

## **A high performance two part epoxy grout for dynamic/repetitive load applications suitable for large volume pours**

### **Uses**

Conbextra EP120 Plus is for use in situations where heavy dynamic or mobile loads are encountered. The gap between a base plate and substrate needs to be filled and the structural load be uniformly distributed.

### **Applications**

- Reciprocating machinery
- Testing equipment
- Heavy crane and transporter rails
- High speed turbines
- Centrifuges and drop forges.

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

Conbextra EP120 Plus is especially suitable where long working time and/or low exotherm properties are required e.g. for large pours or high ambient temperatures. It can also be used for grouting wide gap ranges making it a versatile product for a number of applications.

### **Advantages**

- High compressive, tensile and flexural strengths
- Resistant to repetitive dynamic loads
- Fast, convenient installation
- Withstands a wide range of chemicals
- Virtually no shrinkage and hence ensures complete surface contact and bond
- Low creep characteristics under sustained loading
- Excellent flow properties
- Two part material giving a better quality control during mixing
- Can be installed at elevated temperatures
- Wide range of gap thicknesses are possible

### **Description**

Conbextra EP120 Plus is a two part epoxy grout formulation which does not require any additional aggregate to be added. This saves time and labour in the mixing process and provides a higher quality control in the mixing and placing of the grout.

### **Design Criteria**

Conbextra EP120 Plus is designed to grout gaps from 30mm up to 120mm.

Grout pours greater than 120mm thick are also possible but care should be taken that the total volume of the single pour should be no greater than 1m<sup>3</sup>. Consult Fosroc for further advice.

Smaller gap widths down to 10mm can also be grouted with Conbextra EP120 Plus however the cure time will be longer.

Conbextra EP120 Plus is a low exotherm product and as such is slow to cure. If a faster cure grout is critical at smaller gap widths please refer to the Conbextra EP65 Plus technical data sheet.

### **Chemical Resistance**

Conbextra EP120 Plus is resistant to oil, grease, fats, most chemicals, mild acids and alkalis, fresh and sea water. Consult Fosroc Technical Services when exposure to solvents or concentrated chemicals is anticipated.

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## Conbextra EP120 Plus

### Properties

The following results were obtained at a temperature of 23°C unless otherwise stated.

Test Method	Standard	Test Result
Density		1785 kg/m <sup>3</sup>
Compressive Strength	ASTM C579:2018	95 MPa @ 7 days 103 MPa @ 28 days
Indirect Tensile Strength	AS1012.2 10-2000	18 MPa @ 28 days
Flexural Strength (Modulus of Rupture)	AS1012.2.11-2000	40 MPa @ 28 days
Modulus of Elasticity	AS 1012.17-1997	14.7 GPa
Thermal Coefficient of Expansion	ASTM C531:2018	2.5 x 10 <sup>-5</sup> mm/mm °C
Slant Shear Bond Strength	ASTM C882:2020	22 MPa (bond failure)
Creep 28 days @ 2.8MPa	ASTM C1181-2000	8.3 x 10 <sup>-3</sup> cm/cm @ 60°C
Pot Life		3 hours @ 23°C
Colour		Charcoal grey (mixed)
Flow (flow trough)	AS1478.2_2005	650mm
Minimum Thickness		30mm
Maximum Thickness		120mm

Note: Compressive strengths stated above were measured using cube samples. Test results obtained will vary if testing is carried out to an alternative standard or sample dimensions are used. Refer to the compressive strength testing guide for epoxy grouts document for further information.

### Application Instructions

The following instructions for use should be used in conjunction with the Conbextra Epoxy Grouting Applications Guide available from the Fosroc website.

#### Foundation surface

All contact surfaces must be free from oil, grease, free standing water or any loosely adherent material. Concrete surfaces should be cut back to a sound base. For maximum bond, surfaces should be abraded or roughened, preferably by mechanical means such as needle gun, grit blasting, grinding. 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, paint and flaky mill scale.

#### Formwork

The formwork should be constructed to be leakproof as Conbextra EP120 Plus is a free flowing grout. 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.

Forming materials should be coated with a release agent such as grease or wax material or a plastic coating. These coatings act as a bond breaker so that a smooth grout surface is achieved after form removal and the forms are protected for reuse.

#### Mixing

Pour all the contents of the hardener pack into the base container. A forced-action mixer is essential. Mixing at a slow speed (400/500 rpm) for 3 to 5 minutes using appropriate equipment such a heavy-duty 1600W mixer fitted with a 120mm dia. helical mixing paddle or similar for small volume mixes. For large pours a purpose made grout mixer / pump may be used.

To help minimise air entrapment while mixing, ensure the paddle is fully immersed in the grout whilst mixing. Do not pull the mixer in and out whilst mixing.

Move the mixing paddle around all areas in the mixing drum to help ensure there is no unmixed material left in the drum prior to placing the grout.

#### Adding Aggregate

Suitable aggregates can be added to Conbextra EP120 Plus to reduce overall material cost.

Conbextra Grout Aggregate product code FC502021-20KG or Fosroc Antislip Grains 02 Product code FC605185-20KG

When required, add up to 10kg of aggregate per 14 litre kit of Conbextra EP120 Plus. Typical yield increase is approximately 4 litres per 10kg of aggregate added.

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## Conbextra EP120 Plus

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**Caution:** when adding aggregate to epoxy based grouts air may be entrained in the mix. Allow the mixed product to settle and expel air bubbles before placing.

The addition of aggregate to grout will reduce the flow characteristics of the product. If high flow performance is required it is not recommended that aggregate be added.

### Placing

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

Continuous grout flow is essential. Sufficient grout must be available prior to starting.

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

### Cure time

Conbextra EP120 Plus is a low exotherm grout and is slow to cure. It is recommended that formwork remain in place for up to 7 days to allow the grout to fully harden before removing the formwork.

### Cleaning

All tools and equipment should be cleaned immediately after use with Solvent 10. Spillages should be absorbed with sand or sawdust and disposed in accordance with local regulations.

### Limitations

#### During application

Grouting may be carried out without special precautions at ambient temperatures from 10°C to 35°C. Where temperatures exceed 20°C note the pot life will be reduced.

Cure temperatures below 15°C will result in slower strength build up; at 5°C cure will stop until the material warms.

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.

#### In service

The cured Conbextra EP120 Plus, which is completely resistant to frost and sub-zero temperatures, is suitable for use in service up to 55°C.

#### Important notice

A Safety Data Sheet (SDS) is available from the Fosroc website. Read the SDS and TDS carefully prior to use as application or performance data may change from time to time. In emergency, contact any Poisons Information Centre (phone 13 11 26 within Australia) or a doctor for advice.

#### Product disclaimer

This Technical Data Sheet (TDS) summarises our best knowledge of the product, including how to use and apply the product based on the information available at the time. You should read this TDS carefully and consider the information in the context of how the product will be used, including in conjunction with any other product and the type of surfaces to, and the manner in which, the product will be applied. Our responsibility for products sold is subject to our standard terms and conditions of sale. Parchem does not accept any liability either directly or indirectly for any losses suffered in connection with the use or application of the product whether or not in accordance with any advice, specification, recommendation or information given by it.

### Supply

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**Conbextra EP120 Plus:** 14 litre - 2 component pack

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Conbextra EP120 Plus Base: FC522555-12.2L

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Conbextra EP120 Plus Hardener: FC522666-1.8L

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### Storage

Conbextra EP120 Plus base component has a shelf life of 12 months from date of manufacture if kept in a dry store in the original, unopened packaging.

Conbextra EP120 Plus hardener component has a shelf life of 36 months from date of manufacture if kept in a dry store in the original, unopened packaging.