



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

1. Substrate Requirements

- **Substrate Type:** PIR rigid insulation board.
- **Insulation Specification:**
 - Insulation must have a **minimum compressive strength of 100kPa**.
 - Insulation boards must be installed flat, tightly butted together, and fully supported across the entire area.
 - Installation must be completed in full accordance with the **insulation manufacturer's recommendations**.

2. Installation of Separating Membrane

- **Membrane Type:**
 - **500-gauge polyethylene separating membrane** (or heavier grade if project-specific).
- **Installation Method:**
 - Lay the membrane loosely over the insulation.
 - **Overlap membrane joints by at least 150mm.**
 - **Seal all overlaps using single-sided tape only** to prevent screed ingress and maintain membrane continuity.
 - Turn the membrane **up at perimeter walls, columns, and penetrations** to a height greater than the finished screed thickness.
- **Manufacturer's Guidance:**
 - Membrane installation should follow the **specific membrane manufacturer's recommendations**, particularly regarding taping and sealing requirements.

3. Installation of Perimeter Edge Strip

- **Material:**
 - Closed-cell polyethylene foam or a similarly approved perimeter isolation material.
- **Dimensions:**
 - **Thickness:** Typically **5–10mm**.
 - **Height:** Must be **at least the full thickness of the screed** (minimum 40mm or 35mm depending on application).
- **Placement:**
 - Install continuously around **all internal and external walls, columns, and fixed vertical structures** before screeding.
 - Ensure no gaps are left in perimeter isolation.



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 (adjusted based on aggregate moisture content)
 - **No PP fibres are required** for this specification as there is **no underfloor heating**.
- **Consistency:**
 - Semi-dry; the mix should form a ball when squeezed without releasing free water.
- **Working Life:**
 - 45–60 minutes after mixing.

5. Screed Application

- **Placement:**
 - Place Tekcem Ultra screed directly onto the **500-gauge separating membrane**.
 - Compact and level using tamping methods.
 - Finish using a plastic float or light steel trowel to achieve a dense, uniform surface.
- **Thickness:**
 - **Minimum 40mm** thickness for commercial or general use.
 - **Minimum 35mm** allowable for domestic/light duty applications.
- **Compaction:**
 - Thorough compaction throughout the screed to eliminate voids and enhance performance.
- **Environmental Conditions:**
 - Apply when ambient and substrate temperatures are between **5°C and 30°C**.
 - Ambient relative humidity should be **below 75% RH**.

6. Post-Installation

- **Protection:**
 - Protect newly laid screed from direct sunlight, draughts, frost, and rapid drying during the first 24 hours.
 - Temporary coverings may be used as needed to assist curing.
- **Access:**
 - Light foot traffic permitted after 12–24 hours.
 - Full site traffic permitted after 72 hours, subject to thickness and site conditions.
- **Floor Finishes:**
 - Ensure screed is fully cured and residual moisture content is suitable for subsequent floor finish installation (typically ≤75% RH).
- **Underfloor Heating:**



- **Note:** No UFH pipework included in this specification.
- If added later, a minimum 30mm cover above heating pipes would be required.

7. Limitations

- Only **single-sided tape** is required to seal overlaps for a 500-gauge membrane.
- The screed must be fully isolated from vertical structures with perimeter edge strip.
- Minimum screed thicknesses must be maintained across the entire floor.
- Movement joints must be considered where required (e.g., at doorways or significant changes in floor layout).

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_PIRinsulation_concrete_May2025_R1