

Hi-Spec Paving Bedding Mortar

High Strength Hydraulic Bonding Bedding Mortar

Description

Hi-Spec Paving Bedding Mortar is designed for the bedding of concrete, stone and granite elements. The system is suitable for use on pedestrian or vehicular trafficked areas and complies with BS 7533. Also suitable for use as a general purpose patching or screeding mortar. Hi-Spec Paving Bedding Mortar is based on non-reactive aggregates and low alkaline, shrinkage compensated Portland Cements which, along with selected admixtures, produces 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 EN 1504: Part 3 Class R4.

Advantages

- Single pack system
- Non-shrink
- Very high early compressive & flexural strengths
- Excellent bond strength to a variety of materials
- Suitable for pedestrian & carriageway surfacing
- Tolerant to freeze/thaw cycles
- Easy mixing & 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 ³
Vehicular trafficking times (guidance only)	Summer >15°C 1-2 Days Winter >5°C 3-5 Days
Cure Before Stress	24 hours
Bedding thickness	20 - 120 mm
Yield	13 litres (0.013 m ³)

CE	
Nufins, Kingston House, 3 Walton Road, Pattinson North, District 15, Washington, Tyne & Wear. NE38 8QA 13	
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 for paving applications.

For concrete repair or levelling applications, if a spray applied curing compound has been used, this must be fully removed by mechanical equipment prior to subsequent surface treatments.



Technical properties of Hi-Spec Paving Bedding Mortar

Properties	Standard	Performance Require-	Declared Value
Appearance			Grey Powder
Chloride-ion content	EN 1015-17	≤0.05 %	<0.05 %
Aggregate size			Max. 2 mm
Bed thickness minimum/maximum			20mm-120mm
Working time			30-45 minutes
Hardening time			4-18 hours
Density			2250-2350 kg/m ³
Temperature for application			5°C to 35°C
Compressive strength @ 20°C	EN 12190	≥45 MPa	40 MPa @ 24 hours 45 MPa @ 7 days 55 MPa @ 28 days
Modulus of elasticity in compression	EN 13412	≥20 GPa	>20 GPa
Flexural strength	BS 6319-3		5.6 MPa
Modulus of elasticity in flexure	BS 6319-3		>20 GPa
Slant shear bond strength	BS 6319-4		4.5 MPa
Tensile strength	BS 6319-7		3.1 MPa
Adhesion - concrete	EN 1542	≥2.0 MPa	>3.0 MPa
Adhesion after freeze/thaw (50 cycles with salt)	EN 13687-1	≥2.0 MPa	>2.0 MPa
Adhesion after thunder showers (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
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

Priming

Wet down concrete substrates and remove excess water prior to placement of mortar or primer.

Priming substrates and the underside of paving elements using either Nucem Emulsion Primer or Hi-Spec Paving Jointing Mortar (mixed as a slurry) will increase the bond strength.

Prime conditioned new asphalt substrates using Nucem Primer.

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. Use approximately 1.7 - 2.0 litres of water per bag. Allow to mix for 1-3 minutes.

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 for additional depth, for compaction when paving elements are positioned, ensuring that the material is laid without voids. Excess 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 primer and mortar bed remains wet.

Cleaning

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

Packaging

Hi-Spec Paving Bedding Mortar is available in 25kg bags (yield approximately 13 litres or 0.013m³ per bag).

Nucem Emulsion Primer is available in 5 and 25 litre units (coverage 5-8m² per litre).

Nucem Primer is available in 1.0 and 5 kg units (coverage 3-5m² per kg).

Hi-Spec Paving Jointing Mortar is available in 25kg bags (yield for slurry primer approximately 20m² per bag).

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 application is at 5°C or below please contact Nufins technical department for advice. Materials should not be installed when temperature is at 3°C or below on a falling scale, without frost protection measures.

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.