Fosroc® Conbextra® EP65 Plus (underwater application)

constructive solutions

A free flowing, water displacing epoxy grout for underwater grouting applications

Uses

Free flowing grout where the mechanical properties of the hardened grout must be of the highest order. Conbextra EP65 Plus is suitable for underwater grouting work and for the repair of water immersed concrete structures such as:

- Bridge piles
- Wharf piles

Advantages

- Excellent adhesion to water immersed concrete, masonry or brick surfaces
- High density ensures complete water displacement
- High compressive, tensile and flexural strengths
- Cures with negligible shrinkage
- Pre-measured components allow easy mixing, and free flowing properties ensure speed of application

Description

Conbextra EP65 Plus is a two component, finely filled, low viscosity, epoxy resin grout. Its high density displaces water to enable high performance underwater suitability.

The components of Conbextra EP65 Plus are supplied in the correct mix proportions designed for whole pack mixing so that flow and mechanical properties are consistant.

Conbextra EP65 Plus is not hazardous in accordance with Australian Inventory of Industrial Chemicals; contains <0.1% RCS.

Standards Compliance

Conbextra EP65 Plus complies with AS 4020-2018; AWQC Report 323631.

Copies of the report are available on the Fosroc website.

Properties

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

	Standard	Typical Result		
Compressive Strength (MPa)	AS1478.2 2005	Cure Time	15°C	23°C
Note: The compressive strength values are measured after casting and curing underwater.		1 day 7 days	60 MPa 92 MPa	75 MPa 92 MPa
Cured density		1840 kg/m³		
Adesion to concrete		>3 MPa		
Moisture absorption		<0.1%		
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)		
Pot Life		10°C 15°C 20°C 30°C	60 mins 45 mins 30 mins 15 mins	
Colour		Dark grey (mixed)		
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.

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Application instructions

Surface preparation

For maximum adhesion, the substrate must be clean and free from any loose material. Sandblasting is recommended for optimum adhesion.

Mixing

The 2 components of Conbextra EP65 Plus are mixed together above water prior to being placed.

Pour all the contents of the smaller hardener curing agent component Part B (amber liquid) into the larger resin component Part A (black) and mix thoroughly until an even grey colour is obtained. A forced-action mixer is essential. Mix for 3 to 5 minutes at a slow speed (400/500 rpm) in a suitably sized drum helical (spiral) mixing paddle fitted to a heavy-duty 1500W mixer.

Placing

Conbextra EP65 Plus should be placed immediately after mixing to take full advantage of the limited pot life (working life).

Conbextra EP65 Plus can be poured to displace water. This is typically done using a tremmie pipe to place the grout at the bottom of the grout pour and gradually withdrawing the tremmie as the grout moves up and displaces the water from the formwork.

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

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.

Depnding on the dimensions of the grout pour and method of application, Conbextra EP65 Plus can be placed in thicknesses from 10mm up to 100mm in a single pour. Where the grouting gap exceeds the maximum thickness allowed, then the grout can bulked out with Conbextra Grout Aggregate to minimise exotherm heat build up. Consult Fosroc for specific advice in these applications.

When required, add up to 10kg of Conbextra Grout Aggregate per 14 litre kit of Conbextra EP65 Plus. Typical yield increase is approximately 4 litres per 10kg of aggregate added.

Caution: when adding aggreagte 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 Conbextra EP65 Plus will reduce the flow characteristics of the product. If high flow performance is required it is not recommended that aggregate be added.

Note: Because epoxy resins shrink during the time between mixing and solidification, it is necessary to provide a small reservoir (2 - 3%) of liquid to supply the volume lost.

Where Conbextra EP65 Plus is used for bolt and anchor grouting, the holes into which the bolts or anchors are to be grouted must be clean and thoroughly flushed with clean water. Headed bolts or anchors and deformed bars are to be preferred over plain bars. This will ensure an effective bond at the bolt/epoxy interface.

Please refer to the Conbextra Epoxy Grouts Application Guide for further information. This is available from the website.

Cleaning

All tools and equipment should be cleaned immediately after use with Fosroc Solvent 10 before hardening of the epoxy. Hardened material can only be removed mechanically.

Supply

Conbextra EP65 Plus is supplied in 14 litre two component, pre-weighed packs.

Conbextra EP65 Plus (Base):	FC524460-11.5L
Conbextra EP65 Plus (Hardener):	FC524470-2.5L

Storage

Conbextra EP65 Plus base component has a shelf life of 24 months from date of manufacture if kept in a dry store in the original, unopened packs.

Conbextra EP65 Plus hardener component has a shelf life of 36 months from date of manufacture if kept in a dry store in the original, unopened packs.

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.

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