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

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1. Substrate Requirements

Substrate Type:
PIR (polyisocyanurate) rigid insulation board.

Insulation Specification:

- Minimum compressive strength: 100 kPa.
- PIR boards must be suitable for use beneath cementitious screeds.
- Boards must be:
  - Laid flat, fully supported, and tightly butted
  - Installed in accordance with manufacturer's guidance
  - Any voids or unevenness must be rectified prior to membrane installation

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2. Installation of Separating Membrane

Membrane Type:
500-gauge polyethylene sheet (minimum) as a separating layer.

Installation Method:

- Lay membrane loosely over PIR insulation.
- Overlap joints by at least 150 mm.
- Seal all overlaps using single-sided tape.
- Turn membrane up perimeter walls, columns, and penetrations to above the final screed height.

Manufacturer's Guidance:
Always follow membrane manufacturer's recommendations for sealing, taping, and installation over PIR.

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3. Installation of Underfloor Heating (UFH) Pipework

UFH Pipework Installation:

- Install UFH pipework directly on top of the separating membrane, using approved methods (clip rails, fixing clips, or castellated panels).

- Secure pipework to prevent flotation during screed placement.
- Include movement joints as required by layout.

Minimum Pipe Cover:

- Maintain a minimum of 30 mm screed cover above the highest point of any pipe or conduit.

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4. Installation of Perimeter Edge Strip

Material:
Closed-cell polyethylene foam or approved equivalent.

Dimensions:

- Thickness: typically 5–10 mm
- Height: must be equal to or exceed total screed thickness (including cover over UFH)

Placement:

- Install continuously around all perimeter elements (walls, columns, service penetrations).
- No gaps permitted.

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5. Tekcem RapidoWITT Screed Specification

Mix Design (per m^3):

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

Consistency:

- Semi-dry – should form a cohesive ball when squeezed without releasing water.

Working Life:

- 45–60 minutes depending on site conditions.

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6. Screed Application

Placement:

- Place Tekcem RapidoWITT screed directly onto the separating membrane, over and around UFH pipes.
- Compact thoroughly to avoid voids and ensure full pipe encapsulation.
- Finish using a plastic float or steel trowel.

Screed Thickness (including pipe cover):

Application Type	Minimum Screed Thickness
Domestic / Light Duty	35 mm (≥30 mm over pipes)
Commercial / Heavy Duty	40 mm (≥30 mm over pipes)

Compaction:

- Thorough compaction must be achieved throughout the screed depth.

Environmental Conditions:

- Installation temperature: 5°C to 30°C
- Relative humidity: below 75% RH

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7. Post-Installation, Protection, and UFH Commissioning

Protection:

- Protect screed from direct sunlight, wind, frost, and rapid drying for at least 24 hours.
- Use protective coverings if required.

Access:

- Light foot traffic after 12–24 hours
- Full site traffic permitted after 72 hours (subject to site conditions)

UFH Commissioning (RapidoWITT Guidance):

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

- Do not commission UFH for at least 72 hours post-installation.
- Begin heating cycle as above.
- Floor finishes must not be installed until the screed has cooled and a moisture reading of ≤75% RH is confirmed.

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8. Limitations

- Maintain ≥30 mm cover over all UFH pipework.
- Screed must not bond to PIR insulation – it must float on the separating membrane.
- Use only single-sided tape on membrane laps.
- Ensure full perimeter isolation is in place prior to screed placement.
- Install movement joints where necessary (e.g. door thresholds, large bays).

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9. Disclaimer

This specification is based on Tekcem's product knowledge and technical experience. It is intended as guidance only and does not replace the need for site-specific evaluation, appropriate design, and professional judgement. Tekcem Ltd is not liable for misuse or failure to follow this specification.

Installers are responsible for ensuring suitability and performing relevant quality control checks before and during installation.