ALSHOULA
NON-SHRINK GROUT

High-Strength, Free-Flowing, Shrinkage-Compensated Cementitious Precision Grout

Doc Code: TDS-MR-007 | Category: Mortars & Repair Systems (Repair & Grouting)

1. Product Description

ALSHOULA NON-SHRINK GROUT is a factory-preblended, single-component, high-strength, free-flowing, shrinkage-compensated cementitious precision grout designed for structural grouting, heavy machinery bedding, baseplate installation, and void-filling applications.

Formulated with selected Portland cement, graded silica aggregates, shrinkage-compensating agents, and specialized superplasticizing additives, it requires only the addition of clean water on site to produce a homogeneous, flowable grout with controlled expansion characteristics.

Its designed expansion properties help compensate for shrinkage and maintain effective contact and load transfer between structural elements and supporting foundations when properly mixed, placed, and cured.

2. Areas of Application

- Precision grouting beneath heavy machinery, including turbines, compressors, pumps, and generators.
- Bedding and grouting beneath structural steel stanchion baseplates and equipment support plates.
- Grouting beneath suitable bridge bearing pads, subject to project specifications and system compatibility.
- Anchoring of anchor bolts, starter bars, dowels, and similar embedded elements in concrete foundations, where the application geometry is suitable.
- Filling cavities, recesses, pockets, and voids in precast concrete elements and structural assemblies.
- Grouting beneath industrial equipment and structural supports requiring high compressive strength and effective load transfer.

3. Features and Benefits

- Shrinkage Compensated: Designed to provide controlled expansion to compensate for shrinkage and help maintain effective contact with baseplates and concrete surfaces.
- High Early and Ultimate Strength: Designed to develop high compressive strength for structural support and machinery installation applications.
- Free-Flowing Consistency: Provides excellent flow characteristics to facilitate placement into confined spaces and beneath baseplates.
- Non-Metallic Formulation: Does not rely on metallic expansion agents that may introduce corrosion or staining concerns.
- Reduced Segregation: Formulated to provide a homogeneous grout consistency with controlled bleeding when mixed at the recommended water dosage.
- Consistent Factory Blend: Provides uniform distribution of cement, aggregates, and functional additives.
- Pourable Application: Suitable for gravity pouring into properly prepared and sealed formwork.

AT A GLANCE

PACKAGING
25 kg and 50 kg Moisture-Resistant Multi-Layer Bags

APPLICATION TEMPERATURE
+5°C to +35°C

SHELF LIFE
12 months under recommended storage conditions

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TECHNICAL DATA

4. Technical Specifications

The following values are indicative formulation targets and are subject to laboratory testing and verification.

Property	Typical Value
Product Type	Shrinkage-Compensated Cementitious Precision Grout
Appearance	Grey Dry Powder
Product System	Single-Component
Maximum Aggregate Size	Approx. 2.0 mm
Mixing Liquid	Clean Water
Mixing Water Ratio	14–16% by weight of powder
Water Requirement per 25 kg Bag	3.5–4.0 Litres
Water Requirement per 50 kg Bag	7.0–8.0 Litres
Fresh Wet Density	Approx. 2,150–2,250 kg/m³
Application Thickness	10–100 mm per single pour, subject to verification
Pot Life / Working Time at 25°C	Approx. 30–45 minutes
Compressive Strength (1 Day)	Target ≥ 25 N/mm²
Compressive Strength (7 Days)	Target ≥ 50 N/mm²
Compressive Strength (28 Days)	Target ≥ 65 N/mm²
Application Temperature	+5°C to +35°C
Packaging	25 kg and 50 kg Moisture-Resistant Multi-Layer Bags
Shelf Life	12 months under recommended storage conditions

Note: Water demand, flow characteristics, and strength development depend on mixing proportions, ambient temperature, and curing conditions. All declared performance values are indicative targets and must be verified through appropriate laboratory testing.

5. Coverage and Consumption

The approximate theoretical yield is 12.5–13.0 litres of mixed grout per 25 kg bag (25.0–26.0 litres per 50 kg bag), subject to verification by actual yield testing.

The estimated dry powder consumption is approximately 1,920–2,000 kg per m³ of grout volume.

Actual consumption depends on:

- Cavity dimensions and geometry.
- Substrate profile and surface irregularities.
- Formwork tightness and grout leakage.
- Application conditions and material wastage.

A site trial is recommended to establish the actual material requirement before large-scale application.

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APPLICATION GUIDE

6. Application Procedure

6.1 Surface Preparation

- Concrete foundations and cavities must be structurally sound, clean, and free from dust, oil, grease, laitance, curing compounds, and loose particles.
- Smooth concrete surfaces should be mechanically roughened by suitable methods such as chipping or bush-hammering to expose sound concrete and improve mechanical bonding.
- Steel baseplates, anchor bolts, and embedded metal components must be clean and free from rust, mill scale, oil, and grease.
- Pre-soak concrete substrates sufficiently with clean water to achieve a saturated surface-dry (SSD) condition.
- Remove all standing water from bolt holes, cavities, and grouting spaces immediately before placement using clean sponges or oil-free compressed air.
- Do not apply over dry, dusty, frozen, or contaminated substrates.

6.2 Formwork

- Install strong, rigid, and leak-proof formwork around the baseplate or grouting area to prevent grout leakage.
- Seal all formwork joints using suitable foam strips or compatible sealants.
- Provide an adequate pouring hopper or sloped entry box on one side to maintain a continuous flow of grout beneath the baseplate.
- Provide suitable vent openings on the opposite side to allow trapped air to escape during placement.
- Ensure sufficient access for continuous pouring and complete filling of the required space.
- Formwork dimensions and pouring head should be suitable for the baseplate geometry and grout flow distance.

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APPLICATION GUIDE

6.3 Mixing

- Use a suitable mechanical grout mixer capable of producing a homogeneous, lump-free mixture.
- For smaller quantities, a heavy-duty low-speed electric drill with a suitable mixing paddle may be used where compatible with the product and mixing volume.
- Measure the required quantity of clean water according to the recommended water ratio.
- Pour approximately 80% of the measured water into the mixer.
- Gradually add the bag of ALSHOULA NON-SHRINK GROUT while mixing continuously.
- Mix for approximately 2 minutes, then gradually add the remaining water within the specified dosage range.
- Continue mixing for another 2–3 minutes until a smooth, homogeneous, flowable grout is obtained.
- Do not exceed the maximum recommended water dosage.
- Allow the mixed grout to stand briefly for approximately 1–2 minutes, then remix briefly before placement.
- Do not add cement, sand, aggregates, or other additives without prior technical approval.

6.4 Placement

- Pour the mixed grout continuously from one side only to minimize air entrapment beneath the baseplate.
- Maintain a continuous flow and sufficient pouring head until grout emerges evenly from the opposite side or designated vent openings.
- Avoid interruptions during placement to minimize cold joints and incomplete filling.
- Do not mechanically vibrate the grout, as excessive vibration may cause segregation or air entrapment.
- Light rodding or suitable assistance may be used where necessary to facilitate grout flow without disturbing its homogeneous consistency.
- For applications exceeding the recommended single-pour thickness, consult ALSHOULA technical support for suitable placement procedures.
- Do not add additional aggregates, including pea gravel, or modify the product formulation without prior technical approval.

6.5 Curing and Protection

- Protect freshly placed grout from direct sunlight, strong winds, rapid moisture evaporation, vibration from adjacent machinery, and freezing temperatures.
- After the grout has sufficiently hardened, cure exposed surfaces using wet hessian or burlap kept continuously damp for at least 3–7 days, depending on site conditions.
- Alternatively, a suitable curing compound may be used where compatible with subsequent coatings or finishing systems.
- Avoid premature drying of exposed grout surfaces.
- Do not subject the grout to operational loads or machinery vibration until sufficient strength has developed for the intended application.

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HANDLING & SUPPLY

7. Packaging and Storage

Packaging:
• 25 kg moisture-resistant multi-layer bags.
• 50 kg moisture-resistant multi-layer bags.

Storage:
• Store in a cool, dry, and covered warehouse.
• Keep bags elevated on wooden pallets and away from direct contact with floors and walls.
• Protect from moisture, rain, and direct sunlight.
• Keep packaging sealed and unopened until use.

Shelf Life: 12 months from the manufacturing date when stored in original, unopened packaging under recommended storage conditions.

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SAFETY & SUPPORT

8. Safety Precautions

- Contains Portland cement and specialized additives; becomes alkaline when mixed with water.
- Wear protective gloves, safety goggles, and a suitable dust mask during handling and mixing.
- Avoid inhalation of dust and direct contact with skin and eyes.
- In case of eye contact, rinse immediately with plenty of clean water and seek medical attention.
- Wash contaminated skin thoroughly with clean water.
- Refer to the Safety Data Sheet (SDS) before use.

9. Important Notes

- Do not exceed the maximum recommended water dosage. Excess water may cause bleeding, segregation, increased shrinkage, and reduced mechanical strength.
- Always pour continuously from one side to minimize air entrapment beneath baseplates.
- Formwork must be rigid and sufficiently sealed to prevent grout leakage.
- Concrete substrates must be brought to SSD condition before placement, with no standing water remaining.
- Do not add cement, sand, aggregates, or other materials without prior technical approval.
- Do not apply outside the recommended temperature range.
- Allow sufficient curing before applying operational loads or starting machinery.
- Conduct site trials to verify flow consistency, setting characteristics, and actual material yield under prevailing site conditions.
- For critical structural applications, follow the project engineer’s specifications and approved installation procedures.

10. Standards and Testing

The product is intended for development and evaluation against the requirements of ASTM C1107/C1107M – Packaged Dry, Hydraulic-Cement Grout (Non-Shrink).

Relevant performance characteristics should be verified through appropriate laboratory testing, including:
- Compressive strength development.
- Flow consistency and workability.
- Bleeding and segregation resistance.
- Expansion and height-change characteristics.
- Fresh density and mixed grout yield.

Compliance or classification under the referenced standard must only be declared after successful completion of the applicable tests.

11. Manufacturer Information

ALSHOULA ADHESIVES FACTORY
Jeddah, Kingdom of Saudi Arabia
Product: ALSHOULA NON-SHRINK GROUT
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12. Disclaimer: The technical information provided in this document represents indicative product specifications based on formulation targets and practical application requirements. Declared performance values are subject to verification through appropriate laboratory testing. Actual field performance depends on substrate preparation, formwork integrity, water dosage, mixing procedure, placement technique, curing practices, and environmental conditions. Users should conduct site trials to confirm product suitability for their specific requirements and follow the recommendations of the project engineer for critical structural applications. The manufacturer reserves the right to update product specifications as part of ongoing product development.