

# Estopatch HB

## Single Component Lightweight Polymer Modified Concrete Reinstatement Mortar For High-Build Applications

### Description

**Estopatch HB** is a pre-pack, single component dry powders which requires only the site addition of clean water to produce a consistent, lightweight repair mortar. The material is polymer modified to provide a mortar with good handling characteristics, while minimising water demand. The hardened product exhibits excellent thermal compatibility with concrete and outstanding water repellent properties. The low water requirement ensures fast strength gain and long-term durability.

### Uses

**Estopatch HB** is alkaline in nature and will protect embedded steel reinforcement. It is specifically designed for vertical and overhead high-build applications. The mortar is suitable where exceptional chloride and carbon dioxide resistance is required.

### Advantages

- Lightweight formulation enabling extra high-build.
- Can be applied by the wet spray process for fast, exceptionally high-build repairs with enhanced strength.
- Low permeability provides maximum protection against carbon dioxide and chlorides.
- Excellent bond to the concrete substrate.
- Shrinkage compensated.
- Pre-bagged to overcome site-batched variations – only the site addition of clean water required.
- Contains no chloride admixtures.

### Standards Compliance

- BS1881
- BS 6319
- ASTM C942
- BS 6920

### Physical Properties

The following results were obtained at a water powder ratio of 0.14 and temperature of 20°C

Compressive Strength (N/mm <sup>2</sup> ) BS 6319	
1 day	> 15
7 days	> 35
28 days	> 45
Flexural Strength (N/mm <sup>2</sup> ) BS 6319	
28 days	> 4.5
Tensile Strength (N/mm <sup>2</sup> ) BS 6319	
28 days	> 3.0
Water Absorption ISAT (ml/m <sup>2</sup> /sec) BS 1881	
10 mins	0.002
2 hours	0.001

Chloride Diffusion (cm <sup>2</sup> /sec) Taywood Method	< 2 × 10 <sup>-10</sup>
Carbon Dioxide Barrier – Equivalent thickness of concrete to <b>Estopatch HB</b> @ 10mm (Taywood Method) :	800 mm
Equivalent thickness of air to <b>Estopatch HB</b> @ 10mm (Taywood Method) :	320 metres
Coefficient of Thermal Expansion (°C)	7 to 12 × 10 <sup>-6</sup>
Setting Time, hrs Initial set Final set	2 – 3 4 – 5
Fresh Weight Density, kg/m <sup>3</sup>	Approx. 2200 Dependent on actual consistency used
Chemical Resistance	Highly impermeable to acid gases, chloride ions, oxygen and water

### Application Instructions

#### Surface Preparation

Saw cut the repair locations to a depth of at least 10mm. Substrate shall be thoroughly clean, free of laitance, oil, dust, grease, plaster, paint, corrosion and any other deleterious substances. Smooth surfaces should be mechanically roughened by scrubbing or needle gun to form a good mechanical key. All reinforcing steel must be grit blasted to a profile of SA 2 ½ prior to the application of recommended primer.

Edges of the areas for repair must be saw cut to 10mm and blow out all loose dust with dry, oil free compressed air.

#### Priming

All surfaces must be primed prior repair. Reinforcing steel must be primed with galvanized protective coating or epoxy system which will prevent further corrosion.

All concrete surfaces should be thoroughly soaked but leaving no surface water. Concrete surface must be primed with **Estobond Acryl** bonding agent which is scrubbed onto the surface of the concrete. It will dry in approximately 30 mins. **Estopatch HB** should be applied when the **Estobond Acryl** is still tacky.

#### Mixing

Ensure that **Estopatch HB** is thoroughly mixed prior to use. It is essential that quantities of one bag or more are mixed in a forced action pan mixer or with an electrical hand mixer. For normal applications 2.8 – 3.0 litres of water should be added to 20 kg bag.

## Application

Apply the mixed **Estopatch HB** to the prepared substrate by gloved hand or trowel. Work a thin layer of the mortar into the primer and then build the mortar on to this layer. Thoroughly compact the mortar on to the primed substrate and around the exposed reinforcement.

**Estopatch HB** can be applied in sections up to 40mm thickness in vertical locations and up to 20mm thickness in overhead locations in a single application and without the use of formwork. If formwork is used for greater thickness, it should be properly primed with primer to ensure no water is absorbed from the **Estopatch HB**. In horizontal application, **Estopatch HB** can be applied up to 150mm thickness. The minimum applied thickness of **Estopatch HB** is 5mm.

Thicker section can be built up by multiple layers. It is recommended the surface of the intermediate layers should be scratch-keyed and re-priming with **Estobond Acryl** and the further application of **Estopatch HB** shall be applied as soon as this layer has set.

**Estopatch HB** can be applied by the wet spray technique where large areas of repair are required.

## Curing

**Estopatch HB** is a cementitious repair mortar. It must be cured immediately after finishing in accordance with good concrete practice. Estocure curing compound is recommended for this usage.

## Cleaning

**Estopatch HB** should be removed from tools with clean water immediately after use. Cured material can only be removed mechanically.

## Packing & Size

<b>Estopatch HB</b>	20 kg bag
<b>Estobond Acryl</b>	20 litre pail

## Yield

<b>Estopatch HB</b>	Approx. 10.0L / 20kg bag
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## Coverage

<b>Estopatch HB</b>	Approx 1.0 m <sup>2</sup> at 10mm thick
<b>Estobond Acryl</b>	4 – 6 m <sup>2</sup> per litre depend on porosity of substrate

## Technical Support

Estop offers a comprehensive range of high performance, high quality of repair product for both new and existing concrete surfaces. In addition, the company offers a technical support package to specifiers, end-users and contractors, as well as on-site technical assistance.

## Storage

**Estopatch HB** has a shelf life of 12 months if maintained in dry storage conditions in unopened bags. This may be reduced if store in location of high humidity.

## Precaution

**Estopatch HB** contains cement powder, which might be harmful to sensitive skin. In case of contact with eyes, rinse with water immediately and seek medical advice.

## Additional Information

Estop manufactures and offers a wide range of complementary products which includes waterstops, waterproofing products, grouts, anchors, specialized flooring products. In addition, a wide range of products formulated for repair and refurbishment of spalled concrete are available.

## Important Note

*Estop products are guaranteed against defective materials and manufacture and are sold subject to its standard Terms and Conditions of Sale, copies of which may be obtained on request. Whilst Estop endeavors to ensure that any advice, recommendation, specification or information in may give is accurate and correct, it shall not, because it has no direct or continuous control over where or how its products are applied, accept any liability either directly or indirectly arising from the use of its products, whether or not in accordance with any advice, specification, recommendation or information given by it.*