

# CHEMFIT GROUTBASE 8000

**Cementitious, Free Flowing, Non-Shrink Precision Grout with High Ultimate Strength**

## PRODUCT DESCRIPTION

**ChemFit GroutBase 8000** is a high-performance, cementitious, free flowing, non-shrink precision grout formulated to provide high ultimate strength and exceptional dimensional stability. This advanced grout expands plastically to compensate for shrinkage during the hardening process, ensuring complete contact with the substrate and eliminating voids. The free-flowing consistency allows for easy placement into tight cavities, under base plates, and around anchors without the need for mechanical vibration. It conforms to ASTM C1107 Type C (non-shrink grout with controlled expansion) and is ideal for precision grouting applications requiring high load-bearing capacity and long-term durability.

## PRIMARY APPLICATIONS

**ChemFit GroutBase 8000** is recommended for use in conditions such as:

- Machine foundations and heavy equipment base plates
- Precast column bases and connections
- Concrete anchors and anchor bolt fixing
- Cavity filling and void filling
- Structural steel base plates and bearing plates
- Bridge bearing pads and support points
- Crane rails and runway beams
- Compressor and generator foundations
- Pump bases and industrial machinery mounting
- Tower and wind turbine foundations
- Precast concrete panel connections
- Column base plates and leveling applications
- Repair and rehabilitation of grouted connections

## KEY FEATURES AND BENEFITS

- **Non-shrink performance** – Expands plastically to compensate for shrinkage; conforms to ASTM C1107 Type C
- **Free flowing** – Self-leveling consistency fills voids completely without mechanical vibration
- **High ultimate strength** – Achieves high compressive strength for heavy load applications
- **Precision grouting** – Provides accurate load transfer and uniform support
- **Excellent dimensional stability** – Maintains volume stability under load
- **High early strength** – Rapid strength gain for quick equipment installation
- **Good yield** – 12.7 – 13.1 liters per 25 kg bag
- **Easy to mix and place** – Just add water and mix; pour into place
- **Bond strength** – Excellent adhesion to concrete and steel substrates
- **Corrosion resistant** – Protects anchors and embedded steel from corrosion
- **Chloride-free** – Safe for use with embedded steel and prestressed elements
- **Resistant to oil and chemicals** – Suitable for industrial environments
- **Ready to use** – Just add clean water on site

## PHYSICAL AND CHEMICAL PROPERTIES

Property	Specification
Appearance	Fine, free-flowing powder
Color	Gray
Form	Powder (pre-blended)
Basis	Cementitious with non-shrink additives
Maximum Aggregate Size	< 2 mm (fine grout)
Flow Consistency	Free flowing / self-leveling
Expansion Type	Plastic (ASTM C1107 Type C)
Chloride Content	Nil ( $\leq 0.05\%$ ) – Non-corrosive
Mixing Water Requirement	Approximately 3.5 – 4.0 L per 25 kg bag
Yield per 25 kg bag	12.7 – 13.1 liters (wet)
Pot Life (at 25°C)	15 – 30 minutes
Initial Set (at 25°C)	3 – 5 hours
Final Set (at 25°C)	5 – 7 hours
Application Temperature	+5°C to +35°C

## COMPRESSIVE STRENGTH

Age	Compressive Strength (typical)
6 hours	15 – 20 MPa (2,200 – 2,900 psi)
1 day	30 – 40 MPa (4,350 – 5,800 psi)
3 days	45 – 55 MPa (6,500 – 8,000 psi)
7 days	55 – 65 MPa (8,000 – 9,400 psi)
28 days	70 – 85 MPa (10,150 – 12,300 psi)

**NOTE: Strength development depends on temperature, mixing water content, and curing conditions. Higher temperatures accelerate strength gain; lower temperatures slow strength gain.**

## PACKAGING AND STORAGE

### Packaging:

- 25 kg multi-layer bags with moisture barrier

### Storage:

- Store in original sealed bags in a cool, dry location
- Protect from moisture, humidity, and direct sunlight
- Stack pallets off the ground on wooden pallets
- Keep bags intact and sealed until ready for use
- Do not store in areas with high humidity or risk of water damage

**Shelf life:** 12 months from date of manufacture when stored properly in unopened bags

## DOSAGE AND COVERAGE RATES

The yield of **ChemFit GroutBase 8000** is 12.7 to 13.1 liters of mixed grout per 25 kg bag.

**Yield per 25 kg bag:** 12.7 – 13.1 liters (wet grout volume)

**Coverage per 25 kg bag (area x depth):**

- At 10 mm thickness: Approximately 1.27 – 1.31 m<sup>2</sup> per bag
- At 25 mm thickness: Approximately 0.51 – 0.52 m<sup>2</sup> per bag
- At 50 mm thickness: Approximately 0.25 – 0.26 m<sup>2</sup> per bag

Example coverage for typical applications:

Application	Grout Depth	Area per 25 kg bag	Bags required per m <sup>3</sup>
Base plate grouting	25 mm	0.51 – 0.52 m <sup>2</sup>	~77 bags/m <sup>3</sup>
Column base grouting	50 mm	0.25 – 0.26 m <sup>2</sup>	~77 bags/m <sup>3</sup>
Cavity filling	100 mm	0.13 m <sup>2</sup>	~77 bags/m <sup>3</sup>
Anchor bolt fixing	Variable	Variable	~77 bags/m <sup>3</sup>

**NOTE: Coverage calculations assume proper mixing and placement without waste. For field applications, add 5-10% extra for waste, spillage, and surface irregularities. One cubic meter (m<sup>3</sup>) of mixed grout requires approximately 77 bags (1,925 kg) of powder.**

## APPLICATION GUIDELINES

### Surface Preparation:

The substrate must be clean, sound, and free from oil, grease, dust, loose particles, curing compounds, laitance, and any other contaminants. For concrete substrates, mechanically abrade to achieve an exposed aggregate surface. For steel substrates, remove rust, scale, and oil. Pre-soak the substrate with clean water to achieve saturated surface dry (SSD) condition. Remove any standing water before grout placement. For machine foundations and base plates, ensure proper alignment and leveling before grouting. Use formwork or containment as needed to confine the grout.

### Mixing:

Add approximately 3.5 – 4.0 liters of clean, potable water to a clean mixing container. Slowly add the entire 25 kg bag of **ChemFit GroutBase 8000** to the water while mixing continuously. Mix with a low-speed electric drill and mixing paddle (400-600 rpm) for 3-5 minutes until a smooth, lump-free, free-flowing consistency is achieved. Do not add excess water beyond the recommended range as this will reduce strength and increase shrinkage. Allow the mixed grout to stand for 2-3 minutes to allow any entrapped air to escape, then remix briefly before placement.

### **Placement:**

Pour the mixed grout continuously from one side or one point to allow air to escape and to avoid trapping air pockets. For deep pours (exceeding 100 mm), place in layers or use a higher consistency mix (less water) to prevent segregation. For base plate grouting, pour from one side until grout emerges from the opposite side. For column bases and anchors, ensure complete filling around all embedded elements. Do not use mechanical vibration as this may cause segregation and bleeding. The grout will flow and self-level under its own weight. For large pours, use multiple mixers or a continuous mixing system to maintain continuous placement.

### **Curing:**

Protect the freshly placed grout from rapid moisture loss, direct sunlight, wind, and extreme temperatures. Apply curing compound, cover with plastic sheeting, or use wet burlap immediately after the grout has hardened sufficiently (approximately 1-2 hours after placement). Maintain moist curing for a minimum of 3 days (7 days recommended for critical applications). For hot weather (above 30°C), use cool mixing water (10-20°C) and protect from direct sunlight. For cold weather (below 10°C), use warm mixing water (20-30°C) and provide insulating covers. Do not apply grout when ambient temperature is below 5°C or expected to drop below freezing within 24 hours.

## **HEALTH AND SAFETY**

**ChemFit GroutBase 8000** 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, 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.

## **CLEANG OF TOOLS**

Clean all mixing equipment, tools, and spillages with water immediately after use. Dried or cured material may require mechanical removal.

## APPROVALS AND STANDARDS

ChemFit GroutBase 8000 conforms to the following standards:

- ASTM C1107 / C1107M – Type C (Non-Shrink Grout – Plastic Expansion)
- Suitable for machine foundations, precast columns, concrete anchors, cavities, and base plates

## 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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