

# Nitomortar EL-HB

**Hand-applied, trowel finished, high build, chemical and abrasion resistant epoxy repair mortar system**

## USES

A high build epoxy mortar with maximum chemical and abrasion resistance for the protection of concrete and similar substrates. Ideal for small repairs to manholes, sewers and general concrete structures.

## ADVANTAGES

- Unaffected by a wide range of acids, alkalis and industrial chemicals
- Superior chemical and physical bond to virtually all substrates, dry or damp
- Strengths in excess of the concrete to which material is applied. Excellent resistance to abrasion and impact
- Unaffected by freeze-thaw attack which eliminates problems often encountered with conventional water-based materials
- Cured material provides a long lasting waterproof barrier
- No harmful vapours present

## DESCRIPTION

Nitomortar EL-HB\* is a three component system consisting of epoxy resins without solvents and a special blend of chemical resistant fillers. When mixed, Nitomortar EL-HB has a thixotropic consistency for easy hand placement, prior to finishing surface of the application with a trowel.

Nitomortar EL-HB is simple and cost effective for overhead, vertical, horizontal patching and resurfacing to both dry and damp surfaces. The low odour, non-sag, and chemical resistant properties of Nitomortar EL-HB make the ideal material for long lasting concrete rehabilitation.

Nitomortar EL-HB can be used in brick, block and precast concrete manholes. Nitomortar EL-HB provides a permanent impermeable, high strength, monolithic lining to the interior of manhole walls.

To line concrete structures with an epoxy mortar, Nitomortar ELS is available as a spray applied lining system and Nitomortar EL is available as a trowel applied lining mortar. Contact Parchem for further information.

## DESIGN CRITERIA

Nitomortar EL-HB can be applied in sections up to 100 mm thickness in horizontal locations. The material should not be applied at less than 5 mm thickness. In vertical applications, the material should be "built-up" to a maximum thickness of 30mm.

Greater thicknesses than those specified above can be achieved by the application of subsequent layers.

## PROPERTIES

The following results were obtained at a temperature of 20°C unless otherwise specified.

<b>Compressive strength at 7 days:</b>	> 45 MPa
<b>Pot life:</b>	45 minutes @ 20°C
<b>Initial hardness:</b>	4 hours @ 20°C
<b>Full cure:</b>	7 days @ 20°C
<b>Minimum application temperature:</b>	5°C

### Chemical resistance:

Performance of Nitomortar EL-HB blocks continually immersed at 23°C for 28 days:

<b>Bleach</b>		Excellent
<b>Detergent</b>		Excellent
<b>Sodium hydroxide</b>	25%	Excellent
<b>Diesel fuel/petrol</b>	100%	Excellent
<b>Sulphuric acid</b>	25%	Excellent
<b>Nitric Acid</b>	25%	Colour Change / Excellent
<b>Phosphoric Acid</b>	25%	Excellent
<b>Hydrochloric Acid</b>	25%	Excellent
<b>Toluene</b>	100%	Excellent
<b>Kerosene</b>	100%	Excellent

## TECHNICAL SUPPORT

Parchem offers a technical support package to specifiers, end-users and contractors, as well as on-site technical assistance.

## SPECIFICATION CLAUSE

**High-build reinstatement mortar for the repair of structural concrete.**

The high-build reinstatement mortar shall be a three component epoxy-based mortar. It shall be manufactured to achieve maximum compatibility with structural concrete and, as a consequence, shall exhibit the following characteristics:

**Compressive strength:** > 45 MPa @ 7 days

The product shall be chemically resistant to a range of chemicals when continually immersed at 23°C for 28 days:

Sulphuric acid	25%	Excellent
Nitric acid	25%	Colour change / Excellent
Phosphoric acid	25%	Excellent
Hydrochloric acid	25%	Excellent

## APPLICATION INSTRUCTIONS

### PREPARATION

Clean the surface and remove any dust, unsound material, plaster, oil, paint, grease, corrosion deposits or algae. Roughen the surface and remove any laitance by light scabbling or grit-blasting.

Saw cut or cut back the extremities of the repair locations to a depth of at least 5 mm to avoid feather-edging and to provide a square edge. Break out the complete repair area to a minimum depth of 5 mm up to the sawn edge.

Prior to application of Nitomortar EL-HB all active hydrostatic leaks must be stopped by the use of Vandex Plug, a rapid setting mortar.

### MIXING

Care should be taken to ensure that Nitobond EP primer is thoroughly mixed. The 'hardener' and 'base' components should be stirred separately before mixing to disperse any settlement. The entire contents of the 'hardener' tin should then be poured into the 'base' tin and the two materials thoroughly mixed using a suitable slow-speed drill and mixing paddle for 2 minutes until a fully uniform colour is obtained. The sides of the tin should then be scraped and mixing should continue for a further 2 minutes.

Nitomortar EL-HB is supplied in the correct proportions to facilitate easy on site mixing. A slow speed electric drill with a suitable paddle can be used for efficient mixing.

Satisfactory mixing can be achieved by removing the filler component bag and then thoroughly mixing all contents of the resin (part A) and hardener (part B) in the original container. Mix continuously for approximately 5 minutes until a uniform colour and gel-like consistency has been reached.

The filler aggregate should then be added and mixing continued, ensuring that the aggregate is thoroughly wetted out with resin.

### APPLICATION

Nitobond EP primer should be applied as soon as the mixing process has been completed. It should be brush or spray-applied to the prepared surfaces. Note: Primer can be applied on dry or damp substrates.

The Nitomortar EL-HB should be applied to the primer coated substrate within 90 minutes at 20°C, ie. while the Nitobond EP is still tacky. If the Nitobond EP primer is allowed to dry, a second coat will be required.

Apply the Nitomortar EL-HB with gloved hand and work the material firmly into the substrate surface. Build up to the desired substrate level and finish off with a steel trowel. To close the surface to a smooth finish lubricate the trowel with water.

Note: DO NOT thin components as solvents will prevent proper cure.

Nitomortar EL-HB should be applied only when the substrate temperature and the ambient temperature is above 5°C.

Do not attempt to mix part packs as incorrect proportioning can severely affect the cured properties of the product.

### CLEANING

Nitomortar EL-HB and Nitobond EP should be removed from tools, equipment and mixers with water or Solvent 10 immediately after use.

### LIMITATIONS

Nitomortar EL-HB should not be used when the temperature is below 5°C and falling. Do not mix part packs under any circumstances. If any doubts arise concerning temperature or substrate conditions, consult your local Parchem sales office.

Nitomortar EL-HB is designed for small pocket type repairs only. The total build and volume of material that can be applied in one application will depend on the size and geometry of the repair.

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## ESTIMATING

### SUPPLY

**Nitomortar EL-HB:** 9 litre pack

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**Nitobond EP:** 1.5 and 6.0 litre packs

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**Solvent 10:** 4 and 20 litre pails

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### COVERAGE

**Nitobond EP:** 4 - 5 m<sup>2</sup>/litre

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Notes: the coverage figures for Nitomortar EL-HB and Nitobond EP are theoretical - due to wastage factors and the variety and nature of possible substrates, practical coverage figures will be reduced.

## STORAGE

### SHELF LIFE

All products have a shelf life of 12 months at 20°C if kept in a dry store in the original, unopened bags or packs.

### STORAGE CONDITIONS

Store below 35°C in dry conditions in the original, unopened packs.

## ADDITIONAL INFORMATION

Parchem provides a wide range of complementary products which include:

- concrete repair – cementitious and epoxy
- grouts and anchors – cementitious and epoxy
- waterproofing membranes – liquid applied, cementitious and bituminous sheet membranes
- waterstops – pvc and swellable
- joint sealants – building, civil and chemical resistant
- industrial flooring systems – cementitious and epoxy
- architectural coatings
- filler boards – swellable cork, bituminous and backing rod
- ancillary products

For further information on any of the above, please consult with your local Parchem sales office.

## IMPORTANT NOTICE

A Material Safety Data Sheet (MSDS) and Technical Data Sheet (TDS) are available from the Parchem website or upon request from the nearest Parchem sales office. Read the MSDS and TDS carefully prior to use as application or performance data may change from time to time. In emergency, contact any Poisons Information Centre (phone 13 11 26 within Australia) or a doctor for advice.

## PRODUCT DISCLAIMER

This Technical Data Sheet (TDS) summarises our best knowledge of the product, including how to use and apply the product based on the information available at the time. You should read this TDS carefully and consider the information in the context of how the product will be used, including in conjunction with any other product and the type of surfaces to, and the manner in which, the product will be applied. Our responsibility for products sold is subject to our standard terms and conditions of sale. Parchem does not accept any liability either directly or indirectly for any losses suffered in connection with the use or application of the product whether or not in accordance with any advice, specification, recommendation or information given by it.

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