a.b.e.® Construction Chemicals

epidermix 311

UNDERWATER GRADE EPOXY

DESCRIPTION

A solvent-free underwater grade epoxy compound. Supplied as a component kit.

USES

- Lining inside of damp concrete pipes (standard epoxies will not adhere).
- Underwater repair of ships' hull coatings.
- Lining up-stream of concrete dams to stop seepage.
- Flooring – on wet floors – where dampness is a result of water applied on surface (not rising dampness), e.g. dairies, abattoirs and other environments.
- Underwater grouting or patching. May be used as a grout with graded silica sand. Mixing ratio 3:1 by volume of sand and epoxy resin.
- May be applied as a paint by roller or brush underwater

ADVANTAGES

- Serves as a paint (roller or brush)
- Serves for grouting
- Underwater working
- Easy to work, gloss finish

SURFACE PREPARATION

All surfaces must be clean and sound. Also see our Technical data sheet "Preparation of Surfaces".

PRIMING

Self bonding.

MIXING

Thoroughly mix the contents of the two containers together before use. Should the kit be split, a mixing ratio 1:1 by WEIGHT ONLY must be used. If silica sand extended **epidermix 311** is used as a grout, a mixing ratio 3:1 by volume of sand and epoxy resin is advised. In this application, the resin / activator blend should be transferred to a clean, dry container of suitable size, which has been thoroughly cleaned. Run the dry aggregate into the mixed resin and continue mixing until all the aggregate is wetted and a homogeneous mass is produced.

PROPERTIES OF WET MATERIAL	
Mix ratio	1:1 by weight only
Density	1.055 g/cm^3
Colour: Base Clear Activator	 Clear straw yellow Mixed Clear light yellow
Dilution	Do not dilute
Consistency	Mobile Liquid
Shelf Life	2 years from date of manufacture
Storage conditions	Store under cover in cool conditions
Packaging	500ml and 5L kits

PROPERTIES OF CURED MATERIAL		
Properties	**Unfilled**	**Filled 1:3 Volumes Silica Sand**
Compressive strength @25°C	56 MPa	68 MPa
Tensile split cube test @25°C	10 MPa	8 MPa
Double lap shear strength	9 MPa (direct clamp)	5 MPa (2mm bond line)
Grouting test: 15 diameter embedment	12mm HT bar yielded & fractured in 19mm Ø steel pipe	12mm HT bar pulled out of 25mm Ø steel pipe @ 7 MPa
Modified Arizona shear test	55 MPa prisms failed in concrete	
Max service temp	Dry: 60°C Wet: 40°C	
Shrinkage during cure	Negligible	
Chemical resistance	Excellent towards aqueous media. Good resistance towards dilute alkali and mineral acids	
Solvent resistance	Poor	

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CHEMICAL SOLUTIONS FOR THE CONSTRUCTION MATERIALS INDUSTRY

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PROPERTIES DURING APPLICATION	
Application by	Brush, short fibre roller and trowel for mortars
Pot life	45 – 60 min/500ml
Volume solids	100%
Coverage (unfilled)	1L/m² will yield 1mm film thickness
Coverage (filled)	1L mixed epoxy liquid yields approx. 3L mortar when mixed 1:3 with **abe® coarse No. 1 silica sand**
Curing time @25˚C	Touch dry:12 hrs Practical cure: 24 hrs Full cure: 7 days
Over-coating time @25°C	Min: 6 hrs Max: 48 hrs
Application temp range	10°C to 40°C

COVERAGE

1m²/L/mm.

APPLICATION

epidermix 311 applies equally well underwater or above water. **epidermix 311** bonds directly by displacing the water on a surface. **epidermix 311** does not tend to emulsify or crawl when brush or rolled underwater, or on a damp surface. **epidermix 311** hardens in 24 hours underwater at ambient of about 25°C. Good leveling, flow, gloss and flexibility is achieved.

NOTE: epidermix 311 must always be used in such a way as to prevent moisture ingress. It may not be used to seal dampness into a surface.

CLEANING

Clean equipment with **abe® super brush cleaner**, and then rinse with clean water.

PROTECTION ON COMPLETION

Protect against UV if not permanently underwater. Most epoxies chalk and degrade in extensive sunlight.

MODEL SPECIFICATION

Two-component, solvent free underwater grade epoxy liquid.

The underwater grade epoxy shall be **epidermix 311**, a two component, solvent free resin system applied in accordance with the manufacturer's recommendations, **a.b.e.® Construction Chemicals.**

HEALTH & SAFETY

Product safety information required for safe use is not included. Before handling, read product and safety data sheets and container labels for safe use, physical and health hazard information. The safety data sheet is available from your local **a.b.e.® Construction Chemicals** sales representative.

IMPORTANT NOTE

This data sheet is issued as a guide to the use of the product(s) concerned. Whilst **a.b.e.® Construction Chemicals** endeavours to ensure that any advice, recommendation, specification or information is accurate and correct, the company cannot - because **a.b.e.®** has no direct or continuous control over where and how **a.b.e.®** products are applied - accept any liability either directly or indirectly arising from the use of **a.b.e.®** products, whether or not in accordance with any advice, specification, recommendation or information given by the company.

FURTHER INFORMATION

Where other products are to be used in conjunction with this material, the relevant technical data sheets should be consulted to determine total requirements.

a.b.e.® Construction Chemicals has a wealth of technical and practical experience built up over years in the company's pursuit of excellence in building and construction technology.