

# JTGrout D70 PF

High Strength, High Flow Dual Expansion Shrinkage Compensated Micro concrete, and fiber reinforced.

## DESCRIPTION

**JTGrout D70PF** is a high flow and high strength micro concrete which dual impart controlled expansion in the plastic and hardening stage, supplied as a ready to use, blend of dry powder and 2 mm to 5 mm Graded aggregate.

**JTGrout D70PF** is a blend of Portland Cement, graded fillers, fiber reinforced and chemical additives which impart controlled expansion in the plastic and hardening state whilst minimizing water demand to achieve high strength.

The fillers grading is designed to aid uniform mixing and to eliminate segregation under pumping pressures. The low water requirement ensures fast strength gain and long-term durability.

## FEATURE

- Prepackaged material overcomes potential on-site batching variations.
- High early strength and high ultimate strength
- Low permeability provides maximum protection against CO<sub>2</sub> and chloride.
- Fluid consistency allows self-compaction.
- Dual expansion provides expansion at plastic and hardened stages.
- Non chloride content.
- Low alkali content minimizes risk of alkali- silica reaction.

## USAGE

**JTGrout D70PF** is used in marine environment structures with thick section where non shrink grout and dual expansion is required.

It is recommended for grouting of base plate, strengthening and repairs of structural concrete, such as columns, beams, decks.

## PROPERTIES

Test Method	Typical Result
Compressive Strength	3 Days: 40 N/mm <sup>2</sup> 7 Days: 52 N/mm <sup>2</sup> 28 Days: 65 N/mm <sup>2</sup>
Flexural Strength	7 Days: 11 N/mm <sup>2</sup>
Expansion Characteristics	24 hours: 0.5 – 2.0% 3 – 28 Days: 0.0 – 0.4%
Initial setting time at 25°	5 - 5.5 hours
Final setting time at 25°	7 - 7.5 hours
Fresh wet density	2,200 kg/m <sup>3</sup>

## INSTRUCTION OF USE

### 1. Surface Preparation

The unrestrained surface area of the repair must be kept to a minimum. The form work should include drainage outlets for pre-soaking and, if beneath a soft, provision for air venting.

Provision must also be made for suitable access points pour or pump the mixed micro-concrete into place. Substrate shall be free from any contaminated material, loose particle, oil, paint, grease etc.

Where breaking out is not required, roughen the surface and remove any laitance by light *scabbling* or grit-blasting.

Expose fully corroded steel in the repair area and remove all loose scale and corrosion deposits.

Steel should be cleaned to a bright condition paying particular attention to the back of exposed steel bars. Grit-blasting is recommended for this process.

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Where corrosion has occurred due to the presence of chlorides, the steel should be high-pressure washed with the clean water immediately after grit-blasting to remove corrosion products from pits and imperfections within its surface.

## 2. Priming

Substrates should be saturated by filling the prepared formwork with clean water. Prior to the application of **JTGrout D70PF** any excess water should be removed.

## 3. Mixing

**JTGrout D70PF** must be thoroughly mixed. A forced-action mixer is essential. Mixing in a suitably sized drum using a method is used, the complete 2.4 – 2.8 liters of water should be placed in the mixing drum.

While the paddle rotation, add one full 30 kg bag of **JTGrout D70PF** and mix for 2 to 3 minutes until a smooth even consistency is achieved with approved spiral paddle in a slow speed (400 – 500 rpm) heavy-duty drill is acceptable. Free-fall mixers must not be used. Mixing of part bags is not recommended. It is essential that machine mixing capacity and labor availability is adequate to enable the placing operation to be carried out continuously.

Measure 4 – 5 L clean water and pour three-quarters into the mixer. With the machine in operation, add one full 30 kg bag of **JTGrout D70PF** and mix for one minute before adding the rest of the water. Mix for a further 2 to 3 minutes/until a smooth even consistency is obtained. The quantities mixed may be scaled up as required.

The mixed material should be placed within 30 minutes of mixing in order to gain the full benefit of fluidity and of the expansion process.

## 4. Placing

To gain full benefit of the expansion process and flow, place the grout as soon as the mixing process is complete. Typically, at 25°C ambient temperature places the mixed grout within 15 minutes. At 35°C ambient temperature, place within 10 minutes of mixing.

**JTGrout D70PF** can be placed in a minimum thickness of 100 mm up to a maximum thickness of 500 mm in a single pour.

## 5. Curing

The formwork should be left in place until the compressive strength of the **JTGrout D70PF** is achieved at 10 N/mm<sup>2</sup> or as otherwise specified by the supervising officer. **JTGrout D70PF** must be cured immediately after the form work is stripped, spray with a liquid curing membrane such as **JTCure AR**

## YIELD

Consistency	Water Use	Yield
Trowel-able	4.0 L	15.40 L
Flow-able	4.5 L	15.60 L
Fluid	5.0 L	15.90 L

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<b>CLEANING</b>	Tools and equipment can be cleaned with water immediately after use. Cured product only can be removed using mechanical action.
<b>PACKAGING</b>	30 Kg per bag
<b>STORAGE</b>	Store in the cool well-ventilated area.
<b>SHELF LIFE</b>	1 Year in an unopened and undamaged packaging.
<b>SAFETY MEASURES</b>	<p>Impervious gloves and barrier cream should be used when handling these products.</p> <p>Eye protection should be worn. In case of contact with eyes, wash thoroughly with plenty of water and seek medical advice if symptoms persist.</p> <p>If contact with skin occurs, it must be removed before curing takes place. Wash off with an industrial skin clearer followed by plenty of soap and water. Do not use solvent.</p> <p>Ensure adequate ventilation when using these products.</p>
<b>LIMITATION</b>	<b>JTGrout D70PF</b> is not suitable to be used for unrestrained grouting