



Nitomortar® PE

Resin jointing and repair compound

Uses

For fast and emergency reinstatement of concrete.

For bedding, jointing, profiling of concrete, repair of damaged concrete in precast units, jointing between precast units, repair of stair treads, fixing tiles, cladding, repairs to kerbs, man hole covers, door and window frames etc.

Advantages

- **Durable** - Stronger than concrete. Highly chemical and oil resistant. Excellent bond strength.
- **Ease of application** - Mix resin and hardener in any proportion as required. No primer is required.
- **Quick** - Finish job operation in 2 - 3 hours.
- **Versatile**- Can be poured, trowelled, filled with coarse aggregates. Will cure in dry, wet, damp, and under water conditions. Can be used at down to 0°C or upto 60°C.

Description

Nitomortar PE is based on polyester resin system. Product is supplied as resin and hardener for varied applications viz. jointing, patching and repairing. It is available in two grades.

- Nitomortar PE : For general repairs (resin and hardener only)
- Nitomortar PE : To fill larger volumes allowing concrete users to add aggregates and thereby substantially reducing the cost.

Technical support

The company provides a technical advisory service supported by a team of specialists in the field.

Properties

The mixing of resin and hardener starts a polymerisation process resulting in excellent mechanical properties like high compressive strength (Table 1), high flexural and tensile strength (Table 2), chemical resistance of the cured material to chemicals like acids, mild alkalis, oil and petrol.

Shrinkage	Volume	Linear
Nitomortar PE mortar (1:3.2 by vol)	3.5%	0.8%
Nitomortar PE concrete	2.7%	0.8%

Specification clauses

Jointing and multi-purpose polyester repair mortar

The high strength jointing and repair mortar shall be Nitomortar PE, a two component polyester resin. The mortar shall be capable of use at a wide range of consistencies without significantly affecting setting times or strengths. When applied at a flowable consistency, the cured product shall exhibit a compressive strength of 75N/mm², a flexural strength of 25N/mm² and tensile strength of 12N/mm² at 7 days.

Table 1 Typical compressive strength results

Product	Temp.	Gel Time	Compressive Strength N/mm ²		
			3 Hours	24 Hours	7 days
Nitomortar PE	25°C	30 min.	45	72	78
Nitomortar PE Concrete	25°C	30 min.	27	65	76

Table 2 Typical Flexural and tensile strength results

Product	Consistency	Resin and Hardener Ratio		Approx. Density Kg/m ³	Young's Modulus N/mm ²	Flexural Strength N/mm ² @ 7 days	Tensile Strength N/mm ² @ 7 days
		By Vol.	By wt.				
Nitomortar PE	Trowellable	1:3:2	1:4:2	1920	20x10 ³	25	12
	Pourable	1:2:5	1:3:5	1840	16x10 ³		
	Flowable	1:1:6	1:2	1680	10x10 ³		

Nitomortar® PE

Multi-purpose polyester repair concrete

The high strength repair concrete shall be Nitomortar PE Concrete, a two component polyester mortar capable of site modification with suitable aggregates. The repair concrete shall be capable of use at a range of consistencies without significantly affecting setting times or strengths. The cured product shall exhibit a compressive strength of 76N/mm², a flexural strength of 25N/mm² and a tensile strength of 12N/mm² at 7 days.

Application instructions

Preparation

All surfaces must be preferably dry and free from oil, loose particles and laitance.

Mixing

The required quantity of resin shall be poured into a plastic bucket and the powder hardener shall be added slowly with stirring thoroughly until uniform consistency is obtained. It is recommended that small quantities be mixed at a time and used since pot life of the mixed material decreases at elevated temperatures.

The Table 2 may be used as a guideline for mixing.

Placing

Ensure that resin mortar is trowelled firmly into place to obtain good adhesion. In the case of dense substrates, priming with resin only or resin and hardener in flowable consistency should be carried out to ensure surface is completely wetted out.

Maximum thickness of mortar in one layer permissible is 12mm. (If thickness more than 12mm is required the same is achieved in two or more layers with a gap of atleast 4 hours between each layer). Nitomortar PE is not recommended for repairs of large areas where Nitomortar S is more suited.

Limit plan area to 0.3m x 0.3m and linear strips should be placed in 1m maximum run at each application.

Nitomortar PE Concrete

The following proportions may be used as a guideline for making Nitomortar PE Concrete :

	Resin	Hardener	Sand Zone II	Coarse aggre. 10mm
By volume	1	0.8	3.2	--
By volume with coarse aggregate	1	0.8	1.45	2.5
By weight	1	1.0	1.6	1.6

For making Nitomortar PE concrete, the resin and hardener shall be mixed in the proportion recommended above and sand and coarse aggregate shall be added and mixed thoroughly on a clean board to obtain resin concrete.

Maximum thickness in one layer : 40mm

Limit plan area to 0.75m for each application. Linear strips should be placed in 1m maximum run at each application.

Cleaning

All tools and equipment must be cleaned with Nitoflor Sol, solvent immediately after use.

Nitomortar PE - Typical applications

Repairing broken, worn or spalled concrete re-profiling arises of slabs, mullions, columns, beams, posts, sills and precast units.



For small/local repairs : Wire brush, clean off dust and loose material.

Use : Nitomortar PE - Trowellable mix (or pourable mix for deep vertical cracks or holes).



For more extensive repairs : Cut back concrete to firm sound material. Treat any exposed steel with Nitozinc Primer (see separate datasheet for details).

Use Nitomortar PE - Trowellable mix. Build up to original profile.

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Filling day work joints and setting expansion strips



Brush, clean off loose material. Set expansion joint material if applicable.
Use Nitomortar PE - Trowellable or flowable mix.

Filling depression in worn steps or slabs



Chip or peck hammer surface to ensure a key. Set greased or oiled shuttering if necessary.



Use Nitomortar PE - Pourable mix.

Location and Fixing

Coping and kerb stones onto concrete, brickwork or asphalt. Remove dust and loose material and ensure substrate is dry.



Use Nitomortar PE - Trowellable mix. Apply a mortar bed as usual. Set and level stone immediately.



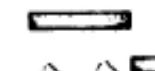
Leave to set.

The same Nitomortar PE material may be used to butter ends to form mortar joints.

Paving slabs, grano or quarry tiles

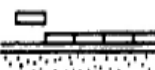
Use Nitomortar PE - Trowellable mix.

Paving slabs



Use spot Nitomortar PE pads. Set and level each slab immediately.

Tiles



Spread Nitomortar PE in an even bed using a notched trowel. Press tiles gently to finished level. Wipe off any surplus material from face. Leave to set grout with cement slurry as usual.

Posts, railings and balustrading in concrete



Cut or, preferably, drill holes with rotary percussive air drill and flush clear off dust. Keep holes small, i.e., 1 - 2mm (1/2") space all round post.

Use Nitomortar PE - Flowable mix. Pour in hole, insert post, top up hole if necessary. Prop vertical unit to set.

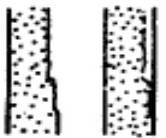
Brackets, support bars, dowel plugs, air bricks, ventilator frames, etc.,



Use Nitomortar PE - Trowellable mix. Exactly as with cement mortar.

Contouring and Profiling

Fairing walls for tiling, plastering or painting. Rendering vertical faces for improvement, protection or additional cover to reinforcement in exposed positions.



Surface must be firm and free from loose material and laitance. Abrade and roughen very smooth surfaces.

Use Nitomortar S. (See separate datasheet).

Forming gullies, run-offs, channels, ramp, edges, etc. for stormwater or foul water.



Hack or key surface and wire brush free of dust.

Use Nitomortar S. (See separate data sheet). Form to a finish as required. Fair finish curbed gullies can be formed with half round metal-guttering section.

Bedding, Jointing and Sealing

Bedding and jointing precast units, slabs, lintels, steps, partitions and bearer plates.

Bedding base :



Ensure substrate is clean and free from dust and loose material.

Use Nitomortar PE - Trowellable mix. Align and support unit immediately. Leave to set.



Vertical Joints :

Ensure surfaces are clean and free from dust and loose material.

Use Nitomortar PE - Trowellable mix. Joint and align panels immediately. Leave to set.

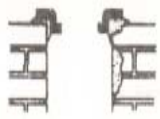
Bedding and sealing manhole and drain cover frames, door and window frames and pipe unions.

Manhole/drain covers and brickwork linings. Ensure Corbel is clean and surface damp/dry.

For small jobs.

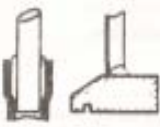
Use Nitomortar PE - Trowellable mix.

Nitomortar® PE



For large jobs. Nitomortar PE concrete will show considerable cost saving - consult Fosroc for details.

For vertical brickwork repair



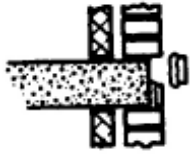
Use Nitomortar PE.

1. Pipe unions of stormwater or foulwater.

2. Bedding window or door frames.

Use Nitomortar PE - Trowellable mix.

Bedding and fixing slip bricks, stone slips and facing tiles.



Use Nitomortar PE - Trowellable mix. First coat brick and concrete faces with resin rich mix. Apply Nitomortar PE to bricks or tiles lightly on back and one end with trowellable mix. Press gently into position

to develop suction. Avoid excess Nitomortar PE being forced out onto face. Leave to set. Point with cement mortar to match main facing work.

Estimating

Packing

Nitomortar PE - supplied in 5 litre packs.

Nitomortar PE Concrete : Supplied in 5 litre packs. When mixed with appropriate amount of aggregate, the the volume will vary between 9 litres and 19 litres.

Storage

Shelf life

6 months shelf life when stored below 25 deg.C in original unopened containers. Storage at low temperatures extends shelf life. High storage temperatures will shorten the shelf life significantly.

Precautions

Health & Safety instructions

It is recommended that gloves should be worn while handling resin products. If contact with skin occurs, skin should be washed immediately with soap and water. Solvents should not be used for cleaning hands.

Fire

Confined areas must be well ventilated and no naked flames or smoking must be allowed during use.

Additional information

The Fosroc range of repair mortars includes epoxy resin bedding, jointing, grouting and repair compounds, rapid hardeners for cement and filled epoxy resin mortars for underwater repairs.

Separate datasheets are available on these products.

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Important note :

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