

# Conbextra EP120

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

## USES

Conbextra EP120 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 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 used installed at high temperatures
- Wide range of gap thicknesses are possible

## DESCRIPTION

Conbextra EP120 is unique 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.

## GAP THICKNESS

Conbextra EP120 is designed to be grouted into gaps from 10mm up to 120mm. Grouting of gap widths below 50mm will take longer to cure due to the low exotherm nature of the grout. If a fast cure of the grout is critical at smaller gap widths please refer to the Conbextra EP40 and EP65 technical data sheets.

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>.

## TECHNICAL SUPPORT

Parchem offers a comprehensive range of high quality, high performance construction products. In addition, Parchem offers technical support and on-site service to specifiers, end-users and contractors.

## CHEMICAL RESISTANCE

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

## PROPERTIES

The following results were obtained at a temperature of 20°C unless otherwise stated.

Test Method	Standard	Test Result				
		Cure Time	10°C	20°C	30°C	40°C
Density		1700 kg/m <sup>3</sup>				
Compressive Strength (MPa)	AS1478.2 2005	1 day	0	6	19	38
		3 days	5	45	48	68
		7 days	45	85	85	85
		14 days	77	85	85	85
		28 days	85	85	85	85
		56 days	85	85	85	85
Indirect Tensile Strength	AS1012.2 10-2000	7 days	15MPa			
Flexural Strength (Modulus of Rupture)	AS1012.2.11-2000	7 days	29MPa			
Bond Strength by Pull off	EN1542:1999	2.9MPa				
Bond Strength to Concrete		Concrete Failure				
Bond Strength to Steel		14MPa				
Chloride Content	EN 1015-17:2000	0.0%				
Pot Life		10°C	6 hours			
		20°C	3 hours			
		30°C	1.5 hours			

**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.

## DIMENSIONAL STABILITY

For the grout to effectively transfer load from the base plate to the supporting structure it is essential that the grout maintains intimate contact with the base plate. The area of contact between the grout and the base plate is measured as the 'effective bearing area' (EBA). In order to maintain an even load distribution throughout the grout it is necessary to attain as high as possible EBA.

A dominant factor which influences the EBA achieved with epoxy based grouts is the degree of air entrapment within the product. Air can be introduced into the grout during mixing, or in the case of products which contain a separate dry filler component air can be released into the mixed product as the filler 'wets out' over time. Air that is released into the grout as the filler wets out prior to the grout setting can usually be seen as small bubbles in the un-restrained sections of grout. Any entrained air which rises to the grouts surface under the base plate however cannot escape, resulting in a loss of EBA.

Conbextra EP120 has been designed and manufactured with the filler pre-dispersed and wetted out (under vacuum) in the resin components. Resulting in a grout which will not continue to evolve air during the filler wetting out process giving a product with the best possible EBA.

## SPECIFICATION CLAUSES

### PERFORMANCE SPECIFICATION

To the nominated area(s) (specify details and areas of application), grouting must be carried out using a high strength, low exotherm, epoxy resin, flowable grout, suitable for dynamic /repetitive load applications, and for high ambient temperatures (up to 55°C) with good chemical resistance.

The two component pack is to be stored, handled and placed, strictly in accordance with the manufacturer's current technical data sheet and instructions.

The hardened epoxy resin grout must have a compressive strength which exceeds 85MPa at 7 days at 23°C, a tensile strength which exceeds 10MPa at 7 days and a flexural strength which exceeds 25MPa at 7 days.

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

### INSTRUCTIONS FOR USE

The following instructions for use should be used in conjunction with the Conbextra epoxy grouting applications guide.

## 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. 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 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. Mix for 3 minutes using a slow speed power mixer until homogeneous.

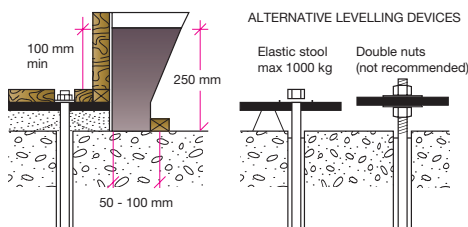
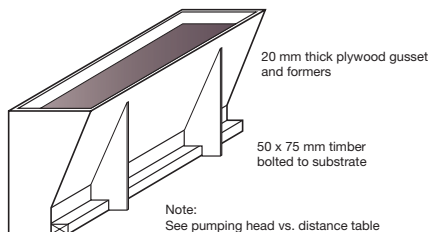
## PLACING

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.



## FLOW CHARACTERISTICS

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

	°C	Gap thickness (mm)	Hydrostatic head (mm)	Maximum flow (mm)
EP120:	5	35	100	900
	20	35	100	2500

## CLEANING

When Conbextra EP120 is cured it is completely resistant to frost and sub zero temperatures as well as temperatures as high as 55°C.

## TEMPERATURE

### DURING APPLICATION

Grouting may be carried out without special precautions at ambient temperatures from 5°C to 25°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 grouts, which are completely resistant to frost and sub-zero temperatures, are suitable for use up to 45°C. EP120 is most suited for temperatures in the range 10° to 55°C.

## ESTIMATING

### SUPPLY

**Conbextra EP120:** 14 litre & 170 litre  
2 component packs

### STORAGE

Conbextra EP120 has a shelf life of 12 months if kept in dry conditions at 20°C.

For further information on any of the above, please consult with your local Parchem sales office.

## ADDITIONAL INFORMATION

Parchem provides a wide range of complementary products which include:

- concrete repair – cementitious and epoxy
- grouts and anchors – cementitious and epoxy
- waterproofing membranes – liquid applied, cementitious and bituminous sheet membranes
- waterstops – pvc and swellable
- joint sealants – building, civil and chemical resistant
- industrial flooring systems – cementitious and epoxy
- architectural coatings
- filler boards – swellable cork, bituminous and backing rod
- ancillary products

For further information on any of the above, please consult with your local Parchem sales office.

## IMPORTANT NOTICE

A Material Safety Data Sheet (MSDS) and Technical Data Sheet (TDS) are available from the Parchem website or upon request from the nearest Parchem sales office. Read the MSDS 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.

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