



Model Specification for Installation of Tekcem Ultra Screed as a Floating Screed Over EPS Insulation (Using 500-Gauge Separating Membrane)

1. Substrate Requirements

- **Substrate Type:** EPS (expanded polystyrene) rigid insulation.
- **Insulation Specification:**
 - Must have a **minimum compressive strength of 100 kPa**.
 - EPS insulation must be specifically designed and approved for use beneath cementitious screeds.
 - Install in accordance with the **manufacturer's installation guidelines**.
 - Boards must be:
 - **Laid flat and level,**
 - **Tightly butted,**
 - Fully supported across the floor area.
 - Any voids or unevenness must be corrected prior to screeding.

2. Installation of Separating Membrane

- **Membrane Type:**
 - **500-gauge polyethylene sheet** (minimum), acting as a separating layer.
- **Installation Method:**
 - Lay the membrane loosely over the EPS boards without puncturing or tearing.
 - **Overlap joints by at least 150mm.**
 - Seal joints using **single-sided tape only**.
 - Turn the membrane **up all perimeter walls, columns, and fixed elements** to a height greater than the finished screed thickness.
- **Manufacturer's Guidance:**
 - Follow the **membrane manufacturer's installation instructions**, especially regarding sealing and compatibility with EPS.

3. Installation of Perimeter Edge Strip

- **Material:**
 - Closed-cell polyethylene foam or similar screed isolation strip.
- **Dimensions:**
 - **Thickness:** Typically **5–10mm**.
 - **Height:** Must be **equal to or greater than the final screed thickness** (minimum 40mm or 35mm for domestic/light traffic).
- **Placement:**
 - Install continuously around **all internal and external walls, columns, and penetrations** before screed installation.
 - Ensure no gaps in the isolation barrier.



4. Tekcem Ultra Screed Specification

- **Mix Design (per m³):**
 - 400 kg Cement (CEM I, 42.5N)
 - 1600 kg 0–4 mm Screeding Sand (BS EN 13139)
 - 2400 ml Tekcem Ultra Admixture
 - 55–60 litres Water (adjusted to sand moisture)
 - **No PP fibres required** (no UFH in this installation).
- **Consistency:**
 - Semi-dry. The mix should form a firm ball when squeezed, without bleeding free water.
- **Working Life:**
 - Approximately 45–60 minutes from mixing, depending on site conditions.

5. Screed Application

- **Placement:**
 - Place the Tekcem Ultra screed directly onto the **500-gauge membrane over EPS insulation**.
 - Compact using a screed bar and tamping methods.
 - Finish with a plastic float or light steel trowel.
- **Screed Thickness:**
 - **Minimum 40mm** for standard and commercial installations.
 - **Minimum 35mm** for domestic/light duty floors only.
- **Compaction:**
 - Ensure thorough compaction and levelling throughout the depth.
- **Environmental Conditions:**
 - Apply only when ambient and substrate temperatures are between **5°C and 30°C**.
 - Ambient RH should be below **75%** during application.

6. Post-Installation

- **Protection:**
 - Protect the screed from rapid drying, frost, draughts, and direct sunlight for a minimum of 24 hours.
 - Use appropriate covers if necessary to aid curing.
- **Site Access:**
 - Light foot traffic permitted after 12–24 hours.
 - Full site access allowed after 72 hours, subject to screed thickness and site conditions.
- **Floor Finishes:**
 - Do not install floor finishes until the screed has fully dried and residual moisture is confirmed to be within acceptable limits (typically ≤75% RH).



7. Limitations

- The membrane must fully isolate the screed from the EPS insulation below.
- **Single-sided tape only** is required for laps with 500-gauge membranes.
- Screed must not bond to the insulation or underlying slab.
- Maintain **minimum thickness** throughout: 40mm (commercial) or 35mm (domestic only).
- Movement joints should be installed as necessary (e.g., between bays or thresholds).
- Ensure perimeter isolation is complete before pouring screed.

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.

Doc Ref - Tekcem Ultra_floating_500 gauge_EPSinsulation_concrete_May2025_R1