Model Specification for Installation of Tekcem 220 Leveller onto Calcium Sulphate / Anhydrite Base Using Tekprime CS (Bonded System)

1. Substrate Requirements

Substrate Type:
Calcium sulphate (anhydrite) screeds, including heated screeds.

Minimum Compressive Strength:
25 MPa.

Condition:
- Structurally sound, dry, and dimensionally stable.
- All cracks and surface defects to be repaired to achieve a flush, uniform surface.
- Free from laitance, dust, oil, grease, and contaminants.
- Surface relative humidity ≤ 85 % (≤ 75 % RH for resilient finishes).
- Flat and true; significant deviations corrected before application.
- Heated screeds must be fully commissioned and switched off at least 48 hours before priming or levelling.

2. Mechanical Surface Preparation

Method:
Mechanically remove all laitance and weak surface material by grinding or shot blasting to expose a sound, open-textured surface.

Cleaning:
Vacuum thoroughly to remove dust and debris.

Moisture Testing:
Confirm substrate RH ≤ 85 % using tests in accordance with BS 8203.
If readings are higher, delay works or apply a suitable moisture-tolerant membrane.

3. Primer Application (Tekprime CS)

Primer:
Tekcem Tekprime CS – high-performance, red-pigmented primer specifically designed for calcium sulphate and anhydrite screeds.

Application Method:
• Shake container well before use.
• Apply **one neat, undiluted coat** of Tekprime CS using a short-pile roller or brush, ensuring complete and uniform coverage.
• Avoid pooling and ensure full surface wetting.
• Allow to **dry fully (approx. 60 minutes @ 20 °C)** before walking on the surface or applying Tekcem 220+.
• In very porous substrates, apply a second coat once the first has dried.

Coverage:
Approx. 6.5 m² per litre (≈ 0.15 kg/m²), subject to substrate porosity and texture.

Conditions:
Apply between 5 °C and 30 °C (optimum 15 – 25 °C). Maintain RH below 75 %.
Avoid direct sunlight or rapid drying during application.

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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 strength loss or extended drying times.

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, 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 pump.
Mix until lump-free and homogeneous.

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 residual moisture content is within specification for floor coverings.

Drying Guidance:
At 3 mm, typical drying time is 3 – 4 hours in well-ventilated conditions.
Cool or humid environments will extend drying.
Always confirm RH before installing moisture-sensitive finishes.

Curing:
No curing membrane required. Avoid rapid drying due to heat, sunlight, 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 areas subject to permanent water immersion.
- Ensure substrate RH ≤ 85 % before priming.
- Always use Tekcem Tekprime CS for anhydrite bases to ensure chemical compatibility and 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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