

## Hi-Spec Paving Bedding Mortar

### High Strength Hydraulic Bonding Bedding Mortar

#### Description


Hi-Spec Paving Bedding Mortar is designed for bedding of concrete, stone and granite elements. The system is suitable for use on pedestrian or vehicular trafficked areas and complies with BS7533. Hi-Spec Paving Bedding Mortar is based on non-reactive aggregates and low alkaline, shrinkage compensated Portland Cements with selected admixtures to produce a high strength mortar with good adhesion to porous and non-porous surfaces. Hi-Spec Paving Bedding Mortar has been formulated to comply with the requirements of EN1504: Part 3 Class R4 .

#### Advantages

- Single pack system.
- Non-shrink.
- Very high early compressive and flexural strengths.
- Excellent bond strength to a variety of materials.
- Suitable for pedestrian and carriageway surfacing.
- Tolerant to freeze/thaw cycles.
- Easy mixing and application.
- Complies with requirements of BS7533.

#### Technical Information

Water Addition	1.7 to 2.0 litres per 25 kg bag
Typical Density	2250-2350 kg/m <sup>3</sup>
Vehicular Trafficking Times (guidance only)	Summer >15°C 1-2 Days Winter >5°C 3-5 Days
Cure Before Stress	24 Hours
Minimum/Maximum Bedding Thickness	20 - 120mm
Yield	13 Litres (0.013m <sup>3</sup> )

 0086	
Nufins, Kingston House, 3 Walton Road, Pattinson North, District 15, Washington, Tyne & Wear. NE38 8QA 13 0086-CPD-594215	
EN 1504-3 Concrete repair product for structural repair CC Mortar (based on hydraulic cement)	
Compressive strength	Class R4 (≥45 MPa)
Chloride ion content	≤0.05 %
Adhesive bond strength	≥2.0 MPa
Adhesion after freeze/thaw	≥2.0 MPa
Elastic modulus	≥20 GPa
Reaction to fire	Class A1
Dangerous substances	Complies with 5.4

#### Surface Preparation

All substrates must be sound, stable and free from laitance, oil and grease. It is preferable that new concrete slabs should be at least 28 days old as shrinkage is more likely to occur in younger concrete. The use of spray applied curing membranes to concrete slabs should be avoided. If a spray applied curing system has been used, forming a film coating, this should be mechanically removed.



## Technical properties of Hi-Spec Paving Bedding Mortar.

Properties	Standard	Performance Requirement	Declared Value
Appearance			Grey Powder
Chloride-ion content	EN1015-17	≤0.05%	<0.05%
Aggregate size			Max. 2mm
Bed thickness minimum/maximum			20mm-120mm
Working time			30-45 Minutes
Hardening time			4-18 Hours
Density			2250-2350 kg/m <sup>3</sup>
Temperature for application			5°C to 35°C
Compressive strength	EN 12190	≥ 45 MPa	40 MPa @ 24 Hours 45 MPa @ 7 Days 55 MPa @ 28 Days
Modulus of elasticity In compression	EN13412	≥ 20 GPa	>20 GPa
Flexural strength	BS6319-3		5.6 MPa
Modulus of elasticity In flexure	BS6319-3		>20 GPa
Slant shear bond strength	BS6319-4		4.5 MPa
Tensile strength	BS6319-7		3.1 MPa
Adhesion - concrete	EN1542	≥ 2.0 MPa	> 3.0 MPa
Adhesion after freeze/thaw (50 cycles with salt)	EN13687-1	≥ 2.0 MPa	> 2.0 MPa
Adhesion after thunder showers (30 cycles)	EN13687-2	≥ 2.0 MPa	> 2.0 MPa
Adhesion after dry cycling (30 cycles)	EN13687-4	≥ 2.0 MPa	> 2.0 MPa
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

Note: Strengths are based on 1.8 litres water addition.

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

Tolerances are those described in appropriate performance standards.

1 N/mm<sup>2</sup> = 1 MPa

1 kN/mm<sup>2</sup> = 1 GPa

## Priming

Thoroughly wet down concrete substrates and remove excess water prior to placement of mortar or primer. Priming substrates (and the underside of setts) with Nucec Emulsion Primer will increase the bond strength. Asphalt substrates should be primed using Nucec Primer.

## Coverage

Nucec Emulsion Primer: 3-5m<sup>2</sup> per litre

Nucec Primer: 3-5m<sup>2</sup> per kg

## Mixing

It is recommended that a forced action mixer is used for mixing Hi-Spec Paving Bedding Mortar to ensure that the material is thoroughly mixed and fully hydrated.

Wet the inside of mixer drum and drain off excess water. Pour in the appropriate quantity of clean mixing water and gradually add the full contents of the bag. Allow to mix for 1-3 minutes.

Use approximately 1.7 - 2.0 litres of water per bag.

## Application Instructions

Place mixed material onto the prepared substrate, then spread evenly and level to the desired depth with a steel or plastic float. Allow additional depth for compaction by setts, ensuring that the material is laid without voids. Excessive compaction by float is not necessary. Do not allow mixed mortar to stand longer than 45 minutes before placing onto the substrate. Primed pavers and setts should be placed whilst the mortar bed remains wet.

## Packaging

Hi-Spec Paving Bedding Mortar is available in 25kg bags.

Yield 13 litres (0.013m<sup>3</sup>) per bag.

Nucec Emulsion Primer is available in 5 and 25 litre units.

Nucec Primer is available in 0.5, 1.0 and 5 kg units.

## Storage

Store in cool dry conditions.

## 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

Excessive water additions will reduce strengths.

## 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.