

Epicon Mortar

Description

Epicon Mortar has been designed to comply with the requirements of EN 1504 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 & metal
- Provides an anti-slip surface & excellent abrasion resistance
- Ready for trafficking same day
- Resistant to a wide range of chemicals
- Tolerant to road salts & freeze-thaw
- Tolerant to damp surfaces
- Suitable for depths up to 150mm
- Non-shrink & Grey in colour
- Stronger than concrete within 24 hours

Applications

- Repair of worn & damaged concrete floors and stairs
- Repair of spalled expansion joints
- Small & large area screeding
- Repair of concrete or asphalt roads & runways

Technical Information

Working time:	45 minutes
Full cure	7 days
Coverage	2 m ² per 20 kg @ 5 mm
Minimum thickness	4 mm

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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 sound, clean, and free of oil, grease, chemical contamination, old paint and loose debris. They should be free of standing water and be preferably dry.

A stronger repair will be achieved when using Epicon Mortar if the perimeter edges of defects are cut square by chisel, angle grinder or similar tool.

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



Technical properties of Epicon Mortar

Properties	Standard	Performance Requirements	Declared Value
Appearance			Grey Resinous Mortar
Chloride-ion content	EN 1015-17	≤0.05 %	<0.05 %
Aggregate size			Max. 2 mm
Layer thickness—minimum			4 mm
Working time @ 23°C			45-60 minutes
Hardening Time @ 23°C			60-150 minutes
Density			1950-2100 kg/m ³
Application temperature			5°C to 35°C
Compressive strength @ 23°C	EN 12190	≥25 MPa	65 MPa @ 24 hours 68 MPa @ 48 hours 70 MPa @ 3 days 75 MPa @ 7 days
Compressive strength @ 10°C	EN 12190		35 MPa @ 24 hours 64 MPa @ 48 hours 65 MPa @ 3 days 72 MPa @ 7 days
Compressive strength @ 5°C	EN 12190		26 MPa @ 24 hours 59 MPa @ 48 hours 63 MPa @ 3 days 65 MPa @ 7 days
Tensile strength	BS 6319-7		13 MPa
Flexural strength	BS 6319-3		23 MPa
Modulus of elasticity in flexure	BS 6319-3		20 GPa
Modulus of elasticity in compression	EN 13412	≥15 GPa	18 GPa
Adhesion - concrete	EN 1542	≥1.5 MPa	≥2.0 MPa
Adhesion after freeze/thaw (50 cycles with salt)	EN 13687-1	≥1.5 MPa	≥2.0 MPa
Adhesion after thunder showers (30 cycles)	EN 13687-2	≥1.5 MPa	≥2.0 MPa
Adhesion after dry cycling (30 cycles)	EN 13687-4	≥1.5 MPa	≥2.0 MPa
Skid resistance	EN 13036-4		Class 1
Carbonation resistance	EN 13295	$d_k \leq \text{ref. concrete}$	Passes
Capillary absorption	EN 13057	≤0.5 kg/m ² .h ^{0.5}	≤0.5 kg/m ² .h ^{0.5}
Cracking tendency	Coutinho Ring Test		No cracking after 180 days

Technical data shown are statistical results and do not correspond to guaranteed minima.

Tolerances are those described in appropriate performance standards.

All testing was conducted at 23°C under laboratory conditions, unless otherwise stated.

Priming

Prepared substrates should be primed with Epicon Tack Coat H. Pour the contents of the Hardener into Base container and mix thoroughly by spatula or mechanically. The mixed material should be applied by brush, worked into the surface. On porous surfaces a second coat may be required. Primer tack life is 15 mins to 3 hours.

Mixing

Mixing will require a slow speed drill fitted with an appropriate 80mm paddle, as well as a suitable forced action mechanical mixer.

In low temperatures, the materials should be stored between 10°C and 20°C in order to assist mixing and application.

Pour the entire Hardener component of Epicon Mortar into the Base container and mix thoroughly by drill and 80mm paddle. Once Hardener and Base have been thoroughly mixed they should be transferred to the mixer drum and the supplied bag of aggregate added slowly whilst the drum is rotating. Once all the aggregate is included, continue mixing for 3-4 minutes till a homogenous mortar 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 Mortar should be applied by wood or plastic float, pressing firmly to force the mortar onto the substrate, ensuring maximum distribution of resin/hardener at the substrate interface. It is vital to ensure that full compaction is achieved throughout the full depth of the mortar.

After the mortar has been compacted and brought to the required level, the surface can then be finished as required using a steel float. Finishing and closing the surface is simplified by wiping of the float face using a cloth dampened with Nuwash. Nuwash should not be applied to the float by sponge, nor poured directly onto the mortar.

Cleaning

Mixing equipment and tools should be cleaned immediately after use and frequently through the day to avoid product build up, using Nuwash.

Packaging

Epicon Mortar is available in 20kg units (10 litres).

Epicon Tack Coat H is available in 0.5kg and 1kg 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

The minimum compacted thickness for Epicon Mortar is 4mm. Do not apply below 5°C. In low temperatures, the materials should be stored between 10°C and 20°C in order to assist mixing and application. In temperatures below 5°C it is necessary to assist curing by the use of tenting and warm air blowers. Please refer to Nufins technical department for further advice.

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.