

Epoxy resin free flow grouts

Uses

A range of free flow grouts for use in situations where heavy dynamic or mobile loads are encountered. The gap between a base plate and substrate will need to be filled in such applications as reciprocating machinery, testing equipment, heavy crane and transporter rails, high speed turbines and centrifuges and drop forges.

Also for use in conditions where chemical spillage may be encountered. Typical situations could be met in steel works, refineries, electroplating works and chemical plants.

Advantages

- Low creep characteristics under sustained loading.
- Resistant to repetitive dynamic loads.
- Non-shrink and hence ensures complete surface contact and bond.
- High compressive, tensile and flexural strengths
- Fast, convenient installation with early strength gain
- Withstands a wide range of chemicals

Description

Conbextra EP is a range of epoxy resin based products designed for free flow grouting of gaps from approximately 0.25mm to 120mm. Three grades of products are available.

Conbextra EP120 is a low exotherm material which is particularly suitable where long working time is needed, for large gaps (above 65mm upto 120mm) or for grouting at high ambient temperatures (up to 45°C).

The above products except Conbextra EP10 are three component systems consisting of base, resin, liquid hardener and specially graded inert fillers.

Technical support

Fosroc offers a comprehensive range of high performance, high quality concrete repair and construction products. In addition, Fosroc offers technical support service to specifiers, end- users and contractors, as well as on-site technical assistance in locations all over the country.

Properties

The following results are typical for the hardened grout at 30°C.

Test method	Typical result
Conbextra EP120	
Density (kg/m ³)	1950
Compressive strength (N/mm ²)	
BS6319 Part 2	
1 day	-
3 days	60
7 days	90
Tensile strength (N/mm ²)	
BS6319 Part 7 (7 days)	18
Flexural strength (N/mm ²) BS6319	
Part 4 (7 days)	34

Chemical resistance

All Conbextra EP products are resistant to oil, grease, fats, most chemicals, mild acids and alkalis, fresh and sea water. Consult Fosroc when exposure to solvent or concentrated chemicals is anticipated.

Pot life

Ambient temperature affects the time for which large quantity of mixed bulk material will remain fluid.

Typical value in minutes are :

	20°C	30°C	45°C
EP 65	30	20	-
EP120	120	90	35

Exotherm

All epoxy systems will develop a temperature rise on mixing. Its extent will be a function of the volume to surface ratio, the ambient temperature as well as the mass and thermal conductivity of the surrounding materials. Contact Fosroc for specific data on each product

Conbextra EP120

Specification clauses

All epoxy resin grouting where shown in the drawings, must be carried out using the suitable grade of Conbextra EP product manufactured by Fosroc and used in accordance with the manufacturer's datasheet.

Performance specification

All epoxy resin grouting where shown on the drawings must be carried out with a factory packed product. The hardened grout must have a tensile strength which exceeds 15N/mm² at 7 days and a flexural strength which exceeds 25N/mm² at 7 days.

The storage, handling and placement of the grout must be in strict accordance with the manufacturer's instructions

Application instructions

Preparation

Foundation surface

All contact surface must be free from oil, grease, free standing water or any loosely adherent material. Concrete surfaces should be cut back to a sound base.

All dust must be removed and bolt holes or fixing pockets blown clean of any dirt or debris.

Steel surfaces

All steel surfaces should be shot blasted free of rust and flaky mill scale. Cleaned surfaces may be protected by the application of Nitoprime 28.

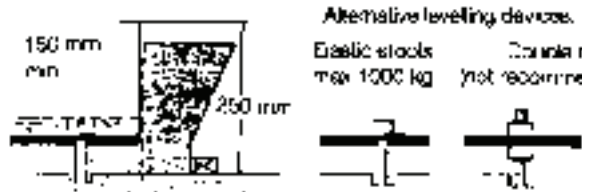
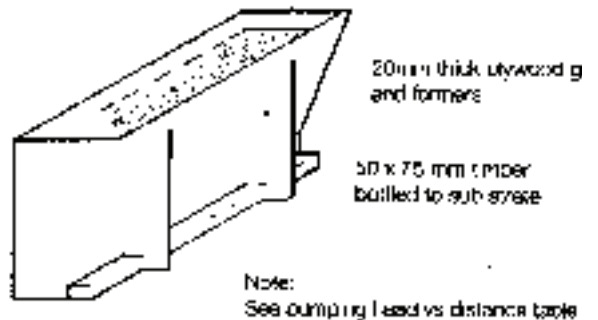
Formwork

The formwork should be constructed to be leakproof as Conbextra EP products are free flowing grouts. Loss of grout once the material is placed, but not hardened, will result in incomplete filling of the gap.

For free flow grout conditions it is essential to provide a hydrostatic head of grout. To achieve this a feeding hopper system should be used.

Typical on-site shutter system

Removable hopper: For larger pours the grout may be hand placed or pumped into a removable hopper trough



Mixing

Pour all the contents of the hardener packs into the the base container. Mix using a slow speed power mixer until homogenous.

Pour all the resultant liquid into a container with a capacity of 15 - 20 litres. Add all the filler provided for each product. Mix using a slow speed power mixer for 2 minutes or until a uniform colour is achieved in the grout.

Placing

The mixed grout should be poured steadily from one side only to eliminate the entrapped air.

Continuous grout flow is essential.

Sufficient grout must be available prior to starting.

Time taken to pour a batch should be regulated to the time taken to prepare the next batch.

Flow characteristics

The maximum distance of flow is governed by the gap thickness, the head of grout applied and ambient temperature. The following table gives typical data for flow design.

Conbextra EP120

	°C	Gap thickness (mm)	Hydrostatic head (mm)	Maximum flow (mm)
EP120	5	35	100	900
	20	35	100	2000

Cleaning

All tools and equipment should be cleaned immediately after use with Nitoflor Sol solvent. Spillages should be absorbed with sand or sawdust and disposed in accordance with local regulations

Limitations

Temperature

During application

For all products except Conbextra EP120, grouting may be carried out without special precautions at ambient temperatures from 5° to 30°C.

For Conbextra EP120, at temperatures below 20°C, the cure rate may be slow, but will go to completion provided in temperature remains above 5°C.

Estimating

Packaging

Conbextra EP120 : 8 litre packs (base + hardener + filler)

Storage

Shelf life

Conbextra EP120 have a shelf life of 12 months in unopened container under normal warehouse conditions Precautions

Health and Safety

Conbextra EP120 contains resins which may cause sensitisation by skin contact. Avoid contact with skin and eyes and inhalation of vapour. Wear suitable protective clothing, gloves and eye/ face protection. Barrier creams provide additional skin protection. Should accidental skin contact occur, remove immediately with a resin removing cream, followed

by soap and water. Do not use solvent. In case of contact with eyes, rinse immediately with plenty of clean water and seek medical attention immediately - do not induce vomiting.

Fire

Nitoflor Sol is flammable. In the event of fire extinguish with CO₂ or foam.

Flash point : 33°C

Keep away from sources of ignition - no smoking. Wear suitable protective clothing, gloves and eye/face protection. Use only in well ventilated area.

Additional information

The Fosroc range of associated products includes high strength cementitious, epoxy grout, polyester resin based mortar for rapid presetting of steel shims to level or for direct bedding of small base plates; Resin Anchoring systems for same day anchoring of bolts in drilled holes in concrete or rock. Also available a range of products for use in construction; viz., admixtures, curing compounds, release agents, flooring systems and repair mortars.

Separate datasheets are available on these products.

Conbextra EP120

Important note :

Fosroc products are guaranteed against defective materials and manufacture and are sold subject to its standard terms and conditions of sale, 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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