Model Specification for Installation of Tekcem 220+ Leveller onto Sand and Cement Screed / Cement-Based Flowing Screed Using Two Coats of Tekprime (Bonded System)

1. Substrate Requirements

Substrate Type:
Sand and cement screed or cement-based flowing screed suitable for bonded self-levelling systems.

Minimum Compressive Strength:
25 MPa.

Condition:
- Structurally sound, stable, and free from movement or cracking.
- All cracks and surface defects repaired to form a continuous, stable substrate.
- Free from laitance, dust, oil, grease, curing agents, and contaminants.
- Surface relative humidity ≤ 75 % (BS 8203).
- Flat and level; significant deviations corrected prior to application.

2. Mechanical Surface Preparation

Method:
Mechanically abrade the surface using vacuum-assisted shot blasting or diamond grinding to remove laitance and expose a clean, open texture.

Cleaning:
Remove all dust and debris using industrial vacuum equipment.

Moisture Testing:
Confirm surface RH ≤ 75 %. If readings are higher, apply a suitable surface DPM before priming.

3. Primer Application (Two Coats Tekprime)

Primer:
Tekcem Tekprime.

Dilution Ratio:
3 parts clean water : 1 part Tekprime (3 : 1).

Coat 1:
Apply the first diluted coat uniformly using a roller or soft broom.
Allow to fully dry and film-form (minimum 1 hour depending on site conditions).

Coat 2:
Apply a second identical coat at the same dilution rate.
Ensure the surface is fully dry and tack-free before applying Tekcem 220+.

Coverage:
Approx. 170 m² per 5 L of Tekprime at 3 : 1 dilution (per coat, subject to substrate porosity).

Conditions:
Do not apply if substrate or ambient temperature is below 5 °C or above 30 °C.
Maintain ambient RH below 75 % during curing.

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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 avoid extended drying or strength loss.

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 applications, apply in multiple layers with re-priming 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 a suitable screed pump.
Mix until smooth and lump-free.
Allow to stand 2 minutes, re-mix, and apply immediately. Use within 30 minutes of mixing.

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

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

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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 before installing moisture-sensitive finishes.

Drying Guidance:
Allow 1 day per 10 mm thickness in well-ventilated conditions.
Low temperatures and high humidity extend drying. Verify RH prior to floor covering installation.

Curing:
No curing membrane required; protect against rapid drying from heat or airflow.

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

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7. Limitations

- Do not apply below 5 °C or above 30 °C.
- Not suitable for permanently wet or submerged areas.
- Ensure substrate RH ≤ 75 % before application.
- Only use Tekcem Tekprime for bonded systems to maintain adhesion and compatibility.

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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