



# Cebex 100\*

## Plasticised expanding grout admixture

### Uses

As an admixture for shrinkage compensated cementitious grouts where a low water:cement ratio and positive expansion are required.

Applications include bed grouting, duct grouting, piling mixes non shrink infilling and jointing.

### Advantages

- Gaseous expansion system compensates for drying shrinkage and settlement in cementitious grouts
- Reduced water:cement ratio ensures lower permeability and long term performance in service
- Gives high grout fluidity with low water:cement ratio, for ease of placement or injection
- No metallic iron content to corrode and cause staining or deterioration due to rust expansion in the grout
- Composition allows high early strength development in grouts, without the use of chlorides
- Chloride free

### Standards compliance

Cebex 100 is a suitable prestressing grout admixture when wishing to comply with CP110 Part 1:1972, Section 6.12.

Cebex 100 complies with BS EN 934-4:2001.

### Description

Cebex 100 is supplied as a powder admixture for cementitious grouts and concrete.

The material is a combination of a plasticising agent and a chemical expansion medium.

The plasticising agent allows the use of a low water/cement ratio with consequent high 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.

If a prepacked cement based grout is required instead of an admixture, use Conbextra cementitious grouts which only requires the addition of water.

### Technical support

Fosroc offers comprehensive technical support, including help at the design <sup>Nil</sup> stage, application advice and on site problem solving. Specifiers and contractors are encouraged to contact our trained staff for answers to their questions.

For further information please contact Fosroc.

### Typical Properties

#### Chloride

#### Content:

**Compressive Strength:** Plasticising action in Cebex 100 provides a flowing grout with low water : cement ratio. The addition of Cebex 100 can improve the compressive strength of cement based grouts by 15% approximately when cured under restraint. Compressive strength may be reduced if Cebex 100 is added to an existing grout or concrete mix which is not adequately restrained. This can be compensated for by reducing the water/cement ratio of the mix and should be confirmed by a site trial.

**Setting Times:** Cebex 100 does not significantly affect the setting times of cement based grouts.

**Expansion unset characteristics:** The controlled positive expansion in grouts incorporating Cebex 100 overcomes plastic settlement when measured in accordance with ASTM C827. An unrestrained expansion of 1-4% is typical.

**Time for expansion:** 15 mins - 2 hours. Temperatures above 20°C may slightly reduce these times.

**Pressure to restrain plastic expansion:** Approximately 0.004 N/mm<sup>2</sup>.

**Compatibility:** Cebex 100 is compatible with all types of Portland cement but is incompatible with High Alumina Cement. Cebex 100 may be used in mixes containing certain other Fosroc admixtures. Fosroc technical department should be consulted in these situations.

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## Specification clauses

### Performance specification

All grouting (specify details and areas of application) must be carried out with a cement based grout incorporating a plasticised, expanding powder admixture. The admixture must be iron-free and chloride-free and shall be added to the grout in the proportions 227g of admixture per 50 kg of cement. The admixture shall provide an expansion of 1-4% in the plastic grout, by means of a gaseous system. The admixture must be stored, handled and placed strictly in accordance with the manufacturer's instructions.

### Supplier specification

All grouting (specify details and areas of application) must be carried out using a cement based grout, incorporating Cebex 100 manufactured by Fosroc , applied strictly in accordance with the manufacturer's technical data sheet.

## Application instructions

### Dosage

#### Typical mixes

OPC	5mm sand content	Water content	Cebex 100	Approx yield
50 kg	--	20-22 litre	227g	36 litre
50 kg	50 kg	22-24 litre	227g	57 litre

Note: For grout, mortar or concrete mixes with an aggregate/ cement ratio more than 1, use 454g Cebex 100 per 50 kg of cement.

### Overdosing

Drastic overdosing of Cebex 100 increases expansion and may cause frothing.

## Mixing

For best results a mechanically powered grout mixer must be used. For quantities up to 50 kg, a slow speed (400-500 rpm), heavy duty drill fitted with a high shear "Conbextra" type mixing paddle is suitable. In order to ensure adequate mixing, a minimum drill capacity of 1kW is required. Larger quantities will require a high shear vane mixer. It is essential that machine mixing capacity and labour availability is adequate to enable the grouting operation to be carried out continuously. This may require the use of a holding tank with provision for gentle agitation to maintain fluidity.

The selected water content should be accurately measured into the mixer. Slowly add the cement (and sand if required) and Cebex 100. Mix continuously for 5 minutes, making sure that a smooth even consistency is obtained.

## Application

Areas to be grouted should be prepared in the usual way to ensure, clean, sound, pre-wetted substrates. 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, exposed areas which are not to be cut back should be thoroughly cured by means of water application, Concure curing membrane or wet hessian.

## Cleaning

Grouts mixed with Cebex 100 should be removed from tools and equipment immediately after use with clean water. Remove cured material mechanically.

Certain cements may exhibit excessive bleed when used in grout mixes. Cebex 100 will not have any significant positive or negative effect on the bleeding characteristics of the cement. Contact your local fosroc office for advice on suitable low-bleed cements.

## Sampling Procedure

Cementitious grouts cannot be tested as concrete. Special sampling procedures are required refer to your local Fosroc office for further details.

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## Estimating

### Pack sizes

Cebex 100	227 gm bags
	20 kg drum

**Note:** In accordance with Commercial or Health & Safety requirements packaging detail may alter. Please contact your local Fosroc office for detail.

## Storage

### Shelf life

Cebex 100 has a shelf life of 12 months if kept in a dry store in its original packaging. High temperature and humidity storage may reduce this.

## Precautions

### Health and safety

When mixing grouts with Cebex 100, gloves should be worn. Splashes of grouts to the skin or eyes should be washed off with clean water. In the event of prolonged irritation, seek medical advice.

Cebex 100 is non-flammable.

For further information see relevant Material Safety Data Sheet.

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\* Denotes the trademark of Fosroc International Limited

† See separate data sheet



## Important note

Fosroc products are guaranteed against defective materials and manufacture and are sold subject to its standard Conditions for the Supply of Goods and Service, copies of which may be obtained on request. Whilst Fosroc endeavours to ensure that any advice, recommendation, specification or information it may give is accurate and correct, it cannot, because it has no direct or continuous control over where or how its products are applied, accept any liability either directly or indirectly arising from the use of its products, whether or not in accordance with any advice, specification, recommendation or information given by it.

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