

FEB HYSEAL GREY
SURFACE APPLIED, CAPILLARY-SEALING WATERPROOFER
FOR CONCRETE AND MORTAR

Description:

FEB HYSEAL GREY is a permanent waterproofer for concrete or cementitious substrates. Non-soluble crystals form in the water bearing capillaries and effectively block them to passage of water.

FEB HYSEAL GREY is available in grey.

FEB HYSEAL GREY

For use in slurry form on concrete and mortar surfaces (including concrete block work), where general waterproofing of the structure is required.

This product is also used as a powder to be sprinkled on the surface of a horizontal joint between existing and new concrete for sealing against water pressure.

FEB HYSEAL GREY results not only in permanent waterproofing of new and old structures, but also the stopping of leaks in concrete, stable concrete block construction and rendered brickwork. The waterproofing and leak stopping processes take place with or against hydrostatic pressure. The waterproofing of structures is traditionally achieved by applying semi-permeable or impermeable membrane layers on the surface, by whatever methods, which may be liable to puncture or accidental damage. By contrast, FEB HYSEAL GREY provides total protection by becoming an integral part of the surface to which it is applied. Thus, it cannot tear, puncture, rupture, or come apart from the surface, the seams, or the corners and edges of the structure.

Primary Uses:

Waterproofing structures to stop ingress of water from outside or to prevent leakage of water out of a liquid containing tank.

Typical Additions:

Leaking basements, lift wells, inspection pits, tunnels and underground structures subject to ground water pressure, water towers, sewage tanks, effluent pits, reservoirs and other liquid retaining tanks.

Appearance:

FEB HYSEAL GREY is a fine grey powder.

Advantages:

- Provides total protection by becoming an integral part of the surface to which applied.
- Protects concrete and reinforcement against permeation of salt and other harmful substances.
- Improves resistance of concrete surfaces to weathering and chemical attack.
- Non toxic.
- Easy to use.
- Premixed for consistent quality.
- Can be used on brickwork.
- Available in grey

Action:

FEB HYSEAL GREY is mixed with water and is applied, as detailed below, to damp concrete or cementitious substances to form a cement-based coating. The waterproofing effect is produced by active chemicals in the FEB HYSEAL GREY coating which react with moisture to produce a solution of high pH value. The chemicals in the solution penetrate deep into the capillaries and react with free lime to form insoluble crystals. The crystallisation process in the capillaries produces a barrier of water and become an integral part of the structure. The interspaces of these blocking crystals are so small that molecules of water cannot pass through, whilst smaller molecules of water vapour and air are allowed to pass; thus the concrete is able to breathe. FEB HYSEAL GREY being effective in any direction of water or osmotic pressure, means it may be applied to either internal or external surfaces. However, wherever possible, it is preferable to apply the FEB HYSEAL to the surface with which the water is in direct contact. This will create an accelerated rate of penetration and crystallisation into the concrete structure. FEB HYSEAL active chemicals remain in the structure and any later contact with water will reactivate the sealing process.

Composition:

FEB HYSEAL GREY consists of selected Portland Cement blended with activating chemicals and high grade quartz.

Directions of Use:

Initial Inspection:

Clear away any water and closely inspect the structure to determine that the existing walls and floors are sound. Any cracks must be static (otherwise special watertight movement joints will have to be formed). Any defects must be rectified prior to commencing waterproofing and the substrate must be sound. Check that the structural floor and walls are capable of taking the hydrostatic load that will result once waterproofing is completed (the water level may well rise once leakage is stopped).

Water Leakage Under Pressure:

If leaking is under pressure, cut into the structure to relieve the pressure at points of severe leakage and pipe water away to a drain or pump.

Surface Preparation:

Surfaces to be treated must be free of dust, oil, grease. Any curing compound, mould oil, release agent or other surface treatment must be removed. Remove any laitance from concrete and weak or delaminating brickwork. Brush down and clean off, leaving a sound substrate providing adequate bond.

Preparation is usually carried out using mechanical tools, such as scabblers for floors and bush hammers for vertical surfaces.

Static cracks, greater in width than 1mm must be chased out, damped down and repaired with FEB HYSEAL GREY.

All surfaces that are not damp must be prewetted (more than once if necessary) to saturate the substrate. Remove any free moisture from the surface.

Mixing:

Always add water to FEB HYSEAL GREY - not in reverse order.

FEB HYSEAL GREY slurry:

Mix 1 part of water to 2¼ - 2½ parts of HYSEAL GREY powder by volume.

Do not add additional water after mixing.

Use FEB HYSEAL GREY slurries or mortars within 20 minutes of mixing at normal temperatures.

Application:

FEB HYSEAL GREY slurry mixes are applied by brush and spray. Apply the material in two coats, at right angles to each other. Apply the second coat whilst the first coat is firm but still 'green' (i.e. usually 4-6 hours after application of first coat or overnight).

For new concrete, or for new dense concrete blocks, use two slurry coats of FEB HYSEAL GREY

For old concrete, brickwork or 'granular' concrete blocks, replace one coat of slurry with a 4-5mm render coat of FEB HYSEAL GREY

Note: The slurry coat of FEB HYSEAL GREY must always be nearest to the source of water.

When FEB HYSEAL GREY is used in situations liable to be subject to traffic or wear, a protective screed (or render) should be applied over the cured HYSEAL GREY.

Plugging Leaks:

Leaks and holes drilled to relieve water pressure are sealed permanently using a plugging compound of FEB HYSEAL GREY.

To plug leaks under pressure, chase out the area of the leak until water flow is free and insert a length of plastic hose. Seal the plastic hose with plugging compound as above. Clean the cavity and apply a slurry coat of FEB HYSEAL GREY, and when tacky, fill the cavity with FEB HYSEAL GREY mortar and allow to cure. When surrounding waterproofing is complete, withdraw the hose and plug the hole with plugging compound as above, using a gloved thumb to hold it in place until set. (Approximately 1 minute). Then fill the remainder of the hole with FEB HSEAL GREY mortar. When the mortar has set, complete waterproofing, lapping slurry coats onto the slurry surrounding the hole. Holes under low pressure can be similarly sealed, but pipe insertion and removal is omitted.

Curing:

FEB HYSEAL GREY must be prevented from drying out too rapidly and hence should be kept damp for 4-6 days. Mist spraying with water and covering with polythene is effective when drying out would otherwise take place. The use of curing compounds is not recommended. Protect from weathering (sun, frost and rain) for a similar minimum period.

Coverage Rate:

Two coat slurry application:

FEB HYSEAL GREY 0.5 to 0.75kg per m² per coat.

Application of render coat: --

FEB HYSEAL GREY 8.5 to 10kg per m²

Coverage dependent on nature of surface to which applied.

Equipment Care:

Clean tools and equipment immediately after use. Use of plastic or rubber containers is recommended.

Subsequent Finishes:

FEB HYSEAL GREY waterproofing is not suitable for subsequent decoration unless first protected by sand/cement render. Only emulsion paints can be applied.

Packaging:

FEB HYSEAL GREY is supplied in 25kg multiwall paper bags and 5kg plastic containers

Storage:

The conditions for storage of FEB HYSEAL GREY are as those for cement, i.e. damp-free, preferably palletised and free from excessive compaction.