



Model Specification for Installation of Tekcem Ultra Screed Unbonded Over Concrete Using 2000-Gauge DPM or Gas Barrier (Including Perimeter Edge Strip and Taping)

1. Substrate Requirements

- **Substrate Type:** Concrete slab.
- **Condition:**
 - The concrete substrate must be **sound, clean, and free** of laitance, dust, oil, grease, curing compounds, or any contaminants that could affect membrane placement.
 - The substrate should be **sufficiently level** to allow for uniform screed thickness without significant hollows or ridges.
 - Where active moisture or gas is present, the membrane must comply with the project-specific requirements (e.g., methane, radon protection).

2. Installation of Separating Membrane (2000-Gauge DPM or Gas Barrier)

- **Membrane Type:**
 - **2000-gauge polyethylene damp proof membrane (DPM)** or certified **gas-resistant barrier** system as specified by the project requirements.
- **Installation Method:**
 - Lay the membrane loosely over the concrete substrate.
 - **Overlap joints by a minimum of 150mm.**
 - Use **double-sided tape** beneath overlaps to bond adjoining sheets together securely.
 - Apply **single-sided tape** over the top of overlaps to create a continuous, airtight seal.
 - Turn the membrane **up at all perimeter walls, columns, and service penetrations** to a height exceeding the final screed thickness.
 - Take care to **remove wrinkles** and ensure full contact with the substrate, avoiding voids or air pockets.
- **Manufacturer's Guidance:**
 - Membrane installation must follow the **specific membrane manufacturer's installation instructions**, especially where gas barriers are used (including details for laps, joints, taping, service entries, perimeter detailing, and site-specific performance requirements).

3. Installation of Perimeter Edge Strip

- **Material:**
 - Closed-cell polyethylene foam or a similarly approved perimeter isolation material.
- **Dimensions:**



- **Thickness:** Typically between **5mm and 10mm**.
- **Height:** At least equal to the **final screed depth** (minimum 35mm or 40mm).
- **Placement:**
 - Install around all **internal and external walls, columns, door frames**, and any **fixed vertical elements** prior to screed installation.
 - Ensure a **continuous barrier** to allow free movement of the screed during drying and thermal expansion/contraction.

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 for moisture content of aggregate)
 - 1 kg PP fibres (recommended where additional crack control or underfloor heating is installed).
- **Consistency:**
 - Semi-dry; the mix should form a ball when squeezed, without bleeding free water.
- **Working Life:**
 - 45–60 minutes from mixing.

5. Screed Application

- **Placement:**
 - Place the Tekcem Ultra screed directly onto the **2000-gauge DPM or gas membrane**.
 - Spread, tamp, and finish using a plastic float or light steel trowel to achieve a dense, level surface.
- **Thickness:**
 - **Minimum screed thickness:**
 - **35mm** for standard loading conditions.
 - **40mm** minimum thickness for **heavy-duty** traffic areas.
- **Compaction:**
 - Compact the screed fully through its depth to prevent voids and ensure maximum strength and performance.
- **Environmental Conditions:**
 - Screeding should be carried out when substrate and ambient temperatures are between **5°C and 30°C**.
 - Ambient humidity should be below **75% RH**.

6. Post-Installation

- **Protection:**
 - Protect the freshly laid screed from direct sunlight, wind, frost, and rapid drying for at least the first 24 hours.



- Temporary coverings may be installed if necessary to assist moisture retention during initial cure.
- **Access:**
 - Light foot traffic can be allowed after 12–24 hours.
 - Full site traffic allowed after 72 hours, depending on screed thickness and environmental conditions.
- **Floor Finishes:**
 - Floor finishes should only be applied once the screed is fully cured and the residual moisture content is at or below the requirements of the floor finish manufacturer (typically $\leq 75\%$ RH).
- **Underfloor Heating (if present):**
 - Systems may be gradually commissioned once the screed is fully cured and dry.

7. Limitations

- Membrane installation must achieve full coverage and airtight joints, particularly where gas protection is required.
- Joints must be properly bonded and sealed using **double-sided** and **single-sided** tape according to the membrane manufacturer's instructions.
- No direct bonding of the screed to the substrate — screed must remain unbonded via the membrane.
- Movement joints in the concrete substrate must be mirrored in the screed if necessary.
- Screed must be isolated from all vertical elements with the perimeter edge strip.

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.