

BuMaFILL 90

CEMENTITIOUS NON-SHRINK GROUT
ULTRA HEAVY DUTY · 90.0MPa

PRODUCT DESCRIPTION

BuMaFILL 90 is a one-component, non-shrink, self-levelling cementitious grout, ready for use with the addition of clean water only. It is the summit of the BuMaFILL range, made from purpose-designed special cements, ultra-fine aggregates of strictly selected grading and a new-generation high-performance admixture system, equivalent to the ultra-high strength concrete class (UHSC). It suits nationally critical works, power plants, mining and the oil and gas industry. The product reaches a minimum compressive strength at 28 days of **90.0MPa**.

QUICK SPECIFICATIONS

PACKAGING	25kg/bag
COLOUR	Grey
WATER MIXING RATIO	3.50 - 3.75L per 25kg bag
COVERAGE	~76 bags yield 1m³ of mortar
AGGREGATE SIZE	≤ 2.5mm
COMPRESSIVE STRENGTH AT 28 DAYS	≥ 90.0MPa
BOND STRENGTH	≥ 1.5MPa
SUBSTRATE TEMPERATURE	8 - 35°C
MINIMUM CAVITY CLEARANCE	10mm
MAXIMUM CAVITY CLEARANCE	Contact our technical department
SHELF LIFE	12 months (unopened bag)
STORAGE CONDITIONS	Cool, dry and shaded place



ILLUSTRATIVE IMAGE Pouring **BuMaFILL 90** for a turbine base and ultra-heavy anchor bolts



ILLUSTRATIVE IMAGE Completed wind-turbine tower foundation

USES

- **Applications:** Large turbines & generators · Exceptionally heavy industrial equipment · Ultra heavy anchor bolts · Onshore and offshore wind towers · Port & offshore structures · High-grade highway bridges · Chemical and petrochemical refining plants
- **Key characteristics:** Very rapid strength development from day one · Ultra-high ultimate strength · Excellent water resistance · Chloride free · Non-shrink and non-corrosive

SUBSTRATE & FORMWORK

- **Surface preparation:** clean the concrete substrate — remove dust, grease, weak layers and contaminants
- **Dampen the substrate (SSD):** saturate the surface with water before application, ensuring **no standing water** remains in the cavity
- **Formwork:** erected tight and rigid to prevent grout leakage and to contain the pour
- **Cavity clearance:** at least **10mm**; for larger cavities, contact our technical department

MIXING & POURING

- Measure out clean water at a ratio of **3.50 - 3.75L / bag 25kg**
- Add the powder slowly to the water and mix with a paddle mixer until uniform and free of lumps
- Pour **continuously from one side**, ensuring the grout flows freely and fills the entire cavity (≥ 10mm)
- Pass **a steel wire** back and forth beneath the column base to help the grout completely fill the space underneath
- **Curing:** keep the surface damp after application to prevent premature water loss and ensure strength development

TECHNICAL DATA

Property	Standard	Result
Initial flow	TCVN 9204:2012 ASTM C1437-20	≥ 200mm
Flow after 30 minutes		≥ 180mm
Compressive strength after 1 day	TCVN 9204:2012 ASTM C349-24	≥ 31.5MPa
Compressive strength after 3 days		≥ 45.0MPa
Compressive strength after 7 days		≥ 67.5MPa
Compressive strength after 28 days		≥ 90.0MPa
Length change of the hardened mortar specimen	TCVN 9204:2012	0 ≤ S ≤ +3
Expansion and bleeding of the mix	ASTM C940-22	0
Initial setting time	ASTM C403/C403M-23	≥ 05 hours
Final setting time		≤ 12 hours

The above results and recommendations are based on laboratory testing; actual performance may vary depending on the application method and specific site conditions

SAFETY INFORMATION

- **Skin and eyes:** the product contains alkaline Portland cement; contact with perspiration or body fluids may cause skin irritation, mild burns or allergic reaction in sensitive individuals. Both dry and wet cement can cause serious eye injury on direct contact
- **Eye contact:** rinse immediately under gently running clean water for 10 - 15 minutes without rubbing the eye; if pain persists, seek medical attention at the nearest facility
- **Protective equipment:** Gloves · Safety goggles (when mixing) · Fine-dust mask (when mixing) · Protective clothing
- **Working environment:** work in a well-ventilated area, away from confined spaces, children and pets; avoid inhaling cement dust while mixing the dry material
- **Surplus material:** reseal the bag tightly after use to prevent moisture pick-up. Do not dispose of surplus material down drains — it may cause blockages; allow it to harden and dispose of it as construction waste
- Consult the **Safety Data Sheet (SDS)** latest edition on the official BUMATECH website, or contact our technical department

PRECAUTIONS & DISCLAIMER

- Always carry out a trial application on a small area before full-scale work, to assess adhesion, coverage and compatibility with the substrate under actual site conditions
- Apply only when the substrate temperature is between 8°C and 35°C
- Do not add cement, sand or any admixture to the product; doing so seriously affects the declared performance
- The product is strongly alkaline — wear safety goggles and gloves during application
- The figures in this document are established by laboratory testing under standard conditions; actual values vary with temperature, humidity, accompanying materials, application method and workmanship. It is the user's responsibility to verify suitability for the intended use
- BUMATECH accepts no liability for loss arising from use outside the intended purpose, application contrary to these instructions, or combination with incompatible materials not confirmed in writing; we reserve the right to update technical information without prior notice. Check the latest TDS edition on our website before each project

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