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

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1. Substrate Requirements

Substrate Type:
Concrete slab.

Condition:

- Must be structurally sound, clean, and free from dust, laitance, oil, grease, curing agents, or contaminants.
- 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 meet project-specific gas protection standards (e.g. methane, radon).

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

Membrane Type:
2000-gauge polyethylene DPM or certified gas-resistant barrier.

Installation Method:
All membrane laps must be double taped:

- Apply double-sided tape beneath all overlaps to secure and bond adjoining sheets.
- Then apply single-sided tape over the top of each overlap to create a fully sealed joint.
- Lay the membrane loosely over the concrete substrate.
- Overlap joints by at least 150 mm.
- Apply double-sided tape beneath overlaps to bond adjoining sheets.
- Apply single-sided tape over overlaps to fully seal.
- Turn the membrane up at perimeter walls and around penetrations to a height above finished screed.
- Ensure full contact with substrate, free of wrinkles and trapped air.

Manufacturer's Guidance:
Follow the specific membrane manufacturer's detailed installation instructions, particularly for gas barrier applications. This includes lap preparation, taping protocols, joint and edge sealing, penetration detailing, and compliance with project-specific gas protection requirements.

3. Installation of Perimeter Edge Strip

Material:
Closed-cell polyethylene foam or similar approved resilient material.

Dimensions:

- Thickness: 5–10 mm
- Height: Equal to or greater than final screed thickness (minimum 35 mm or 40 mm depending on duty requirements)

Placement:
Install continuously around all perimeter elements including walls, columns, and door thresholds. Ensure continuity and allow for screed movement.

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4. Tekcem Tekscreed Specification

Mix Design (per m^3):

- 400 kg Ordinary Portland Cement (CEM I 42.5N)
- 1600 kg 0–4 mm screeding sand (BS EN 13139 fines category 1)
- Tekcem Tekscreed admixture (dosage per current TDS)
- Water: 50–60 litres (adjusted based on aggregate moisture content)
- Optional: 1 kg polypropylene fibres for thermal and shrinkage control

Consistency:
Semi-dry – forms a firm, cohesive ball when squeezed without bleeding water.

Working Life:
45–60 minutes after mixing.

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5. Screed Application

Placement:
Place Tekscreed directly onto the 2000-gauge DPM or gas barrier.

Method:
Compact by tamping, then level and finish using a plastic float or steel trowel.

Screed Thickness:

- Minimum 35 mm for standard use

- Minimum 40 mm for heavy-duty or high-traffic areas

Compaction:
Full and consistent compaction throughout is essential to avoid voids and ensure performance.

Environmental Conditions:

- Substrate and ambient temperature: 5–30 °C
- Relative humidity: <75%

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6. Post-Installation

Protection:
Protect screed from frost, rapid drying, sun, and draughts for a minimum of 24 hours. Temporary coverings can be used if required.

Access:

- Light foot traffic: 12–24 hours
- Full site traffic: ~72 hours depending on depth and conditions

Floor Finishes:
Do not apply floor coverings until RH ≤75% and screed is dry and cured.

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7. Limitations

- Membrane must be intact, with all overlaps fully bonded and sealed.
- Screed must remain unbonded; no direct contact with the concrete slab.
- Edge insulation must be continuous around all perimeter elements.
- Minimum thicknesses of 35 mm or 40 mm must be maintained based on usage.
- Reflect any substrate joints through the screed.
- Avoid installation when temperatures are below 5 °C.

8. Disclaimer

This specification is based on Tekcem's expertise and current product knowledge. It is intended as a guide for best practice but does not replace appropriate professional advice, detailed design, or site-specific assessment. Tekcem Ltd accepts no liability for misuse or deviation from the guidance provided.
Installers must ensure that the specification is suitable for their particular application and that appropriate quality control and testing is conducted throughout the process.