CHEMFIT SEAL 105

Cement Based, Polymer Modified, 2-Component Multipurpose Waterproofing Slurry – For Water and Sewage Works, Basements, Retaining Walls, Sea Walls & Irrigation Channels

PRODUCT DESCRIPTION

ChemFit Seal 105 is a high-performance, cement based, polymer modified, 2-component multipurpose waterproofing slurry specifically formulated for positive and negative side waterproofing of concrete and masonry structures exposed to fresh water, sewage, and marine environments. The two component system consists of a powder (cement, fillers, and additives) and a liquid polymer. When mixed, it forms a tough, flexible, and highly adherent waterproof coating with enhanced resistance to chlorides and aggressive chemicals. Ideal for water and sewage works, basements, retaining walls, sea walls, irrigation channels, and other demanding applications.

PRIMARY APPICATIONS

ChemFit Seal 105 is recommended for use in conditions such as:

- Water and sewage treatment plants, tanks, and channels
- Basements, below-grade walls, and foundations (positive and negative side)
- Retaining walls, boundary walls, and culverts
- Sea walls, coastal defenses, and marine structures
- Irrigation channels, canals, and water distribution structures
- Swimming pools, fountains, and water features
- Concrete and masonry water tanks (potable and non-potable)
- Tunnel linings and underground structures
- Bridge piers and substructures exposed to tidal/splash zones

KEY FEATURES AND BENEFITS

- **2-component** – Consistent, high-performance polymer modification
- **Positive and negative side application** – Can be applied to either side of the substrate
- **High adhesion** – Bonds strongly to concrete, brick, block, and stone
- **Good crack bridging** – Accommodates minor substrate movement
- **Resists hydrostatic pressure** – Suitable for below-grade and water-retaining structures
- **Marine grade** – Enhanced resistance to chlorides, salt water, and aggressive chemicals
- **Breathable** – Allows water vapor transmission without blistering
- **Non-toxic** – Safe for potable water contact (when fully cured and certified)
- **Good coverage** – 2.0 – 4.0 kg/m² per coat depending on surface roughness
- **Available in 25 kg set** – Convenient for small to medium projects

PHYSICAL AND CHEMICAL PROPERTIES

Property	Specification
Appearance	Part A: Powder (gray); Part B: Liquid (white/off-white)
Mixed color	Gray
Basis	Cement based with acrylic/styrene-acrylic polymer
Mix ratio	As per set (refer to product label)
Pot life (at 25°C)	30 – 60 minutes
Tack-free time (at 25°C)	2 – 4 hours
Time between coats	Minimum 4 hours, maximum 48 hours
Full cure	7 days
Application temperature	+5°C to +35°C
Service temperature	-20°C to +80°C
Resistance to hydrostatic pressure	Up to 5 bar (72 psi) positive side; up to 3 bar (43 psi) negative side
Salt water / chloride resistance	Excellent (suitable for sea walls and marine splash zones)

MECHANICAL PROPERTIES

Property	Value
Tensile adhesion strength (to concrete)	> 1.5 MPa (218 psi) – concrete failure typical
Flexural strength	6 – 10 MPa (870 – 1,450 psi)
Compressive strength (coating layer)	15 – 25 MPa (2,180 – 3,600 psi)
Water permeability (EN 14891)	≤ 0.5 mL/hour
Crack bridging (at 23°C)	≥ 0.5 mm
Capillary water absorption	< 0.2 $kg/m^2 \cdot h^{0.5}$
Resistance to water pressure (positive side)	0.5 MPa (5 bar) for 7 days – no leakage

PACKAGING AND STORAGE

Packaging:

- 25 kg set (Part A: powder bag + Part B: liquid pail)

Storage:

- Store powder in original sealed bag in a cool, dry location
- Store liquid in original sealed pail at +5°C to +35°C, protect from freezing
- Keep containers tightly closed when not in use

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

DOSAGE AND COVERAGE RATES

Coverage: 2.0 – 4.0 kg of mixed product per square metre per coat (depending on substrate roughness)

Typical coverage per 25 kg set:

Substrate	Coverage per coat	Total coverage (2 coats)
Smooth concrete, dense block	6 – 8 m² per set	3 – 4 m² per set
Fair concrete, brick	5 – 6 m² per set	2.5 – 3 m² per set
Rough concrete, honeycombed	4 – 5 m² per set	2 – 2.5 m² per set

NOTE: Coverage is approximate; varies with substrate porosity and surface profile. Two coats are recommended for all applications (minimum three coats for negative side, marine splash zone, or severe exposure). Allow minimum 4 hours between coats.

APPLICATION GUIDLINES

Surface Preparation:

- Substrate must be clean, sound, and free from dust, oil, grease, laitance, curing compounds, loose particles, and any contaminants
- Mechanically abrade (grinding, shot blasting, scabbling) to achieve open texture
- Fill large voids, bug holes, and honeycombs with suitable repair mortar
- Pre-soak the substrate with clean water to achieve saturated surface dry (SSD) condition; remove any standing water before application
- For negative side application, ensure no active water flow (stop active leaks first with ChemFit QuickPlug or ChemFit RapidSet 4A)
- For sea walls and marine structures, remove all salt deposits and marine growth

Mixing:

- Pour liquid polymer (Part B) into a clean mixing container
- Slowly add powder (Part A) while mixing with low-speed drill (400-600 rpm)
- Mix for 3-5 minutes until smooth, lump-free, brushable consistency
- Allow to stand for 2-3 minutes; remix briefly before application
- Use within pot life (30-60 minutes at 25°C)
- Do not add water to thin the mix – this reduces performance

Application:

- Apply first coat by stiff brush or roller (minimum thickness ~1-2 mm)
- Work the slurry well into the substrate to ensure good penetration
- Allow first coat to dry for minimum 4 hours (until firm to touch)

- Apply second coat perpendicular to the first coat for complete coverage
- For negative side, marine splash zone, or severe exposure, apply a third coat after 4-6 hours
- On vertical surfaces, work from bottom to top
- Protect from rain, direct sunlight, and wind during application and curing
- For sea walls, apply during low tide when surface is exposed

Curing:

- After final coat, maintain moist curing for minimum 3 days (spray with water or cover with plastic sheeting)
- For hot climates (>30°C), begin curing immediately after application
- For marine environments, protect from tidal action during first 7 days of cure
- Protect from mechanical damage during cure period
- For water-retaining structures, allow 7-14 days full cure before filling with water
- Do not apply below +5°C or if freezing expected within 24 hours

HEALTH AND SAFETY

ChemFit Seal 105 is alkaline and may cause severe eye and skin irritation. In fresh, wet state, the product is caustic. If eye contact occurs, rinse immediately with plenty of water for 15-20 minutes and seek medical attention immediately. 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 immediately. Use gloves (nitrile/rubber), safety glasses, and protective clothing during handling. Avoid inhalation of dust – use dust mask 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 water immediately after use before the product sets. Dried or cured material requires mechanical removal.

APPROVALS AND STANDARDS

ChemFit Seal 105 conforms to the following standards:

- **EN 14891** – Liquid applied waterproofing membranes for use beneath ceramic tiling (CM Class)
- **EN 1504-2** – Surface protection systems for concrete (Coating, hydrophobic impregnation)
- **ASTM C836** – High solids content, cold liquid applied elastomeric waterproofing membrane
- **ASTM D4541** – Pull-off strength of coatings (adhesion testing)
- **ACI 515.1R** – Guide to the Selection of Waterproofing Materials
- **EN 12390-3 / EN 1015-11** – Compressive and flexural strength testing methods
- **DIN 1048** – Water permeability testing of concrete coatings
- **ISO 9001** – Quality management system certified
- **NSF/ANSI 61** – Certified for contact with potable water (confirm certification) – suitable for water and sewage works
- **WRAS (UK Water Regulations Advisory Scheme)** – Approved for potable water contact (optional, confirm)
- **BS 8102:2022** – Protection of below ground structures against water ingress (Type A – barrier protection)
- **LEED v4** – Contributes to low-emitting materials credits
- **Marine grade** – Enhanced chloride resistance for sea walls and marine structures

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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