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a.b.e.® Construction Chemicals

epidermix 510

LIGHTWEIGHT REINSTATEMENT MORTAR

DESCRIPTION

epidermix 510 is a solvent-free, three component, epoxy mortar, formulated to be used in overhead and vertical applications where its lightweight fillers give the material its thixotropic characteristics

USES

For repairs

- To concrete, especially in vertical and overhead locations.
- Where good chemical resistance is important in those areas.
- Emergency repairs where rapid re-instatement is required.
- Where an impermeable mortar is required.

ADVANTAGES

- Use of lightweight fillers allows high build repairs in overhead and vertical applications.
- High early strength ensures rapid reinstatement to be carried out.
- Good chemical resistance to a range of corrosive materials.
- Low permeability offers excellent protection to re-bar.

SURFACE PREPARATION

Cleaning of the surface to be repaired is best achieved with a light sand grit blast, and/or scabbling to remove all loose material, contaminants such as oil, grease, corrosion products or any other deleterious materials. Any corroded, exposed steel must be cleaned to a bright finish and concrete cut back behind the steel to fully expose the back of the bars. See data sheet 'Preparation of Surfaces'.

All repairs to be cut back to a minimum of 10 mm to a sawn edge.

BONDING/PRIMING

All epoxied re-bar is to be coated with **dura.®rep ZR primer** first which provides an unbroken finish.

The **dura.®rep ZR primer** is allowed to dry in accordance with the specific product datasheet.

Horizontal and vertical substrates should be primed using **epidermix 326**, a two-component epoxy primer.

The base and activator components need to be thoroughly mixed for 3 to 5 minutes to achieve uniform colour and consistency.

The mixed primer must be thoroughly applied to the substrate in its horizontal application to avoid puddles of material forming. The primer should be allowed to dry for 30 minutes to release its solvent. The primed surface should be tacky when applying the **epidermix 510**.

TYPICAL PHYSICAL PROPERTIES	
Compressive strength ASTM C109	38 MPa at 7 days
Flexural strength	15 MPa at 7 days
Tensile strengths ASTM C307	5 MPa at 7 days
Pot life (at 20 °C)	40 minutes
Pot life (at 35 °C)	20 minutes
Initial cure	24 hours
Full cure	7 days
Relative density	1,16

CHEMICAL RESISTANCE		
Performance of **epidermix 510** continually immersed at 20 °C		
Citric acid	10%	Very High
Tartaric acid	10%	Very High
Hydrochloric acid	25%	Very High
Sodium hydroxide	50%	Very High
Diesel fuel/petrol	100%	Very High
Sulphuric acid	10%	High
Sugar solutions	Saturated	High
Lactic acid	10%	High
Hydrocarbons	100%	High
Phosphoric acid	10%	High
Nitric acid	10%	Medium
Acetic acid	5%	Low

MIXING

Add the entire contents of the activator tin to the base component and, without splashing, stir with a flat paddle until an even streak-free mixture results.

This takes at least five minutes by hand. Once liquid components have been thoroughly mixed, the aggregate may be added. When using a mechanical mixer, place premixed aggregate, mixing until an evenly coated, wetted mortar results.

Use this method also if manual mixing is carried out in a drum. If manually mixing on a board, make a heap of the mixed aggregate, form a saucer in the centre of the heap; add the mixed liquid to the saucer. Fold the aggregate into the liquid taking care that no binder is lost. Mix the product following standard cement mortar mixing practice. All lumps must be broken down and an evenly wetted mortar obtained

COVERAGE

1 m² / litre / 1 mm thickness.

APPLICATION

Tightly pack the mixed **epidermix 510** behind any exposed steel with a gloved hand. All other areas have to be applied with a wood float pressing the mortar firmly into place. A smooth finish can be achieved using a wetted steel float.

epidermix 510 can be applied 50 mm thick in a single application in overhead and vertical sections without using formwork.

Thicker sections can be built up in layers by scratching the surface of the first layer and applying a second layer some 8 to 24 hours later at an operating temperature of 20 °C dependant on the surface hardness.

Should the **epidermix 510** begin sagging, it should be immediately removed and a thinner layer applied.

Re-prime with **epidermix 326** between applications of **epidermix 510**.

Minimum application of the **epidermix 510** is 10 mm. Never feather edge the product.

CLEANING

Uncured **epidermix 510** can be removed from tools with **abe® super brush cleaner** immediately after use before the material has had time to cure. Hardened material can only be cleaned by mechanical means.

MODEL SPECIFICATION

Three-component, high-build epoxy mortar for fast reinstatement of concrete in vertical and overhead applications where chemical resistance is required.

The repair mortar will be **epidermix 510**, a threecomponent, high-build, epoxy mortar applied in accordance with the recommendations of **a.b.e.® Construction Chemicals**, including **dura.®rep ZR primer** for steel or **epidermix 326** for concrete. The mortar will have a compressive strength of 38 MPa in seven days.

TEMPERATURE

As with all epoxies, the mixture may not be applied to substrates at a temperature lower than 5 °C. At ambient temperatures above 35 °C, working time and pot life will be drastically shortened.

PACKAGING

epidermix 510 is supplied in 7 litre yield kits.

HANDLING & STORAGE

This product has a shelf life of 24 months if kept in a dry cool place in the original packaging. In more extreme conditions this period might be shortened.

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.

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