

Conbextra EP120

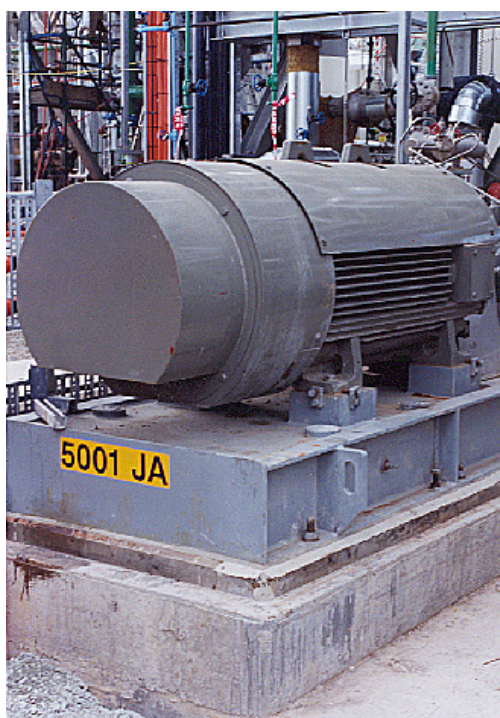
A high performance two part epoxy grout for dynamic/repetitive load applications suitable for large volume pours

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 include 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 1m³.

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.

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.

PROPERTIES

The following results are typical for the hardened grout at different temperatures and days of cure.

Test method for:	Typical result
Density (kg/m ³):	1950
Indirect Tensile Strength @ 7 days (AS1012.10-2000)	10 MPa @ 23°C
Modulus of Rupture @ 7 days (Flexural Strength) (AS1012.11-2000)	25 MPa @ 23°C

Compressive strength (MPa) AS 1478.2 2005				
Cure Days	10°C	20°C	30°C	40°C
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

Note: Compressive strengths stated above were measured using small cube samples. Test results obtained will vary if testing is carried out to an alternative standard or sample dimensions are used.

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.

POT LIFE

Ambient temperature affects the time for which bulk material will remain fluid.

Typical values in minutes are:

	20°C	30°C	40°C
EP120	120	90	50

EXOTHERM

The rate of the epoxy chemical reaction (curing/hardening) depends on the temperature of the grout. Higher curing temperatures result in shorter hardening times and colder temperatures result in longer hardening times. The epoxy curing reaction is also an exothermic reaction (evolves heat). As such the peak or highest temperature attained in an epoxy grout pour is a function of the pour volume to surface area, ambient temperature as well as the temperature, mass and thermal conductivity of surrounding materials in contact with the grout.

SPECIFICATION CLAUSES

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 compressive strength which exceeds 80 MPa at 7 days at 23°C, a tensile strength which exceeds 10 MPa at 7 days and a flexural strength which exceeds 25 MPa 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.

Conbextra EP120

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 2 minutes using a slow speed power mixer until homogeneous.

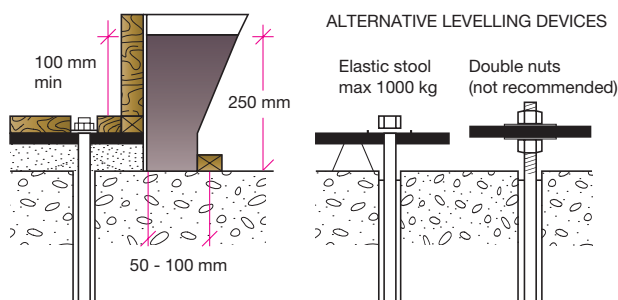
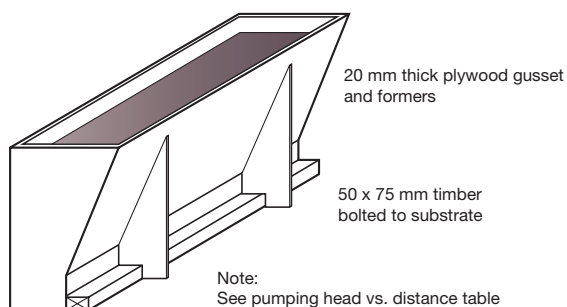
PLACING

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

For Conbextra EP120, grouting should not be carried out at temperatures below 10°C.

Please refer to the Conbextra EP120 Method Statement for more information on grouting at high and low temperatures.

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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