

## Epicon Mortar

### General Purpose High Strength Epoxy Mortar

#### Description

Epicon Mortar has been designed to comply with the requirements of EN1504 Part 3 Class R3. It is an extremely versatile epoxy mortar suitable for a number of building and repair needs where characteristics of excellent adhesive bond, high strength, abrasion and chemical resistance are required. Epicon Mortar is a pre-weighed three component system of solvent free epoxy resin and hardener which, when blended with the graded aggregates, forms a high strength mortar.

#### Advantages


- High compressive, tensile and flexural strength
- Excellent adhesion to concrete, stone, asphalt and metal
- Provides a non-slip surface with excellent abrasion resistance
- Ready for trafficking same day
- Resistant to a wide range of chemicals
- Tolerant to road salts and freeze-thaw
- Tolerant to damp surfaces
- Non-shrink and grey in colour
- Stronger than concrete within 24 hours

#### Applications

- Repair of worn and damaged concrete floors and stairs
- Repair of spalled expansion joints
- Repair of concrete and asphalt roads and runways

#### Technical Information

Working Time:	45 Minutes
Full cure	7 Days
Coverage	2.5m <sup>2</sup> Per 25kg @ 5mm
Minimum Thickness	4mm

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EN 1504-3 Concrete repair product for structural repair PC Mortar (Polymer mortar)	
Compressive strength	Class R3 (>25 MPa)
Chloride ion content	<0.05%
Adhesive bond strength	>1.5 MPa
Adhesion after freeze/thaw	>1.5 MPa
Elastic modulus	>15 GPa
Dangerous substances	Complies with 5.4

#### Surface preparation

All surfaces should be clean, free from oil, grease and chemical contamination, free standing water, old paint and loose debris. Oil and grease should be removed using Desolve.

A stronger repair will result if the edges are cut straight with a chisel, angle grinder or similar tool to avoid feather edging of the material.

Steel surfaces should be grit blasted or mechanically abraded to a clean bright finish.



# Technical Datasheet



## Technical properties of Epicon Mortar.

Properties	Standard	Performance Requirement	Declared Value
Appearance			Grey Resinous Mortar
Chloride-ion content	EN1015-17	≤0.05%	<0.05%
Aggregate size			Max. 2mm
Layer thickness—minimum			4mm
Working time (@ 23°C)			45-60 Minutes
Hardening Time (@ 23°C)			60-150 Minutes
Density			1950-2100 kg/m <sup>3</sup>
Temperature for application			5°C to 35°C
Compressive Strength @ 23°C	EN 12190	≥ 25 MPa	65 MPa @ 24 Hr 68 MPa @ 48 Hr 70 MPa @ 3 Days 75 MPa @ 7 Days
Compressive Strength @ 10°C	EN 12190		35 MPa @ 24 Hr 64 MPa @ 48 Hr 65 MPa @ 3 Days 72 MPa @ 7 Days
Compressive Strength @ 5°C	EN 12190		26 MPa @ 24 Hr 59 MPa @ 48 Hr 63 MPa @ 3 Days 65 MPa @ 7 Days
Tensile Strength	BS6319-7		13 MPa
Flexural Strength	BS6319-3		23 MPa
Modulus of Elasticity, In Flexure	BS6319-3		20 GPa
Modulus of Elasticity, In Compression	EN13412	≥ 15 GPa	18 GPa
Adhesion - concrete	EN1542	≥ 1.5 MPa	≥ 2.0 MPa
Adhesion after freeze/thaw (50 cycles with salt)	EN13687-1	≥ 1.5 MPa	≥ 2.0 MPa
Adhesion after thunder showers (30 cycles)	EN13687-2	≥ 1.5 MPa	≥ 2.0 MPa
Adhesion after dry cycling (30 cycles)	EN13687-4	≥ 1.5 MPa	≥ 2.0 MPa
Skid Resistance	EN13036-4		Class 1
Carbonation resistance	EN13295	$d_k \leq \text{ref. concrete}$	Passes
Capillary absorption	EN13057	$\leq 0.5 \text{ kg/m}^2/\text{h}^{-0.5}$	$\leq 0.5 \text{ kg/m}^2/\text{h}^{-0.5}$
Cracking tendency	Coutinho Ring Test		No cracking after 180 days

## Priming

Cleaned substrates should be primed with Epicon Tack Coat 'H.' Pour the contents of the hardener into base container and mix thoroughly. The mixed material should be applied by brush. On porous surfaces a second coat may be required. The primed surface should be covered with Epicon Mortar between 15 minutes to 3 hours, whilst the primer is still tacky.

## Epicon Tack Coat 'H' Technical Information

Working Time	20 Minutes
Coverage	3-4 m <sup>2</sup> /kg

## Mixing

It is recommended that a suitable forced action mechanical mixer be used. The Epicon Mortar base and hardener components should be thoroughly mixed in the base container.

In cold conditions it will greatly aid mixing if the materials are stored in warm conditions.

Once the base and hardener are thoroughly mixed they should be transferred to the mechanical mixer and the aggregate added slowly. Once all the aggregate is added mix thoroughly for 3-4 minutes until a homogenous mix is obtained.

## Application Instructions

If formwork or shuttering is used a suitable silicone or wax release agent should be used to avoid the sticking of the mortar. Once mixed the Epicon Mortar should be applied by either a steel trowel or float, working the mortar into the primed substrate whilst the primer is still tacky. The surface can then be brought to the required finish using a steel float after the mortar has been well compacted. Finishing is simplified by wiping of the trowel face using a cloth dampened with Nuwash. On thicker sections the material should be compacted in layers, not exceeding 25mm. All tools and equipment should be cleaned immediately using Nuwash.

## Packaging

Epicon Mortar is packed in 25kg units (12.5 litres).

Epicon Tack Coat 'H' is packed in 0.25kg and 1.0kg units.

## Storage

The shelf life is 12 months when stored unopened in dry, normal conditions and away from direct sunlight. Protect from frost.

## Health & Safety

Product Safety Data Sheets (SDS) are available from Nufins. SDS sheets are provided to help customers satisfy their safe handling, use and disposal needs as well as assist with any conformance requirements made locally by health and safety regulations.

SDS are continually updated to provide the latest information to our customers. We therefore recommend contacting our head office to obtain the most recent and accurate SDS before handling and using any product.

## Limitations

Do not apply below 5°C. At low temperatures below it is necessary to aid curing by the use of tenting and warm air blowers.

Minimum compacted thickness is 4mm.

## Disclaimer

The information contained herein is to the best of our knowledge true and accurate and is given in good faith but without warranty. The user will be deemed to have satisfied themselves independently as to the suitability of our products for their own particular purpose. In no event shall Nufins be liable for consequential or incidental damages.

Users must always refer to the most recent issue of the Technical Datasheets, copies of which will be supplied on request.

## Technical Support

Through our technical department and laboratories we can offer a comprehensive service to specifiers and contractors. Technical contacts are available to provide further information and arrange demonstrations.