

CHEMFIT EPOCEM 82

Three Part Epoxy Modified Cementitious Self-Smoothing Mortar-For Use as a Temporary Moisture Barrier for Thicker Applications

PRODUCT DESCRIPTION

ChemFit EpoCem 82 is a three part, epoxy modified cementitious, fine textured mortar for self-smoothing floor screeds in layers of 3 to 7 mm. This unique polymer-cement hybrid combines the adhesion and chemical resistance of epoxy with the water vapor permeability of cementitious materials. It is specifically engineered to function as a **Temporary Moisture Barrier (TMB)**, allowing the application of epoxy, polyurethane, and PMMA resin flooring systems onto green or high moisture content concrete substrates without the risk of osmotic blistering. The material provides a level, impervious surface that bonds exceptionally well to damp or dry substrates.

PRIMARY APPLICATIONS

ChemFit EpoCem 82 is recommended for use in conditions such as:

- **Temporary Moisture Barrier (TMB):** Applied as a minimum 3 mm thick self-smoothing screed over high moisture substrates or green concrete prior to resin flooring
- **Self-Smoothing Screed:** Leveling or patching horizontal concrete surfaces in new work or repairs, particularly in aggressive chemical environments
- **Floor Topping:** Suitable for non-ventilated damp substrates without particular aesthetic requirements
- **Leveling Layer:** Under epoxy, polyurethane, and PMMA floor coatings, screeds, tiles, sheet floors, carpets, or wooden floors
- **Repair and Maintenance:** Of monolithic and vacuum concrete floors

KEY FEATURES AND BENEFITS

- **Temporary moisture barrier** – Allows resin floor application on green or damp concrete; prevents osmotic blistering
- **Three part, epoxy-cement hybrid** – Excellent adhesion, good chemical resistance, and water vapor permeability
- **Self-smoothing** – Provides a level substrate for final floor coverings
- **Impervious yet breathable** – Blocks liquid water but allows water vapor transmission
- **Good chemical resistance** – Superior to standard cementitious screeds
- **Fast curing** – Can be top coated with resin floors after approximately 24 hours at +20°C
- **Excellent bond** – Adheres to green or hardened concrete whether damp or dry
- **Frost and de-icing salt resistant** – Suitable for demanding environments

- **Thermal expansion properties** – Similar to concrete, reducing stress at the interface
- **Class R4** – Meets EN 1504-3 requirements for structural repair mortars
- **Solvent free** – Contains no solvents; will not corrode reinforcement steel
- **Solvent free** – Safe for indoor use

PHYSICAL AND CHEMICAL PROPERTIES

Property	Specification
Appearance	Three part: Resin (white), Hardener (yellow), Filler (grey aggregate)
Color (mixed)	Light grey / Matt grey
Basis	Epoxy modified cementitious mortar
Density (mixed A+B+C)	~2.10 kg/L at +20°C
Mix Ratio (by weight)	Part A : Part B : Part C = 1 : 2.5 : 22 (standard)
Pot Life (+20°C / 75% r.h.)	~25 minutes
Application Temp.	+8°C to +30°C
Relative Humidity	20% – 80% max.
Overcoating (to resin)	Min. 12-24 hours (+20°C)
Full Cure	7 days
Service Temperature	-30°C to +80°C
Shelf Life (unopened)	Parts A & B: 12 months; Part C: 9 months

MECHANICAL PROPERTIES

Property	Value
Compressive Strength (28 days)	≥ 60 N/mm ² (Class R4)
Flexural Strength (28 days)	≥ 10 N/mm ²
Adhesion to Concrete	≥ 2.0 MPa (substrate failure)
Freeze-Thaw/De-Icing Salt	Resistance factor WFT-L 86% (High)
Carbonation Resistance (8 mm)	R ≈ 24.2 m
Elastic Modulus	≤ 20 GPa
Capillary Water Absorption	≤ 0.5 kg/(m ² ·h ^{0.5})
Fire Rating	Class A2(fl) S1

PACKAGING AND STORAGE

Packaging:

- 31 kg unit (Part A: 1.14 kg, Part B: 2.86 kg, Part C: 27 kg)

Storage:

- Store in original sealed containers in dry conditions between +5°C and +30°C
- Parts A & B: Protect from frost
- Part C: Protect from humidity
- Keep containers tightly sealed when not in use

Shelf life: Parts A & B: 12 months; Part C: 9 months from date of manufacture when stored properly

DOSAGE AND COVERAGE RATES

- **Consumption: 2.25 kg/m² per mm thickness**
- **Minimum for TMB: 6.75 kg/m² for a 3 mm thickness**
- **Layer Thickness: 3.0 mm minimum / 7.0 mm maximum**
- **Yield per 31 kg unit:** Approx. 4.6 m² at 3 mm thickness / Approx. 2.0 m² at 7 mm thickness

NOTE: Coverage is theoretical and does not account for substrate porosity, surface profile, variations in level, or wastage. For thicknesses exceeding 7 mm, extend with quartz sand (see Application Guidelines).

APPLICATION GUIDELINES

Surface Preparation:

- Substrate must be sound, clean, and free from dust, oil, grease, laitance, and loose particles
- Mechanically abrade (shot blasting or grinding) to achieve an open textured surface
- The substrate can be damp but must be free of standing water
- For green concrete, allow at least 3 days for early shrinkage to occur

Priming:

- Apply **ChemFit Floor 155WN** primer diluted with 10% water at 0.3 – 0.5 kg/m²
- Allow primer to become tacky before applying **ChemFit EpoCem 82**

Mixing:

- Pre-mix Part A & B separately, then combine and shake vigorously for 30 seconds
- Pour the mixed binder (A+B) into a suitable mixing container
- Gradually add Part C while mixing with a low-speed drill (300-400 rpm)
- Mix for 3 minutes until a uniform, lump-free consistency is achieved
- Mix only full units of A+B+C components; do not mix smaller amounts
- Do not add water to the mix

Application:

- Pour the mixed material onto the primed substrate
- Spread evenly using a notched trowel or squeegee to the required thickness
- Immediately roll with a spiked roller to remove entrapped air and ensure uniform thickness
- Maintain a "wet edge" during application to achieve a seamless finish
- Protect from drafts, direct sunlight, and rain during curing

Curing & Overcoating:

- The surface will become tack-free and ready for overcoating when the moisture content has dropped below 4%
- **Overcoating with Epoxy/PU/PMMA:** Typically possible after 24 hours at +20°C
- **Full cure:** 7 days

Limitations:

- The TMB effect is limited in time without additional preparation; verify surface moisture if more than 5-7 days have passed since application
- For external use, must be top coated with a UV-resistant system
- Do not apply below +8°C or if rain is expected within 24 hours

HEALTH AND SAFETY

The mixed product is based on epoxy resin and hardener and may cause skin and eye sensitization. If eye contact occurs, rinse immediately with plenty of water for 15-20 minutes and seek medical attention. For skin contact, wash immediately with soap and water; remove contaminated clothing. If swallowed, do not induce vomiting; rinse mouth and drink water, then seek medical attention. Use gloves (nitrile), safety glasses, and protective clothing during handling. Ensure adequate ventilation. Refer to the Safety Data Sheet for detailed information.

CLEANG OF TOOLS

Clean all brushes, rollers, mixing equipment, and spillages with water immediately after use. Dried material requires mechanical removal

APPROVALS AND STANDARDS

ChemFit EpoCem 82 complies with the following standards:

- **EN 1504-9** – Principles for the protection and repair of concrete structures. Moisture control (Principle 2, Method 2.3), Physical resistance (Principle 5, Method 5.1), Restoration (Principle 3, Method 3.1), Increasing resistivity (Principle 8, Method 8.3)
- **EN 1504-3** – Structural and non-structural repair (Class R4)
- **EN 1504-2** – Surface protection systems for concrete
- **EN 13813** – Screed material and floor coatings (Class CT-C40-F7-A9)
- **CE marked** – Certified by Factory Production Control Body No. 2116
- **Fire Rating** – Class A2(fl) S1 (EN 13501-1)
- Three part epoxy modified cementitious self-smoothing mortar (3-7 mm)
- Suitable as a temporary moisture barrier for thicker applications

LEGAL NOTES

All technical data provided in this Product Data Sheet is based on laboratory testing under controlled conditions. Actual field performance may vary due to differences in substrates, application methods, site conditions, and environmental factors. ChemFit makes no warranty of merchantability or fitness for a particular purpose. Users shall conduct their own trials to validate product suitability for the intended application. ChemFit reserves the right to modify product specifications without prior notice. For the most current documentation, request the latest Product Data Sheet and Safety Data Sheet from ChemFit.

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