CHEMFIT FLOOR 390

2-Part Flexible and Chemically Resistant Epoxy Coating – For Crack-Bridging Chemically Resistant Coating for Bund Areas

PRODUCT DESCRIPTION

ChemFit Floor 390 is a two-part, flexible, high-build, solvent-free epoxy coating specifically formulated for bund areas and secondary containment. This advanced coating provides outstanding chemical resistance combined with flexibility, allowing it to bridge dynamic cracks that may develop in concrete substrates. The 100% solids system cures to form an impervious, seamless, and durable barrier, offering excellent protection against a wide range of water contaminating liquids, fuels, oils, and aggressive chemicals.

PRIMARY APPICATIONS

ChemFit Floor 390 is recommended for use in conditions such as:

- Crack-bridging chemically resistant coating for bund areas and secondary containment
- Protection against water contaminating liquids (oils, fuels, diesel, petrol, chemicals)
- Chemical storage bunds, tank farms, and process areas
- Concrete sumps, spill containment areas, and drip trays
- Flexible interlayer for car park decks and bridge expansion joints
- Repair of cracks in new and old concrete prior to final coating application
- Secondary containment systems requiring crack-bridging capability

KEY FEATURES AND BENEFITS

- **Two-part, solvent-free epoxy** – 100% solids; low odor; safe for confined spaces such as cellars, bunds, and concrete tanks
- **Flexible and crack-bridging** – Outstanding flexural properties and excellent crack-bridging characteristics; tolerates minor substrate movement
- **High chemical resistance** – Excellent protection against a wide range of chemicals, including oils, fuels, diesel, petrol, acids, alkalis, and solvents
- **Impermeable barrier** – Cures to form a liquid-proof, watertight seal
- **High mechanical strength** – Withstands light to medium foot and vehicle traffic in bund areas
- **Good adhesion** – Bonds to properly prepared concrete and metal substrates
- **User-friendly** – Easy to mix and apply by brush or roller
- **Conforms to Water Protection System Z-59.12107** – Certified for use in water protection areas
- **Available in 25 kg pack** – Convenient ready-to-mix unit

PHYSICAL AND CHEMICAL PROPERTIES

Property	Specification
Appearance	Part A: Colored liquid; Part B: Clear/Amber liquid
Color	Range of colors available (standard: Grey, Black, Light Grey)
Basis	Two-part, solvent-free flexible epoxy resin
Mix Ratio (by weight)	Refer to product label (25 kg pack: Part A + Part B)
Density (mixed)	~1.4 – 1.6 kg/L
Solids Content	~100% (by weight and volume)
Pot Life (at +20°C)	25 – 40 minutes
Touch Dry (at +20°C)	8 – 12 hours
Light Foot Traffic	18 – 24 hours
Full Chemical Cure	7 days
Application Temperature	+5°C to +30°C
Substrate Temperature	Must be ≥3°C above dew point
Relative Humidity	Max. 80%
Substrate Moisture	< 4% (no rising moisture)
Flexibility (Mandrel Bend Test)	Pass at 20 mm diameter
Hardness (Wolff-Wilborn)	9H

MECHANICAL PROPERTIES

Property	**Value**
Shore D Hardness	~75 – 82
Adhesion to Concrete (EN 1542)	> 1.5 N/mm² (substrate failure typical)
Adhesion to Steel	> 4.5 N/mm²
Abrasion Resistance	< 185 mg (Taber test)
Impact Resistance	Class 1
Scratch Resistance	6 N
Crack-Bridging Capacity	Excellent for dynamic cracks

CHEMICAL RESISTANCE

Chemical	Resistance
Mineral oils, diesel, petrol, kerosene	Excellent
Dilute acids (oxalic, tartaric, hydrochloric 15%, nitric 20%, sulphuric 20%)	Good to Excellent
Dilute alkalis (sodium hydroxide 50%, ammonia 20%)	Excellent
Salts (sodium chloride, brine)	Excellent
Anti-freeze, detergents	Excellent
Acetone, ethanol	Good
Skydrol (aviation hydraulic fluid)	Good
Xylene, benzyl alcohol, solvent based paint stripper	Limited resistance

For a detailed chemical resistance table specific to your application, contact ChemFit technical service.

PACKAGING AND STORAGE

Packaging:

- 25 kg pack (Part A + Part B ready-to-mix unit)

Storage:

- Store in original sealed containers at +10°C to +25°C
- Protect from direct sunlight, moisture, and freezing
- Store in dry conditions
- Keep containers tightly sealed when not in use

Shelf life: 12 months from date of manufacture when stored properly

DOSAGE AND COVERAGE RATE

Application Type	Consumption (approx.)	Coverage per 25 kg unit
One coat (standard bund sealing)	0.30 – 0.40 kg/m²	62 – 83 m²
One coat (porous or textured surfaces)	0.40 – 0.60 kg/m²	41 – 62 m²
Two coat system (for maximum protection)	0.60 – 0.80 kg/m² total	31 – 41 m²

- **Recommended dry film thickness:** 300 – 500 microns per coat
- **Typical coverage for bund areas:** 25 kg unit covers approximately 60 – 80 m² with one coat (standard application)

  NOTE: Coverage is approximate; varies with substrate porosity, surface profile, and application method

APPLICATION GUIDLINES

Surface Preparation:

- Substrate must be sound, clean, dry, and free from dust, oil, grease, laitance, curing compounds, and loose particles
- Mechanically abrade (shot blasting or grinding) to achieve open texture (CSP 2-3)
- Concrete compressive strength: minimum 25 N/mm²
- Substrate moisture content must be < 4% with no rising moisture
- Substrate temperature must be at least +3°C above dew point to prevent condensation
- Fill large cracks, blowholes, and voids with suitable epoxy filler or patching mortar before coating application
- For cracks between bund wall and floor, use reinforcing tape embedded into the first coat for added strength

Priming:

- For porous or dusty substrates, apply compatible epoxy primer at 0.2 – 0.3 kg/m²
- Allow primer to cure (6-12 hours at +20°C) before applying **ChemFit Floor 390**
- On sound, prepared concrete, priming may not be required

Mixing:

- Thoroughly pre-mix Part A before combining
- Add Part B to Part A according to label ratio
- Mix with low-speed drill (300-400 rpm) for 2-3 minutes until uniform
- Pour into another container and mix again for 1 minute to ensure thorough blending
- Use within pot life: ~40 minutes at +10°C, ~25 minutes at +20°C, ~15 minutes at +30°C

Application:

- Apply by brush, short-pile roller, or squeegee
- For one coat application: apply generously at 0.30 – 0.60 kg/m², working well into the substrate
- For cracks and joints: apply a thicker bead and embed reinforcing tape if required
- For two coat system: apply second coat after first coat is touch dry (minimum 12-16 hours at +20°C, maximum 2-3 days)
- Maintain wet edge to avoid lap marks; work in manageable sections

- On vertical bund walls, apply from bottom to top to prevent runs

Curing Times (at +20°C):

- Touch dry: 8 – 12 hours
- Light foot traffic: 18 – 24 hours
- Full chemical resistance: 7 days

Curing Time Between Coats:

- At +10°C: minimum 20-24 hours, maximum 3 days
- At +20°C: minimum 12-16 hours, maximum 2 days
- At +30°C: minimum 8 hours, maximum 1 day

Limitations:

- Do not apply below +5°C or if relative humidity exceeds 80%
- Do not apply if substrate temperature is below dew point (+3°C margin)
- Protect from condensation, water, and mechanical damage during cure
- For interior and exterior use; however, lighter colours may discolour with UV exposure – this does not affect durability or chemical resistance
- For bunds subject to heavy mechanical traffic (forklifts, trucks), consider a protective top coat or increased film thickness

HEALTH AND SAFETY

Epoxy resins may cause skin and eye sensitization and irritation. 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 – use respiratory protection with organic vapor cartridges if ventilation is poor. Refer to the Safety Data Sheet for detailed information.

CLEAING OF TOOLS

Clean all brushes, rollers, mixing equipment, and spillages with xylene, acetone, or epoxy thinner immediately after use before material cures. Dried material requires mechanical removal. Dispose of cleaning materials in accordance with local regulations.

APPROVALS AND STANDARDS

ChemFit Floor 390 complies with the following standards:

- **Water Protection System Z-59.12107** – German approval for use in water protection areas and secondary containment systems
- **EN 1504-2** – Surface protection systems for concrete (Coating) – CE marked
- **EN 13813** – Screed material and floor coatings
- **EN 1542** – Pull-off adhesion strength testing (> 1.5 N/mm²)
- **ISO 5470-1 / DIN 53 109** – Abrasion resistance (Taber Abraser Test)
- **ISO 1519** – Flexibility (Mandrel Bend Test – 20 mm pass)
- **ISO 6272** – Impact resistance (Class 1)
- **ISO 4586-2** – Scratch resistance (6 N)
- **BS7976-2** – Slip resistance (31 PTV)
- **ISO 9001** – Quality management system certified
- **Low VOC** – Virtually solvent-free; suitable for confined spaces
- Two-part flexible and chemically resistant epoxy coating
- Suitable for crack-bridging chemically resistant coating for bund areas

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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