



# NanoGrout Admix

Expanding and plasticizing grouting admixture

## Description

NanoGrout Admix is a powdered admixture used for the positive expansion and water reduction for Portland cement concrete. Its functional mechanism is based on the formation of an expansive component. The material is a combination of a plasticizing agent and a gas producing expansion medium. The plasticizing agent allows the use of a reduced water/cement ratio with consequent increased strengths and durability. The expansive medium counteracts the natural settlement and plastic shrinkage of the grout and aids stability and cohesion. Sufficient restrained expansion is developed to ensure a high degree of interfacial contact.

## Primary Applications

- Flatwork concrete
- Bridge decks
- Parking structures
- Interior/Exterior
- Arena/Artificial skating rinks
- Walls/Parapets
- Storage tanks
- Watertight construction
- Bed grouting/Duct grouting
- Non-shrink in filling and jointing
- Pre-stressed cable ducts

## Features / Benefits

- The expansion characteristics of NanoGrout Admix allow shrinkage reduction for concrete.
- It is compatible with the majority of Portland cements.
- NanoGrout Admix does not affect the air content, set time, or other characteristics of fresh concrete.
- Freeze-thaw and salt scaling resistance are not affected given that an adequate air void system is provided.
- Reduced water/cement ratio in the grout mix ensures low permeability and long term durability in service.
- Gives high grout fluidity with low water/cement ratio, thus making placement or injection of the grout easy.

## Standards compliance

Complies with BS 8110 Part 1, 1985, Section 8.9.4.6

## Technical Information

|                        |                                |
|------------------------|--------------------------------|
| Specific Gravity       | 3.13 - 3.16                    |
| PH                     | 12.5 - 13.0                    |
| Unrestrained expansion | 4%(ASTM C827)                  |
| Time for expansion     | 15 minutes to 2 hours at 20oC. |

## Packaging

10 kg bag.

## Storage

Store in a dry and cool place below 35°C. Protect from direct sunlight.

## Shelf life

1 year in original, unopened packaging.

## Instruction for use

### Dosage:

| OPC   | Sand | Water     | NanoGrout Admix | Yield |
|-------|------|-----------|-----------------|-------|
| 50 kg | -    | 20-22 Ltr | 225 g           | 36Ltr |
| 50 kg | 50Kg | 22-24 Ltr | 225 g           | 57Ltr |

Note: For grout, mortar or concrete mixes with an aggregate/cement ratio more than 1, use 4 x 225 g units of NanoGrout Admix per 100 kg of cement.

### Mixing:

For optimum results a high shear paddle or vane grout mixer should be used. Air entrainment should be avoided. For large or continuous placement ensure that adequate mixing capacity and sufficient labor is available. A holding tank fitted with agitation may be used. The selected water content should be accurately measured into the mixer. Slowly add the cement (and sand if required) and NanoGrout Admix. Mix continuously for 5 minutes, making sure that a smooth even consistency is obtained.



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**Placing:**

Areas to be grouted should be prepared to ensure substrates are clean, sound, and then pre-wetted. The unrestrained surface area of the grout must be kept to a minimum. Place the grout within 20 minutes of mixing to gain the full benefit of the expansion process. Adopt usual placing or pumping procedures ensuring a continuous operation.

**Curing:**

On completion of the grouting operation, any exposed areas which are not to be cut back should be thoroughly cured by means of water application, NanoCure membrane or wet hessian.

**Effect of over dosage:**

Over dosing of NanoGrout Admix can increase expansion and may cause frothing.

**Cleaning & disposal**

Clean tools and equipment with water before the material hardens. Do not dispose off into water or soil but according to local regulations.

**Precautions & Limitations**

- High temperature and humidity storage may reduce the shelf life.
- Use chilled water for mixing.
- Saturate duct before grouting.

**Health & safety**

NanoGrout Admix is alkaline and should not come into contact with skin and eyes. Avoid inhalation of dust during mixing. Gloves, goggles and dust mask should be worn. If contact with skin occurs, wash with water. Splashes to eyes should be washed immediately with plenty of clean water and medical advice sought.