# Model Specification for Installation of Tekcem RapidoWITT Screed Bonded to Concrete Using Tekcem SF Membrane (Two-Coat System)

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**1. Substrate Requirements**

**Substrate Type:**
Concrete slab.

**Minimum Compressive Strength:**
25 MPa.

**Condition:**

- Substrate must be sound, clean, and dry with no standing water.
- Free from laitance, dust, oil, grease, curing agents, and any other contaminants.
- Must be reasonably level and free of sharp undulations or step changes.

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**2. Mechanical Surface Preparation**

- Mechanically prepare the concrete by vacuum grit blasting or equivalent method.
- Remove all weak surface material, dirt, and surface contamination.
- Surface must be clean, textured, and absorbent to ensure optimum adhesion.

**Moisture Testing:**

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

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

**Mixing:**
Thoroughly mix the curing agent into the base resin for at least 2 minutes until a uniform consistency is achieved.

**First Coat:**

- Apply evenly by brush, roller, or squeegee at ~3 $m^2$/kg.
- Allow to fully cure (typically 14 hours at 20°C).
- Surface must be clean and free of contamination before proceeding.

**Second Coat:**

- Apply uniformly at ~4 m²/kg.
- Begin screeding wet-on-wet onto the second coat, ideally within 30 minutes of application.
- Do not allow second coat to skin or cure before screeding.

**Traffic Control:**

- Prevent any traffic over wet SF Membrane to avoid contamination and bond failure.

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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 (BS EN 13139)
- 900 g PP fibres
- ~85 litres Water (adjust based on moisture content of the aggregate)

**Properties:**

- Semi-dry consistency – should form a ball when squeezed without bleeding water
- Working life: 45–60 minutes
- Strength: ≥ CT-C35-F5
- Trafficable: after ~12 hours
- Floor coverings: may be installed once residual moisture is ≤2 CM% (typically from day 10)

**Thickness:**

- Bonded screeds: 20–40 mm
- Down to 15 mm possible with suitable epoxy bonding systems
- Maximum single layer: 75 mm. For greater depths, install in layers with scratch-keying.

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## 5. Screed Application

**Method:**

- Place screed directly onto wet second coat of SF Membrane.
- Tamp, float, and lightly steel trowel to consolidate and finish surface.

**Compaction:**
Ensure thorough compaction through the screed depth to eliminate voids and ensure bond.

**Environmental Conditions:**

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

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## 6. Post-Installation

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

**Access:**

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

**Floor Finishes:**

- Confirm residual moisture is ≤2 CM% or ≤75% RH before laying floor finishes.

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## 7. Limitations

- Tekcem SF Membrane must be applied as a two-coat system when bonding Tekcem RapidoWITT to concrete.
- Screed must be laid wet-on-wet onto freshly applied second coat.
- Do not allow second coat to cure prior to screeding.
- Do not apply the system below 5°C substrate or ambient temperature.

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## 8. Disclaimer

This specification is based on Tekcem's technical experience and is intended to assist with installation planning. It does not replace the need for appropriate design input, assessment of site-specific factors, or professional judgement. Tekcem Ltd accepts no liability for improper installation or deviation from guidance.

Installers are responsible for confirming suitability through appropriate testing, preparation, and quality assurance.

Tekcem Rapidowitt_Bonded_2 coat SF Membrane_concrete_no UFH_May2025_R1