoroughly and clean with a suitable alkaline degreaser to remove grease or residue.
Rinse with clean water and allow to dry completely.

Moisture Testing:
Confirm substrate RH ≤ 75 %.
If moisture levels exceed this, a suitable surface DPM must be applied before priming.

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3. Primer Application (Tekcem TekGrip)

Primer:
Tekcem TekGrip – ready-to-use, fast-drying, aggregate-based bonding primer for absorbent and non-absorbent substrates.

Application Method:

- Stir thoroughly before use to distribute aggregate evenly.
- Apply **one even coat** using a roller or brush, ensuring full coverage.
- Work the primer into the tile joints and surface profile.
- Avoid pooling and over-application.
- Allow to **dry fully (typically 20–30 minutes @ 20 °C)** until a uniform textured film forms.
- Do not dilute.

Coverage:
Approx. 0.075 – 0.11 kg/m² (typically 9 – 13 m² per litre depending on substrate profile).

Conditions:
Apply at substrate and ambient temperatures between 5 °C and 30 °C.
Ensure ambient RH < 75 %. Avoid direct sunlight and strong airflow during drying.

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4. Tekcem 220 Leveller Specification

Product:
Tekcem 220 Leveller – rapid-setting, cement-based, protein-free, shrinkage-compensated smoothing compound.

Water Addition:
5.6 – 6.0 litres per 25 kg unit.
Do not exceed 6 litres to maintain strength and drying performance.

Properties:

- Working time: 20 – 30 minutes @ 20 °C
- Light foot traffic: ~ 2 – 3 hours @ 20 °C
- Floor finishes: after 24 hours @ 3 mm
- Compressive strength: > 12 MPa (1 day), > 25 MPa (7 days), > 28 MPa (28 days)
- Flexural strength: > 4 MPa (1 day), > 6 MPa (7 days), > 7 MPa (28 days)

Thickness Guidelines (Bonded Systems):
Minimum 2 mm, maximum 20 mm in a single application.
For thicker sections, apply in multiple layers, re-priming with Tekcem TekGrip between coats.

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5. Screed Application

Mixing:
Add powder gradually to clean water while mixing with a slow-speed drill and paddle or suitable screed pump.
Mix until homogeneous and lump-free.

Allow to stand 2 minutes, re-mix, and apply immediately.
Use within 30 minutes of mixing.

Placement:
Pour or pump onto the primed substrate.
Spread using a steel trowel and finish with a spiked roller to remove trapped air and ensure smoothness.

Environmental Conditions:
Substrate temperature 5 – 30 °C; ambient RH < 75 %.

6. Post-Installation

Drying & Overlay:
- Light foot traffic: after ~ 2 – 3 hours @ 20 °C
- Tiled finishes: after 3 hours @ 3 mm
- Other floor finishes: after 24 hours @ 3 mm
- Ensure substrate is suitably dry for moisture-sensitive floor coverings.

Drying Guidance:
At 3 mm, typical drying time is 3–4 hours under well-ventilated conditions.
Low temperatures and high humidity extend drying time.

Curing:
No curing membrane required. Avoid rapid drying due to heat or airflow.

Access:
Light traffic after 2 – 3 hours; full traffic after 24 hours.

7. Limitations

- Do not apply below 5 °C or above 30 °C.
- Not suitable for permanently wet or immersed areas.
- All tiles must be securely bonded and deglazed before priming.
- Only use Tekcem TekGrip for tiled substrates to ensure adequate adhesion.

8. Disclaimer

The information provided in this specification is based on Tekcem's experience and current knowledge and is given in good faith to assist in specifying the installation of Tekcem products. It does not replace the need for appropriate design, professional judgement, and proper site evaluation. Tekcem Ltd accepts no liability for the improper use of its products or deviation from the recommended guidelines.

Site conditions, working methods, substrate types, and application techniques can all vary significantly and are beyond Tekcem's control. Therefore, it is the responsibility of the contractor and/or installer to ensure that the products are suitable for the specific conditions of each individual project.

This specification does not relieve the user of the responsibility to carry out appropriate checks, tests, and quality assurance procedures prior to and during application.

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