

CHEMFIT EPOXYGROUT 8100

Solvent Free, High Strength, Pourable, Three Component Epoxy Mortar – For Fix Bolts, Anchors, Starter Bars; Fill Cavities in Concrete; Pile Head Waterproofing

PRODUCT DESCRIPTION

ChemFit EpoxyGrout 8100 is a high-performance, solvent free, high strength, pourable, three component epoxy mortar specifically formulated for demanding grouting and anchoring applications. This advanced epoxy system combines an epoxy resin, hardener, and selected filler to produce a durable, chemical resistant, high strength mortar with exceptional adhesion to concrete, steel, and other substrates. The solvent free formulation ensures zero VOC emissions and minimal shrinkage during cure. The pourable consistency allows for easy placement into cavities, around anchors, and under base plates without the need for mechanical consolidation.

This product is designed for critical applications where high strength, chemical resistance, and dimensional stability are essential, including fixing bolts and anchors, filling concrete cavities, and pile head waterproofing.

PRIMARY APPLICATIONS

ChemFit EpoxyGrout 8100 is recommended for use in conditions such as:

- Fix bolts, anchors, and starter bars into concrete and masonry
- Fill cavities, honeycombs, and voids in concrete structures
- Pile head waterproofing and encapsulation
- Machine foundation grouting and base plate leveling
- Fixing reinforcement bars (rebar) into existing concrete
- Anchor bolt fixing for heavy equipment and structural steel
- Crack injection and repair (large cracks)
- Structural bonding of concrete elements
- Bridge bearing pad grouting
- Chemical resistant flooring and containment areas
- Underwater applications (with appropriate placement methods)
- Marine and coastal structure repair

KEY FEATURES AND BENEFITS

- **Solvent free** – Zero VOC; safe for indoor and confined space use; no shrinkage
- **High strength** – Exceptionally high compressive, tensile, and flexural strength
- **Three component system** – Consistent performance; customizable working time
- **Pourable consistency** – Self-leveling; fills voids without vibration
- **Excellent adhesion** – Bonds strongly to concrete, steel, masonry, and other substrates
- **Chemical resistant** – Resists oils, fuels, solvents, dilute acids, and alkalis
- **Waterproof** – Impermeable to water; ideal for pile head encapsulation
- **High modulus** – Provides rigid, load-bearing grout connections
- **Good yield** – Approximately 2,100 kg per cubic meter
- **Low shrinkage** – Minimal dimensional change during cure
- **Wide temperature range** – Suitable for application from +5°C to +35°C
- **Durable** – Excellent long-term performance under dynamic and static loads

PHYSICAL AND CHEMICAL PROPERTIES

| Property | Specification |
|-------------------------|---|
| Appearance | Three component: Resin (liquid), Hardener (liquid), Filler (powder) |
| Color | Resin: Clear/amber; Hardener: Amber; Mixed: Gray |
| Form | Pourable paste after mixing |
| Basis | Epoxy resin with selected filler |
| Solvent Content | Nil (solvent free) |
| Mix Ratio | As specified in technical data sheet |
| Density (mixed) | Approximately 2,100 kg/m ³ |
| Pot Life (at 25°C) | 30 – 60 minutes (depending on mass and temperature) |
| Initial Cure (at 25°C) | 12 – 24 hours |
| Full Cure (at 25°C) | 7 days |
| Application Temperature | +5°C to +35°C |
| Shrinkage | Negligible (solvent free) |

MECHANICAL PROPERTIES

| Property | Value (typical at 7 days / 25°C) |
|-----------------------------|-----------------------------------|
| Compressive Strength | 70 – 90 MPa (10,150 – 13,050 psi) |
| Tensile Strength | 15 – 25 MPa (2,180 – 3,600 psi) |
| Flexural Strength | 30 – 45 MPa (4,350 – 6,500 psi) |
| Bond Strength (to concrete) | > Concrete substrate failure |
| Elastic Modulus | 8,000 – 12,000 MPa |
| Water Absorption | < 0.1% |

NOTE: Mechanical properties depend on curing temperature, mixing accuracy, and proper substrate preparation.

PACKAGING AND STORAGE

Packaging:

- 32 kg units (pre-weighed components)
- 64 kg units (pre-weighed components)
- 128 kg units (pre-weighed components)

Storage:

- Store resin and hardener in original sealed containers at +10°C to +30°C
- Store filler in dry conditions, protected from moisture
- Protect from direct sunlight, extreme heat, and freezing
- Keep containers tightly closed when not in use

Shelf life: 24 months from date of manufacture when stored properly

DOSAGE AND COVERAGE RATES

The density of mixed **ChemFit EpoxyGrout 8100** is approximately 2,100 kg per cubic meter.

| Container Size | Approximate Yield |
|----------------|---------------------------|
| 32 kg unit | Approximately 15.2 liters |
| 64 kg unit | Approximately 30.5 liters |
| 128 kg unit | Approximately 61.0 liters |

Coverage per 32 kg unit (area x depth):

- At 10 mm depth: Approximately 1.52 m²
- At 25 mm depth: Approximately 0.61 m²
- At 50 mm depth: Approximately 0.30 m²
- At 100 mm depth: Approximately 0.15 m²

NOTE: Coverage calculations assume proper mixing and placement without waste. One cubic meter (1 m³) of mixed epoxy grout requires approximately 2,100 kg of material (65.6 units of 32 kg).

APPLICATION GUIDELINES

Surface Preparation:

- Substrate must be clean, dry, sound, and free from dust, oil, grease, laitance, curing compounds, and loose particles
- Concrete: mechanically abrade (grinding, shot blasting, scabbling) to achieve open texture
- Steel: remove rust, scale, and oil by sandblasting or wire brushing
- Anchor bolts: degrease thoroughly
- Drill holes to specified diameter and depth; clean with compressed air and brush
- Ensure surfaces are dry before application

Mixing:

- Pre-mix each component individually before combining
- Combine according to specified mix ratio on product label
- Mix with low-speed drill (400-600 rpm) for 3-5 minutes until uniform, lump-free consistency
- Scrape sides and bottom during mixing; avoid introducing air
- Use entire batch within pot life (as specified)

Placement:

- Pour continuously from one side to allow air to escape
- Do not use mechanical vibration
- For deep pours exceeding recommended depth, place in layers
- Ensure complete filling without voids

Curing:

- Cure undisturbed at recommended temperature range
- Protect from water, moisture, and chemicals during cure
- Do not apply below minimum recommended temperature
- Lower temperatures slow curing; higher temperatures accelerate curing

HEALTH AND SAFETY

Epoxy resins and hardeners may cause skin and eye sensitization and irritation. If eye contact occurs, rinse with water for 15 minutes and seek medical attention. For skin contact, wash immediately with soap and water; remove contaminated clothing. If swallowed, seek medical attention immediately – do not induce vomiting. Use gloves (nitrile), safety glasses, and protective clothing during handling. Ensure adequate ventilation – use respiratory protection if ventilation is poor. Refer to the Safety Data Sheet for detailed information.

CLEANSING OF TOOLS

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

APPROVALS AND STANDARDS

ChemFit EpoxyGrout 8100 conforms to the following standards:

- Solvent free, high strength, pourable, three component epoxy mortar
- Suitable for fixing bolts, anchors, starter bars; filling cavities in concrete; pile head waterproofing

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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