Model Specification for Installation of Tekcem Ultra Screed onto Concrete Substrate Using Tekcem Bonding Slurry (Tekpol SBR)

1. Substrate Requirements

- **Substrate Type**: Concrete slab.
- **Minimum Compressive Strength**: 25 MPa.
- **Condition**:
  - Substrate must be **solid, sound, clean, and dry**.
  - Must be **free from dust, laitance, oil, grease**, curing agents, paint, and any other surface contaminants.
  - Surface must be **level and flat**, with no sudden changes that could lead to cracking or debonding of the screed.

2. Mechanical Surface Preparation

- Mechanically abrade the surface using **vacuum grit blasting**, scabbling, or shot-blasting to remove all weak surface material and create a **mechanical key**.
- Ensure a **visibly open textured surface** with exposed aggregate.
- **Vacuum clean** to remove all dust and debris prior to priming.
- **Moisture Testing**:
  - Perform surface moisture testing according to **BS 8203**.
  - Substrate must be **dry**, with no standing water or damp surface sheen. Bonding slurry should only be used on substrates with **<75% RH**.

3. Application of Tekcem Bonding Slurry (Tekpol SBR System)

- **Mix Composition**:
  - 1 part **Tekpol SBR**
  - 1 part **clean water**
  - 3 parts **Ordinary Portland Cement (OPC)**
    Mix by weight or volume to achieve a lump-free, creamy slurry.
- **Coverage**:
  Approximately **3 m² per kg** of slurry, depending on surface texture and porosity.
- **Application**:
  - Thoroughly stir and apply the bonding slurry using a stiff brush or broom.
  - Work the slurry vigorously into the prepared concrete surface to ensure complete contact with all surface irregularities.
- **Timing**:
  - The bonding slurry must remain **wet at the time of screed application**.
  - **Wet-on-wet application** is essential for proper adhesion.
  - Do not allow the slurry to dry or skin over. If it begins to set, it must be removed and reapplied.
- **Traffic Control**:
  - No traffic is allowed on the freshly applied slurry coat.

- Screed should be placed immediately after application.

4. Tekcem Ultra Screed Specification

- **Mix Design (per m³)**:
  - 400 kg Cement (CEM I, 42.5N)
  - 1600 kg 0–4 mm Screeding Sand (to BS EN 13139)
  - 2400 ml Tekcem Ultra Admixture
  - 55–60 litres Water (adjust for moisture content in aggregate)
  - 1 kg PP fibres (recommended in areas with underfloor heating).
- **Consistency**:
  - Semi-dry; the mix should form a cohesive ball when squeezed, with no bleeding of free water.
- **Working Life**:
  - 45–60 minutes after mixing.
- **Thickness**:
  - Minimum: **15mm** (with careful aggregate grading)
  - Maximum: **40mm**

5. Screed Application

- **Method**:
  - Spread the Tekcem Ultra screed directly into the **wet bonding slurry**.
  - Tamp to consolidate, then finish using a plastic float or light steel trowel.
- **Compaction**:
  - Ensure full compaction to eliminate voids and maximise screed performance.
- **Environmental Conditions**:
  - Substrate temperature: **5°C to 30°C**.
  - Ambient humidity: **<75% RH** during application and initial cure.

6. Post-Installation

- **Protection**:
  - Protect the newly laid screed from rapid drying, frost, and direct sunlight for the first 24 hours.
- **Access**:
  - Light foot traffic after 12–24 hours.
  - Full site traffic after 72 hours.
- **Floor Finishes**:
  - Do not install floor coverings until residual moisture levels are confirmed to be below the finish manufacturer's requirement (typically ≤75% RH).

7. Limitations

- The bonding slurry must remain **wet at the point of screed application**.
- Do not apply slurry to damp or contaminated substrates.
- Do not allow the slurry to dry or be trafficked before screeding.
- Screed must be placed **immediately** over freshly applied bonding slurry.
- Not suitable where RH exceeds 75%; for higher RH conditions, consider Tekcem SF Membrane as an alternative bonding system.

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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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