



Model Specification for Installation of Tekcem 025 + Industrial Screed onto Marine Grade Plywood (Min. 18 mm or 2 × 9 mm) Using One Coat of Tekcem SF Membrane with Quartz Scatter and Reinforced with Glass Fibre Mesh (Bonded System – No Sealer, 7–20 mm Thickness)

1. Substrate Requirements

Substrate Type:

Marine-grade plywood.

- **Minimum construction:**

- One layer of **18 mm** marine plywood, or
- **Two layers of 9 mm** marine plywood, staggered and securely fixed.

Condition:

- Boards must be dry, flooring-grade, and securely screwed down with **minimal movement**.
 - Fixings: Screwed at 150 mm centres on board edges and 300 mm centres within the field.
 - Joints must be tight and stable. Loose, bowed, or flexing areas must be corrected or overlaid.
 - Substrate must be clean, dry, and free from oil, dust, polish, or adhesives.
 - RH must not exceed **75%** before installation of epoxy bonding primer.
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2. Mechanical Surface Preparation

Method:

Abrade sealed or smooth plywood surfaces to promote adhesion. Use mechanical sanding or scuffing to expose clean timber grain.

Cleaning:

Vacuum thoroughly to remove dust and contamination.

Moisture Testing:

Confirm RH $\leq 75\%$ in accordance with **BS 8203** prior to epoxy application.



3. Bonding Agent – Tekcem SF Membrane (Single Coat with Quartz Scatter)

Product:

Tekcem SF Membrane – solvent-free, two-part epoxy used as a bonding agent for screeds over timber and non-absorbent substrates.

Quartz Scatter:

Tekcem Quartz (0.7–1.2 mm), broadcast full blind at $\sim 2 \text{ kg/m}^2$.

Mixing:

Add the full contents of the curing agent into the resin base and mix mechanically for at least 2 minutes until uniform.

Application:

- Apply **one uniform coat** of Tekcem SF Membrane at $\sim 3 \text{ m}^2/\text{kg}$ using a roller or squeegee.
- Immediately **broadcast quartz** aggregate at $\sim 2 \text{ kg/m}^2$ onto the wet resin to achieve full blind coverage.
- Allow to fully cure (minimum 14 hours at 20°C).
- Once cured, remove all loose quartz via sweeping and vacuuming.

This system functions as a **bonding layer only** (not a DPM). Do not proceed if RH >75%.

4. Reinforcement Layer – Tekcem Glass Fibre Mesh

Product:

Tekcem Glass Fibre Mesh – alkali-resistant, 10 mm × 10 mm white mesh, 145 g/m².

Application:

- Roll out mesh directly over the cured, quartz-surfaced SF Membrane.
- Overlap joints by at least 50 mm.
- Fix in place if needed to prevent movement.
- Ensure the mesh is fully encapsulated and positioned near the middle third of the screed depth.

Provides added crack resistance over timber-based decks.

5. Tekcem 025 + Industrial Screed Specification

Product:

Tekcem 025 + Industrial – high-strength, shrinkage-compensated, pumpable screed.

**Water Addition:**

5.5 litres per 25 kg (max. 6 litres). Do not exceed.

Performance:

- Working time: 20–30 minutes
- Light foot traffic: ~3 hours
- Light forklift traffic: ~24 hours
- Full traffic: ~7 days
- Compressive strength:
 - 15 MPa (1 day)
 - 25 MPa (7 days)
 - 30 MPa (28 days)
- Flexural strength:
 - 4 MPa (1 day)
 - 6 MPa (7 days)
 - 7 MPa (28 days)

Application Thickness:

- **Minimum:** 7 mm (to fully encapsulate mesh)
 - **Maximum:** 20 mm
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6. Screed Application

Mixing:

Mix powder into clean water using a low-speed paddle mixer or pump. Let stand 2 minutes, remix, and apply within 30 minutes.

Placement:

Pour or pump screed directly over the **quartz-scattered epoxy layer**, ensuring the mesh is fully embedded. Spread with a trowel and finish with a spiked roller to remove air.

Environmental Conditions:

- Substrate temperature: 5–30 °C
 - Ambient RH: <75%
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7. Post-Installation Guidance

Drying Time:

Approx. **1 day per 10 mm** under good drying conditions. Low temperature or poor ventilation will extend drying.

**RH Testing:**

Conduct RH testing in line with **BS 8203** before applying floor finishes.

Access:

- Light foot traffic: ~3 hours
- Full service traffic: ~7 days

Finishes:

No sealer is applied. Ensure the surface is clean and dry before applying floor finishes or adhesives.

8. Disclaimer

The information provided in this specification is based on Tekcem's experience and current knowledge and is given in good faith to assist in specifying the installation of Tekcem products. It does not replace the need for appropriate design, professional judgement, and proper site evaluation. Tekcem Ltd accepts no liability for the improper use of its products or deviation from the recommended guidelines.

Site conditions, working methods, substrate types, and application techniques can all vary significantly and are beyond Tekcem's control. Therefore, it is the responsibility of the contractor and/or installer to ensure that the products are suitable for the specific conditions of each individual project.

This specification does not relieve the user of the responsibility to carry out appropriate checks, tests, and quality assurance procedures prior to and during application.

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