Model Specification for Installation of Tekcem 212+ Leveller onto Concrete Substrate Using Two Coats of Tekcem SF Membrane with Quartz Scatter (Bonded System)

1. Substrate Requirements

Substrate Type:
Concrete slab suitable for bonded self-levelling systems.

Minimum Compressive Strength:
25 MPa.

Condition:
- Structurally sound, stable, and free from movement or cracking.
- Free from laitance, dust, oil, grease, curing agents, or contaminants.
- Surface relative humidity (RH) < 97 % (BS 8203).
- Flat and level; any deviations corrected prior to application.
- No standing or trapped moisture.

2. Mechanical Surface Preparation

Method:
Mechanically abrade the concrete using vacuum-assisted shot-blasting or diamond grinding to expose a clean, textured surface.

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

Moisture Testing:
Conduct RH testing across the floor in accordance with BS 8203. Tekcem SF Membrane accommodates up to 97 % RH in this system.

3. Primer Application (Two Coats Tekcem SF Membrane with Quartz Scatter)

Primer:
Tekcem SF Membrane – two-component, solvent-free epoxy surface membrane providing moisture control and superior bond strength for self-levelling toppings.

Preparation:
- Mix both components thoroughly with a slow-speed drill and paddle for at least 2 minutes

until a uniform colour and consistency are achieved.
• Ensure substrate temperature is 10–25 °C and at least 3 °C above dew point.

Coat 1 (Red):
• Apply the **first red coat** evenly using a roller or brush at ~3 m²/kg.
• Ensure full, even coverage with no pinholes.
• Allow to cure until **tack-free** (approximately 6 hours @ 20 °C).

Coat 2 (Black + Quartz Scatter):
• Apply the **second black coat** in the same manner at ~4 m²/kg.
• While still **wet**, broadcast **0.7 – 1.2 mm Tekcem Quartz** across the entire surface at ~2 kg/m² to achieve a full blind.
• Allow to **fully cure** (typically 12 – 14 hours @ 20 °C).
• Once cured, remove loose aggregate by sweeping and vacuuming before applying Tekcem 212 Leveller.

Conditions:
Ambient and substrate temperature 5–30 °C; avoid condensation or direct heat during curing.

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4. Tekcem 212+ Leveller Specification

Product:
Tekcem 212 Leveller – fast-setting, cement-based, shrinkage-compensated self-levelling compound.

Water Addition:
5.8 – 6.0 litres per 25 kg unit. Do not exceed 6 litres to prevent strength loss or delayed drying.

Properties:
• Working time: 20 – 30 minutes @ 20 °C
• Light foot traffic: ~2 hours @ 20 °C
• Tile installation: after 3 hours @ 3 mm
• Resilient finishes: after 4 hours @ 3 mm
• Compressive strength (28 days): > 22 N/mm²
• Flexural strength (28 days): > 5 N/mm²

Thickness Guidelines (Bonded Systems):
Minimum 2 mm, maximum 12 mm in a single application. For thicker sections, apply in multiple layers, re-priming as required.

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5. Screed Application

Mixing:
Add powder slowly to clean water while mixing with a slow-speed drill and paddle or 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 cured, quartz-seeded SF Membrane. Spread evenly with a steel trowel 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: ~2 hours @ 20 °C
- Tile finishes: after 3 hours @ 3 mm
- Resilient finishes: after 4 hours @ 3 mm
- Ensure residual moisture content is suitable for floor finishes.

Drying Guidance:
At 3 mm, typical drying time 3 – 4 hours under good ventilation.
Cool or humid conditions will extend drying.

Curing:
No curing membrane required; avoid rapid drying from heat or air movement.

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 immersed or saturated areas.
- Ensure substrate RH < 97 % prior to installation.
- Tekcem SF Membrane must be fully cured and quartz-seeded before applying Tekcem 212 Leveller.
- Follow all mixing, coverage, and curing recommendations exactly.

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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