Fosroc® Conbextra EP65 Plus

Technical Data Sheet

Replaces Conbextra EP40 and Conbextra EP65

Ultra high strength, high flow epoxy grout

Uses

For grouting under baseplates, crane rails turbines where heavy dynamic loads are encountered and areas where chemical spillage may occur.

Typical applications include:

- Reciprocating machinery
- Heavy crane and transporter rails
- High speed turbines
- Centrifuges
- Drop forges
- Anchoring of steel bars
- Electroplating and chemical plants

Description

Conbextra EP65 Plus is a solvent-free rapid hardening, ultra high strength epoxy grout, based on the latest polymer technology. It is designed for use as a precision, heavy duty multi purpose grout for engineering applications. It is supplied as a two component system consisting of epoxy resin, combined with inert fillers and the hardener, to produce a highly fluid grout.

Advantages

- Very high compressive, tensile and flexural strengths
- Resistant to repetitive dynamic loads
- Fast, convenient installation with high early strength gain
- Withstands a wide range of chemicals
- Low creep characteristics under sustained loading

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.

Conbextra EP65 Plus has been designed so it achieves the best possible EBA.

Chemical Resistance

Conbextra EP65 Plus 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.

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 125 MPa at 7 days, a tensile strength which exceeds 14 MPa at 7 days and a flexural strength which exceeds 28 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

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 EP65 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.

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.

Please refer to the Conbextra Epoxy Grouts Application Guide for further information. This is available from the website or your local Parchem branch.

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Properties

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

	Standard	Typical Result				
Compressive Strength	**AS1478.2 2005**	**Cure Time**	**10°C**	**23°C**	**30°C**	**40°C**
	(MPa)	2 hours	0	40	50	65
		3 Hours	5	70	80	90
		4 Hours	15	80	85	95
		5 Hours	25	85	90	100
		12 Hours	45	90	100	105
		1 Day	60	105	115	125
		3 Days	100	115	125	125
		7 Days	110	125	125	125
Indirect Tensile Strength	AS1012.2 10-2000	7 days – 15Mpa				
Flexural Strength (Modulus of Rupture)	AS1012.2.11-2000	7 days - 29MPa				
Modulus of Elasticity	AS 1012.17-1997	13.5 GPa				
Thermal Coefficient of Expansion	ASTM C531:2000	9.22 x 10^{-5} mm/mm °C				
Slant Shear Bond Strength	ASTM C882/ C882M:2012	36.7 MPa (substrate failure)				
Creep 28 days @ 2.8MPa	ASTM C1181-00	@ 23°C 7 x 10^{-4} cm/cm @ 60°C 2.3 x 10^{-2} cm/cm				
Chloride Content	EN 1015-17:2000	0.0%				
Pot Life		10°C 20°C 30°C	60 mins 30 mins 15 mins			
Minimum Thickness **Maximum Thickness**		10mm 100mm				

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.

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.

	Temperature (°C)	Gap Thickness (mm)	Hydrostatic head (mm)	Maximum Flow
Conbextra EP65 Plus	5	10	100	600
	5	35	100	700
	20	10	100	750
	20	35	100	2000
	30	10	100	950
	30	35	100	2500

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Mixing

Pour all the contents of the hardener pack into the base container. Mix the hardener slowly into the base using a slow speed heavy duty mixer such as the Protool MXP 1602 E mixer (product code: TT-621941) or equivalent with the Protool HS2 140 x 600 M14 Helical mixing paddle (product code: TT-614217) or equivalent. For large pours a purpose made grout pump can be used such as a diaphragm pump.

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.

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 55°C.

Supply

Conbextra EP65 Plus: 14 litre 2 component packs

224460 - Conbextra EP65 Plus (Base)

224470 - Conbextra EP65 Plus (Hardener)

Storage

Conbextra EP65 Plus 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.

Important notice

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

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