Fosroc® Conbextra BB

constructive solutions

Non shrink cementitious bridge bearing grout

Uses

Grouting beneath:

- Bridge bearings
- Parapet posts
- Flanged lighting columns

Advantages

- Non shrink
- High strength
- Excellent flow, particularly at low temperature
- Low permeability ensures durability
- Can be poured or pumped

Description

Conbextra BB is a ready to use cementitious grout supplied in 25 kg moisture resistant bags. It has been formulated specifically for grouting of bridge bearings and parapet post baseplates.

Conbextra BB can be used in section thicknesses of 10 mm to 100 mm.
The dry powder is a blend of Portland cements, graded silica sands and additives to which only a controlled amount of clean water is added in situ to produce a highly flowable, non shrink grout.

Standards compliance

Conbextra BB has been formulated to fully comply with the requirements of the Department of Transport Specification for Highway Works March 1998 Clause 2601. The qualification of material to this Specification is by individual batch, Fosroc can arrange qualification on behalf of customers if required. Contact Fosroc for further details.

Properties

All properties at a water : powder ratio of 0.19

Property	Test method	
Compressive strength (typical results):	BS 1881:1983 Part 116	1 day: 28 N/mm² 7 days: 58 N/mm² 28 days: 67 N/mm²
Expansion:	ASTM C827-87	0.25% - 1.0%
Elastic stability (compressive strain):	DTp SHW 1991 Clause 2601 (viii)	< 1%
Total chloride ion content (as % of mass of cement):	—	< 0.1%
Total acid soluble sulphate SO_3 (as % of mass of cement):	—	< 4%

Specification clauses

Performance specification

All grouting of bridge bearings and parapet post baseplates must be carried out using a pre-packaged non-shrink cementitious grout manufactured by a registered firm under the ISO 9001 quality assurance scheme.

The grout must comply fully with the Department of Transport Specification for Highway Works, March 1998 Clause 2601. Upon request in advance of an order, the supplier shall confirm this compliance by providing test results from an independent HAPAS accredited laboratory.

The storage, mixing, placing and curing of the grout shall all be in accordance with the suppliers technical data sheet

Application instructions

Preparation

Concrete surfaces

The substrate must be free from oil, grease or any loosely adherent material. If the concrete surface is defective or has laitance, it must be cut back to a sound base. Bolt holes or fixing pockets must be blown clean of any dirt or debris.

Pre-soaking

For a minimum of two hours prior to grouting, the area of cleaned substrate should be flooded with fresh water. Immediately before grouting takes place, any free water should be removed. Particular care should be taken to blow out all bolt holes and pockets.

Bearing plate / parapet post baseplate

It is essential that this is clean and free from oil, grease or scale.

Levelling shims

If these are to be removed after the grout has hardened, they should be treated with a thin layer of grease.

Formwork

The formwork should be constructed to be leak proof as Conbextra BB is a free flowing grout. This can be achieved by using Fosroc Nitoseal MS60 beneath the constructed formwork and between joints.

In some cases it is practical to use a sacrificial semi-dry sand and cement formwork. The formwork should include outlets for the pre-soaking water.

The unrestrained surface area of the grout must be kept to a minimum. Generally the gap width between the perimeter formwork and the plate edge should not exceed 100 mm on the pouring side and 50 mm on the opposite side. There should be no gap at the flank sides.

Mixing

For best results a mechanically powered grout mixer should be used. For quantities up to 50 kg a slow speed drill fitted with a

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high shear paddle is suitable. Larger quantities will require a high shear vane mixer. Do not use a colloidal impeller 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 water should be accurately measured into the mixer. Slowly add the total contents of the Conbextra BB bag, mix continuously for 5 minutes, ensuring a smooth, even consistency is obtained.

Water addition

Add 4.5 to 4.8 litres of water to each 25 kg bag of Conbextra BB to produce a fluid grout.

Placing

Place the grout within 20 minutes of mixing to gain the full benefit of the expansion process.

Conbextra BB can be placed in thicknesses up to 100 mm in a single pour.

Any bolt pockets must be grouted prior to grouting between the substrate and the bearing or base plate.

Continuous grout flow is essential.

The mixed grout should be poured only from one side of the void to eliminate the entrapment of air or surplus pre-soaking water. This is best achieved by pouring the grout across the shortest distance of travel. The grout head must be maintained at all times so that a continuous grout front is achieved.

Where large volumes have to be placed Conbextra BB may be pumped. A heavy duty diaphragm pump is recommended for this purpose. Screw feed and piston pumps may also be suitable.

Once the Conbextra BB has reached trowelable consistency, the unrestained portion should be cut back to the baseplate/ bearing plate.

Curing

On completion of the grouting operation, exposed areas should be thoroughly cured. This should be done by the use of Concure curing membrane, continuous application of water and/or wet hessian.

Cleaning

Conbextra BB should be removed from tools and equipment with clean water immediately after use. Cured material can be removed mechanically, or with Fosroc Acid Etch.

Estimating

Allowance should be made for wastage when estimating quantities required. The approximate yield per 25 kg bag is 13.5 litres.

Supply

Conbextra BB is supplied in 25 kg bags.

Limitations

Low temperature working

Do not mix Conbextra BB at ambient temperatures below 5°C.

For full cold weather working limitations, refer to Department of Transport Specification clause 2601 sub-clause 3.

High temperature working

At ambient temperatures above 35°C the mixed grout should be stored in the shade. Cool water (below 20°C) should be used for mixing the grout.

Storage

Store unopened bags in cool dry internal conditions. Conbextra BB has a shelf life of 6 months if kept in a dry store in sealed bags.

If stored in high temperature and high humidity locations the shelf life may be reduced to less than 6 months.

Precautions

Health and safety

For further information refer to appropriate Product Safety Data Sheet.

Fire

Conbextra BB is non-flammable

Fosroc Limited
Drayton Manor Business Park
Coleshill Road, Tamworth,
Staffordshire B78 3TL. UK

www.fosroc.com

telephone:
+44 (0) 1827 262222

fax:
+44 (0) 1827 262444

email:
enquiryuk@fosroc.com