Model Specification for Installation of Tekcem RapidoWITT Screed onto Beam and Block Floor Using Tekcem SF Membrane (Two-Coat System)

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1. Substrate Requirements

Substrate Type:
Precast beam and block floor system.

Minimum Compressive Strength:
25 MPa (beams and blocks).

Condition:

- Substrate must be structurally sound, solid, and continuous.
- All joints, gaps, and voids must be fully grouted to form a flush and stable surface.
- Surface must be clean and dry, free of laitance, dust, oil, grease, curing agents, and any contaminants.
- Flat and even; sharp level changes should be corrected prior to installation.

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2. Mechanical Surface Preparation

- Mechanically abrade the surface using vacuum grit blasting or equivalent technique.
- Remove all surface contaminants, including dust and laitance.
- Achieve a clean, open-textured, absorbent finish.

Moisture Testing:

- Conduct RH testing in accordance with BS 8203.
- Tekcem SF Membrane two-coat system is suitable for substrates with surface RH ≤97%.

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3. Application of Tekcem SF Membrane (Two-Coat System)

Mixing:
Thoroughly mix curing agent into SF Membrane base resin for a minimum of 2 minutes to produce a uniform consistency.

First Coat:

- Apply evenly using brush, roller, or squeegee at a coverage rate of approx. 3 m²/kg.

- Allow to fully cure (typically ~14 hours at 20°C).
- Ensure surface is clean and dry before proceeding to second coat.

Second Coat:

- Apply evenly at approx. 4 m²/kg.
- Screed must be installed wet-on-wet within 30 minutes of second coat application.
- Do not traffic or contaminate wet SF Membrane.

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4. Tekcem RapidoWITT Screed Specification

Typical Mix Design (per m³):

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

Properties:

- Semi-dry consistency – mix should form a ball when squeezed, without bleeding water
- Working life: 45–60 minutes
- Strength classification: ≥ CT-C35-F5
- Trafficable after ~12 hours
- Floor finishes may be installed from 10 days, subject to ≤2 CM% moisture

Thickness:

- Bonded systems: 20–40 mm
- Minimum 15 mm may be possible with careful aggregate grading and epoxy bonding agent
- Maximum 75 mm per layer; thicker applications must be layered and compacted separately

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5. Screed Application

Method:

- Spread RapidoWITT screed directly onto the wet second coat of SF Membrane.
- Tamp, float, and steel trowel to consolidate and finish.
- Ensure treads and junctions are fully filled and compacted.

Compaction:
Thorough compaction is critical to eliminate voids and ensure full bond.

Environmental Conditions:

- Substrate temperature: 5°C to 30°C
- Ambient relative humidity: <75%

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6. Post-Installation

Protection:
Protect freshly placed screed from frost, draughts, rapid drying, and direct sunlight for the first 24 hours.

Access:

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

Finishes:
Confirm residual moisture content before applying floor finishes. Target ≤2 CM% or ≤75% RH depending on floor covering.

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7. Limitations

- Tekcem SF Membrane must be used as a **two-coat system** on beam and block substrates.
- Screed must be placed wet-on-wet into the freshly applied second coat.
- Do not apply SF Membrane or screed if temperatures are below 5°C or risk dropping during curing.
- Floor must be pre-grouted and made solid before SF Membrane application.

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8. Disclaimer

The information in this specification is based on Tekcem's experience and is offered in good faith to support best practice. It does not replace professional design or site-specific evaluation. Tekcem Ltd accepts no liability for misuse or improper application.

Installers are responsible for ensuring the suitability of Tekcem RapidoWITT for each individual site, including testing, surface evaluation, and environmental controls.