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

---

1. Substrate Requirements

Substrate Type:
EPS (Expanded Polystyrene) rigid insulation.

Insulation Specification:

- Minimum compressive strength: 100 kPa.
- EPS must be compatible with cementitious screeds.
- Boards must be:
    - Laid flat, fully supported, and tightly butted.
    - Installed in accordance with the insulation manufacturer's guidance.
    - Any voids or unevenness must be corrected prior to screeding.

---

2. Installation of Separating Membrane

Membrane Type:
Minimum 500-gauge polyethylene sheet, acting as a separating layer.

Installation Method:

- Lay membrane loosely over insulation with no punctures.
- Overlap joints by ≥150 mm.
- Seal laps using single-sided tape only.
- Turn membrane up perimeter walls, columns, and fixed elements to a height above the final screed level.
- Follow membrane manufacturer's instructions, particularly for EPS compatibility.

---

3. Installation of Underfloor Heating (UFH) Pipework

UFH Pipework Installation:

- Fix pipework securely on top of the separating membrane using clip rails, barbed staples, or castellated panels per UFH manufacturer's guidelines.
- Prevent movement during screeding.
- Allow for movement joints at bay breaks or changes in construction.

Minimum Pipe Cover:

- Ensure a minimum 30 mm of screed above the top of the pipes or conduits.

---

4. Installation of Perimeter Edge Strip

Material:
Closed-cell polyethylene foam or similar isolation strip.

Dimensions:

- Thickness: 5–10 mm
- Height: Equal to or greater than the total screed thickness (including UFH cover)

Placement:

- Install continuously along all perimeters, walls, columns, and service penetrations.
- Ensure full isolation to accommodate expansion and prevent edge cracking.

---

5. Tekcem RapidoWITT Screed Specification

Mix Design (per m^3):

- 265 kg Tekcem RapidoWITT
- 1850 kg 0–4 mm screeding sand (BS EN 13139)
- 900 g PP fibres
- ~85 litres clean water (adjusted to sand moisture content)

Consistency:

- Semi-dry; mix should form a cohesive ball when squeezed without bleeding water.

Working Life:

- Approximately 45–60 minutes from mixing.

---

6. Screed Application

Placement:

- Place screed directly onto membrane and around UFH pipework.
- Use tamping bars to compact and fully encapsulate the pipework.

- Finish with a plastic float or steel trowel as required.

Screed Thickness (including pipe cover):

Application Type	Minimum Screed Thickness
Domestic/light traffic	35 mm total (≥30 mm cover over pipes)
Commercial/heavy duty	40 mm total (≥30 mm cover over pipes)

Compaction:

- Ensure complete compaction to eliminate voids and maintain thermal and structural performance.

Environmental Conditions:

- Substrate/ambient temperature: 5°C to 30°C
- Ambient RH: <75% during application

---

7. Post-Installation, Protection & UFH Commissioning

Protection:

- Protect screed from frost, direct sunlight, draughts, and rapid drying for the first 24 hours.

Access:

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

UFH Commissioning (RapidoWITT Guidelines):

- Do not activate UFH for 72 hours post-installation.
- Start-up should follow a controlled cycle:

Day	Action
1	Switch on at 25°C
2	Increase to 35°C
3	Increase to 45°C
4	Increase to 55°C
5	Hold at 55°C
6	Switch off and cool naturally

Floor Finishes:

- Only install floor coverings after confirming ≤2 CM% or ≤75% RH.
- Screed must be cooled and moisture tested at least 48 hours after switching off UFH.

---

8. Limitations

- Maintain minimum 30 mm cover over UFH pipes at all points.
- Ensure membrane fully isolates screed from insulation and substrate.
- Use single-sided tape on all membrane joints.
- Screed must not be bonded to insulation.
- Install movement joints as required by the floor design and UFH layout.
- Ensure complete perimeter edge isolation before placing screed.

---

9. Disclaimer

The information in this document reflects Tekcem's current knowledge and best practice guidance for installation. It does not replace site-specific design, testing, or professional judgement. Tekcem Ltd is not liable for performance issues resulting from deviation from these recommendations or inadequate preparation.

Installers must ensure compliance with relevant standards and site conditions through proper planning and quality control.