

EmO MH

Solvent free epoxy lining and benching mortar

Uses

A trowelable epoxy mortar with maximum chemical and abrasion resistance for the protection of concrete and similar substrates. It is ideally suited for the rehabilitation of manholes.

Advantages

- 2 – 3 times stronger than typical concrete. Excellent resistance to abrasion and impact
- Pre-weighed quality controlled materials ensure consistency and reduce risk of site errors.
- Unaffected by a wide range of acids, alkalis and industrial chemicals.
- Will cure under damp conditions. Cured surface is impermeable to water.
- Superior chemical and physical bond to virtually all substrates, dry or damp.
- Early strength development minimizes maintenance disruption.
- No harmful vapors present. Particularly suited for enclosed environments.
- Designed for easy laying to a fair finish

Product Description

EmO MH is a three component material supplied in pre-weighed quantities ready for on-site mixing and use. It is based on a high quality, solvent free, epoxy resin system; with special aggregate to provide high strength and excellent abrasion resistance.

EmO MH is simple and cost effective for vertical and horizontal patching and for

resurfacing to both dry and damp surfaces. The low odour, non-sag and chemically resistant properties of EmO MH make it the ideal material for long lasting manhole rehabilitation and for use in similarly enclosed structures.

EmO MH can be used in brick, block and all concrete manholes, including precast, and provides impermeable high strength, monolithic lining to the interior of manhole walls.

EmO MH is supplied as a 3 pack material in pre-weighed quantities ready for on-site mixing and use.

Typical Properties

Complete cure	@25°C @35 °C
	: 7days 4 days
Compressive strength	: >80N/mm ²
Flexural strength	: >25N/mm ²
Tensile Strength	: >12N/mm ²
Adhesion Strength	: Concrete Failure
	(ASTM D 412)
Water absorption	: 0.01%
Initial hardness	: 16 hrs@35°C
Usable life	: 60 min@ 35 °C

Chemical Resistance

EmO MH has been independently tested to ASTM C 267 and found to be resistant to 10%

sulphuric acid at 50° c. it is also resistant to a wide range of industrial chemicals.

Acids (m/v)

HCL 25% : Resistant

H2SO4 10% : Resistant

Citric Acid 10% : Resistant

Acetic Acid 10% : Resistant

Alkalis (m/v)

NaOH 50% : Resistant

KOH : Resistant

Solvents & Organics

Petrol : Resistant

Skydrol : Resistant

Diesel : Resistant

Brake fluid : Resistant

Engine oil : Resistant

Ethylene glycol : Resistant

Propylene glycol : Resistant

Kerosene : Resistant

Aqueous solutions

Water (tap, distilled, potable): Resistant

Sodium chloride (sat) : Resistant

Urea solution (Sat) : Resistant

Design criteria

EmO MH is designed for application to brick, block or concrete particularly in enclosed environments. It is highly suited for use in

the rehabilitation of manholes. GIC Mortar MH can be applied to a depth of 12mm in one application; subsequent applications to increase thickness can be made the following day.

Technical Support

ELMRR offers a comprehensive range of high quality repair, maintenance and construction products.

ELMRR provides a comprehensive technical support service to specifiers, end users and contractors and is able to offer on-site technical assistance.

Instructions for Use

Surface Preparation

Ensure the surface is structurally sound and free of dirt, dust, oil, laitance, paint, curing compounds etc.

Surface should preferably be prepared by high pressure water jetting or light grit blasting, followed by through washing to remove dust and remaining particles. Diesel and oil contaminants should be removed with detergent and rinsed thoroughly with water.

Prior to applying EmO MH all hydrostatic leaks must be stopped.

Substrate priming

Substrate should be primed using E Bond EP. The primer should be mixed in the proportions supplied, adding the entire contents of the hardener tin to the base tin. The two components should be thoroughly mixed together for three minutes.

The mixed primer should be scrubbed well in to the prepared substrate, taking care that all

imperfections in the surface are properly coated and avoiding ponding in depressions. If the primer is absorbed within 30 minutes, a second coat should be applied before continuing.

EmO MH can be applied as soon as the primer has started to gel but still has a surface tack. This is normally achieved between 30 minutes and 4 hours dependent on the ambient and substrate temperatures.

If the primer cures hard, a second application must be made before the application of EmO MH. The usable life of the mixed primer is approximately 60 minutes at 20°C or 30 minutes at 35°C.

Mixing

Do not commence mixing until all surface preparation, cleaning and shuttering is complete. **EmO MH** is supplied in pre-weighed units and do not split units during mixing. Mechanical mixing is necessary to produce a fully homogeneous mortar.

The entire content of the hardener tin should be emptied in to the base tin and the two components mixed thoroughly for 3 – 5 minutes. The mixed resins should then be emptied into a suitable sized mixing drum or bucket. The supplied aggregates should then be added slowly while the product is being continuously mixed by suitable mechanical means, e.g. a heavy duty, slow speed drill (350 – 500 rpm) and approved mixing paddle.

Larger quantities of **EmO MH** can be mixed in a heavy duty paddle-mixer, however, no more than can be reasonably used with in the pot life of the product, should be prepared at any one time.

Application

The mixed material should be used at once. It should be applied to the prepared surfaces with a spatula or steel trowel, pressing the mortar firmly on to all surfaces to ensure positive adhesion. To avoid sagging on vertical and overhead surfaces, do not apply in thickness greater than 12 mm per layer.

Where additional applications are required, do not tightly close the surface of the first layer. Subsequent applications should be made the following day.

Important Note:

Do not use solvents to thin components or to lubricate the trowel as this will prevent proper cure.

Equipment care

Clean all equipment promptly using **ELM Solvent EP**. Cured material will have to be mechanically removed.

Packaging & Storage

EmO MH is available in factory, pre-weighed units of 15 kg pack. It has a minimum shelf life of 12 months provided it is stored under cover, out of direct sunlight.

Coverage

EmO MH	: 1.5m ² /pack @ 5 mm thickness
E Bond EP	: 4 – 5 M ² / litre @ 200 - 250 Microns thickness

Supply

EmO MH : 15Kg

E Bond EP : 5 Litre

Health & Safety

Precautions

EmO MH does not fall into the hazard classifications of current regulations. However, it should not be swallowed or allowed to come into contact with skin and eyes. Suitable protective gloves and goggles should be worn. Splashes on the skin should be removed with water. In case of contact with eyes rinse immediately with plenty of water and seek medical advice. If swallowed seek medical attention immediately – do not induce vomiting.

Important note

ELMRR endeavors to ensure that the technical information contained herein is true, accurate and represents our best knowledge and experience. No warranty is given or implied, as ELMRR has no control over the conditions of use and the competence of any labor involved in the application are beyond our control. As all ELMRR technical data sheets are updated on a regular basis it is the customer's responsibility to check that the product is suitable for the intended application, and that the actual conditions of use are in accordance with those recommended.

Additional information

ELMRR manufactures a wide range of products specifically designed for the repair and refurbishment of damaged reinforced concrete. This includes hand-placed and spray

grade repair mortars, fluid micro-concretes, chemical resistant epoxy mortars and a comprehensive package of protective coatings. In addition, a wide range of complementary products is available. This includes joint sealants, waterproofing membranes, precision grouts, anchoring and specialised flooring materials.

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