CHEMFIT GARD 63N

2-Part Epoxy Protective Coating for Normal to Highly Aggressive Chemical Environment – For Concrete, Cementitious Mortars, Epoxy Mortars, Steel, Aluminium, Food/Beverage Plants, Sewage Works & Chemical Plants

PRODUCT DESCRIPTION

ChemFit Gard 63N is a two-part, solvent-free, high-build epoxy protective coating designed for normal to highly aggressive chemical environments. This novolac epoxy-based formulation provides outstanding chemical and mechanical resistance, creating an impervious, liquid-proof barrier on concrete, cementitious mortars, epoxy mortars, steel, and aluminium substrates. Ideal for protective lining of storage tanks, silos, bund areas, and anti-corrosion coating in food and beverage processing plants, sewage works, chemical and pharmaceutical facilities.

PRIMARY APPICATIONS

ChemFit Gard 63N is recommended for use in conditions such as:

- Chemical resistant protective coating on concrete, stone, cementitious mortars, renderings, epoxy mortars, steel, and aluminium
- Protective lining of storage tanks, silos, and bund areas
- Anti-corrosion coating in food and beverage processing plants, sewage works, agricultural, chemical, and pharmaceutical plants, bottling plants

KEY FEATURES AND BENEFITS

- **Solvent-free** – Zero VOC; safe for indoor and confined space use; 100% solids
- **Outstanding chemical resistance** – Resists a wide range of aggressive chemicals
- **High build** – Provides thick protective film in fewer coats
- **Impervious to liquids** – Excellent barrier against water and chemicals
- **Good mechanical resistance** – Abrasion resistant and durable
- **Good temperature resistance** – Suitable up to +40°C permanent, +60°C short-term
- **Easy to apply** – Brush, roller, or airless spray

MECHANICAL PROPERTIES

Property	Value (Typical, 7 Days @ 25 °C)
Tensile adhesion strength (to concrete)	> 1.5 N/mm² (concrete failure)
Tensile adhesion strength (to steel, Sa 2½)	> 15 N/mm²
Tensile adhesion strength (to aluminium)	> 10 N/mm²
Diffusion resistance to water vapour (μ H_2O)	~100,000

PHYSICAL AND CHEMICAL PROPERTIES

Property	Specification
Appearance	Part A: coloured liquid; Part B: transparent liquid
Colour (mixed)	Pebble grey (RAL 7032); other colours on request
Basis	Novolac epoxy resin
Solvent content	Nil (100% solids)
Density (mixed)	~1.50 kg/L at +23°C
Mix ratio (by weight)	Part A : Part B = 87:13 (refer to product label)
Pot life (at +20°C)	~20 minutes
Touch dry (at +20°C)	~5 hours
Full cure	7 days
Application temperature	+10°C to +30°C (ambient and substrate)
Relative air humidity	< 80%
Service temperature (dry heat)	Permanent +40°C, max 3 days +60°C

PACKAGING AND STORAGE

Packaging:

- 10 kg unit (pre-weighed Part A + Part B ready-to-mix kit)

Storage:

- Store in original sealed containers at +5°C to +30°C
- Protect from direct sunlight, moisture, and freezing
- Store in dry conditions

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

DOSAGE AND COVERAGE RATES

Substrate / Application	Consumption per coat
Horizontal surface (roller coating)	0.3 – 0.5 kg/m² per coat
Vertical surface	~0.15 kg/m² per coat
Theoretical (100 µm DFT)	~0.15 kg/m²

Typical system (2-3 coats): 0.6 – 1.5 kg/m² total

NOTE: Coverage is theoretical and does not account for substrate porosity, surface profile, or wastage. For rough or porous surfaces, additional material will be required.

APPLICATION GUIDLINES

Surface Preparation:

- Substrate must be sound, clean, dry, and free from dust, oil, grease, laitance, curing compounds, loose particles, and any contaminants
- Concrete: compressive strength minimum 25 N/mm²; mechanically prepare by shot blasting or grinding to achieve open texture (CSP 2-3). Moisture content must be < 4%
- Steel: blast clean to Sa 2½ (near-white metal); achieve surface profile
- Aluminium: sweep-blast to achieve profile
- Remove all dust by vacuum or brush before application
- Substrate temperature must be at least +3°C above dew point to prevent condensation

Mixing:

- Pre-mix Part A (resin) mechanically before combining
- Add Part B (hardener) according to specified ratio (87:13 by weight – refer to product label)
- Mix with low-speed drill (300-400 rpm) for 3 minutes until uniform
- Pour into another container and mix again to ensure thorough blending
- Avoid over-mixing to minimize air entrapment
- Allow to stand for 2-3 minutes after mixing
- Use within pot life (~20 minutes at +20°C)

Application:

- Apply by stiff brush, short-pile solvent-resistant roller, or airless spray
- Apply minimum 2-3 coats to achieve desired thickness
- Apply second coat after first coat has become touch dry (minimum 5 hours at +20°C, maximum 2 days)

- Apply subsequent coats crosswise to previous coat for uniform coverage
- For vertical surfaces, apply thinner coats (~0.15 kg/m²) to prevent sagging
- Protect from rain, condensation, and water for at least 24 hours after application

Curing:

- Protect from moisture, dust, and mechanical damage during cure
- Light foot traffic after 24 hours
- Full chemical resistance after 7 days
- Do not apply below +10°C or if relative humidity exceeds 80%
- Do not apply on moist substrates (rising moisture or surface moisture)

HEALTH AND SAFETY

Epoxy resins and hardeners may cause skin and eye sensitisation 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 vapour 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 Gard 63N conforms to the following standards:

- **EN 1504-2** – Surface protection systems for concrete (Coating, hydrophobic impregnation) – CE marked
- **LEED EQ Credit 4.2** – Low-Emitting Materials: Paints & Coatings (VOC < 100 g/L)
- **ISO 4624** – Pull-off adhesion strength testing
- **EN 24624** – Tensile adhesion strength to steel/aluminium
- **EN ISO 7783-1** – Water vapour diffusion resistance
- **ISO 9001** – Quality management system certified

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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