

Nupatch Bedding Mortar HA104

Rapid Setting Mortar for Bedding Ironwork

Description


A pre-packed, shrinkage compensated, fibre reinforced, polymer modified cementitious bedding mortar characterised by its rapid strength gain which enables work to be carried out with minimum disruption. It is ideally suited for the bedding and raising of manhole frames, fixing of street furniture and as a general purpose rapid setting patch repair mortar. Nupatch Bedding Mortar HA104 has been designed to comply with the requirements of EN 1504 Part 3 Class R4.

Advantages

- Complies with highway standards HA104/09 & DMRB CD 534
- High early tensile strength development
- Rapid setting characteristics
- Low water/cement ratio
- Shrinkage compensated
- Polymer modified
- Fibre reinforced
- Excellent adhesion to dense concrete & steel
- Simple to use, only requires the addition of clean water
- Excellent workability & finishing properties
- Resistant to freeze/thaw cycle
- Low chromate (Cr VI <2ppm)
- Manufactured under BSI QA Scheme ISO 9001, EN 29001
- Complies with EN 1504 Part 3 Class R4

Applications

- Rapid installation of chamber tops & gully tops
- Bedding & raising of manhole frames
- Fixing of street furniture
- Rapid setting of posts, railings, lamp standards, etc.
- High strength patch repair mortar
- Bedding for copings

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EN 1504-3 Concrete repair product for structural repair PCC Mortar (based on polymer modified hydraulic cement)	
Compressive strength	Class R4 (≥45 MPa)
Chloride ion content	≤0.05 %
Adhesive bond strength	≥2.0 MPa
Adhesion after freeze/thaw (50 cycles with salt)	≥2.0 MPa
Elastic modulus	≥20 GPa
Dangerous substances	Complies with 5.4

Technical Information

Water addition	1.75-2.25 litres per 25 kg pack
Density	2250 kg/m ³
Yield	Approx. 12 litres per 25 kg pack
Maximum aggregate size	4 mm

Temp	Usable life	Compressive Strength, MPa				
		2 hours	3 hours	1 day	7 days	28 days
20°C	15 mins	30	35	50	65	70

Tested in accordance with EN 12190.



Technical properties of Nupatch Bedding Mortar HA104

Properties	Standard	Performance Requirements	Declared Value
Appearance			Grey Powder
Mixing water			1.75-2.25 litres per 25kg
Chloride-ion content	EN 1015-17	≤0.05 %	≤0.05 %
Maximum aggregate size			4 mm
Water/cement ratio			0.25
Cement content			>600 kg/m ³
Layer thickness; min / max			10mm to 80mm*
Density			Approximately 2250 kg/m ³
Working time		≥15 minutes	15-20 minutes
Application temperature			5°C to 35°C
Compressive strength @ 20°C @ 2.0 litres per pack	EN 12190	≥30 MPa ≥45 MPa	30 MPa@ 2 hours 35 MPa@ 3 hours 50 MPa@ 24 hours 65 MPa@ 7 days 70 MPa@ 28 days
Tensile strength	EN 12390-6	≥5.0 MPa @ 3 hours	5.0 MPa @ 3 hours
Flexural strength	BS 6319-3		13 MPa
Modulus of elasticity in flexure	BS 6319-3		>20 GPa
Modulus of elasticity in compression	EN 13412	≥20 GPa	≥20 GPa
Adhesion to concrete	EN 1542	≥2.0 MPa	≥2.0 MPa
Adhesion after freeze/thaw (50 cycles with salt)	EN 13687-1	≥2.0 MPa	≥2.0 MPa
Adhesion after thunder shower (30 cycles)	EN 13687-2	≥2.0 MPa	≥2.0 MPa
Adhesion after dry cycling (30 cycles)	EN 13687-4	≥2.0 MPa	≥2.0 MPa
Skid resistance	EN 13036-4		Class 1
Carbonation resistance	EN 13295	$d_k \leq \text{ref. concrete}$	$d_k \leq \text{ref. concrete}$
Capillary absorption	EN 13057	$\leq 0.5 \text{ kg/m}^2 \cdot \text{h}^{0.5}$	$\leq 0.5 \text{ kg/m}^2 \cdot \text{h}^{0.5}$
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 20°C under laboratory conditions, unless otherwise stated.

*For patch repair depths >50mm contact Nufins technical department

1 N/mm² = 1 MPa

1 kN/mm² = 1 GPa

Surface Preparation

Substrates must be clean and sound, hence all grease, oil, dust, loose material and laitance must be removed by broom, vacuum or by scarifying.

When used as a patch repair mortar, the perimeter edges of the defect must be recessed to 10mm minimum.

Thoroughly saturate surfaces with clean water and remove free standing water.

Mixing & Placement

Nupatch Bedding Mortar HA104 should be mixed mechanically with clean water in a forced action mixer. Prior to mixing, wet out the mixer drum and discard water. Repeat regularly, at breaks and meal times.

Add the required amount of water to the mixing drum and then gradually add all of the powder component to the rotating mixer drum. Continue mixing for two minutes to achieve a fully hydrated cohesive mortar which is ready for immediate use.

Work quickly to place the mixed mortar at the desired thickness, allowing for compaction and position the component. Minimum bed thickness 10mm.

Cleaning

Mixing equipment and tools should be cleaned regularly through the day to avoid product build up, using clean water.

Curing

For defect repairs, normal curing procedures should be employed immediately after finishing and precautions taken to avoid frost attack. UV degradable resin based curing membranes should not be used if a subsequent surface coating is to be installed.

Packaging

Nupatch Bedding Mortar HA104 is available in 25kg packs (yield approx. 12 litres).

Storage

The shelf life is 6 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

If applying at 5°C or below please contact Nufins technical department for 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.