Technical Data Sheet

BluCem HB30

LIGHT WEIGHT HIGH BUILD MORTAR

BluCem HB30 is a one component cement powder which requires only the addition of water to form a concrete repair cementitious mortar.

BluCem HB30 is a trowellable, easy to apply product suitable for civil engineering applications. BluCem HB30 incorporates light weight fillers and advanced polymer additives to form a cementitious mortar which is low in permeability, dual shrinkage compensating and suitable for architectural finishing.

Application Advantages

- Light weight
- High build
- Easy finishing and long pot life

Lifecycle Advantages

- High durability
- Dual shrinkage compensation
- Superb architectural finishing

About the Product

BluCem HB30 has excellent finishing properties through its use of special polymers and light weight fillers. This allows a long pot-life and maleable consistency of the mortar which ensures that the final finish is accurate and matching existing surfaces. BluCem HB30 is the benchmark for architectural repair mortars and first choice for architectural and heritage repair professionals because of its ease of use and excellent workability.

Application Solutions

- Concrete protection
- Architectural repairs
- Floor repair and topping
- She-bolt hole repair

Project Specification Clause

LIGHT WEIGHT HIGH BUILD MORTAR - The concrete repair cementitious mortar used for this project shall be a one component cement powder which requires only the addition of water to form a durable concrete repair product.
It shall be a pre-blended product that has independent testing to validate the performance outlined in the technical data table on the following pages. BluCem HB30 manufactured by Bluey Technologies or equivalent shall be accepted.

Project Examples

Bridge repair, building repairs, concrete structures, retail outlets, retaining walls, tunnel lining.

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Application Specification

CONCRETE PREPARATION

1.1 All defective host substrate must be removed prior to application. Defective material includes cracked or structurally weakened surfaces and also chloride contaminated and carbonated concrete. A concrete corrosion expert must be consulted for critical projects or structural applications.

1.2 Host concrete must be roughened and aggregate exposed to ensure good bond. Removal of laitance is important to ensuring good bond. Shot-blasting, scarification, mechanical chipping or high pressure water blasting may be used to achieve a recommended minimum CSP3 surface finish. It is important to select a preparation method which is considerate to the application environment, host concrete, and surface finish requirements. The correct balance between roughening the surface and not causing further micro-cracking and damage should be trialled and assessed using adhesion test methods following initial preparation trials.

1.3 All surfaces must be free of dust, oils and surface contaminants. This may require steam cleaning or high pressure water blasting.

1.4 A perimeter edge of at least 10mm depth must be provided around the area for application.

1.5 Priming using BluCem AP10 is recommended. Priming by saturation of the surface using water prior to application is also acceptable. Priming with epoxy primers or other products which prevent vapour transmission is not recommended.

STEEL PREPARATION

2.1 Following removal of all defective concrete, any partially exposed reinforcing bars shall be fully exposed to a depth of 20mm behind the bar.

2.2 If the bar has lost more than 20% of its original diameter then it should be replaced and the Structural Engineer must be consulted.

2.3 Where the original reinforcement is retained it must be cleaned to a standard surface purity of Sa 2.5 for chloride contaminated concrete and Sa 2.0 for carbonated concrete. This is best achieved by wet blasting or abrasive blasting.

2.4 If chloride contamination is present then high pressure wet blasting is the only acceptable method of cleaning. Priming of reinforcement is generally not required.

2.5 If the steel will be exposed to the atmosphere for several days after cleaning then an acceptable form of priming would be to mix BluCem HB30 into a slurry using BluCem AP10 and apply a cement rich coating to the steel surface.

MIXING

3.1 Add BluCem HB30 to potable water in a clean vessel using a high shear mechanical mixer for at least three minutes. Do not mix more material than can be placed in 15 minutes. Add enough water to achieve the desired consistency within the water ratio limits specified in this data sheet.

APPLICATION

4.1 Work small amounts of mixed BluCem HB30 into the primed or dampened surface. Do not exceed 40mm of thickness in any wet layer.

4.2 Roughen the surface between each layer and wait until initial set or all latent heat has dissolved prior to application of next layer.

CURING

5.1 It is recommended that the final surface finish layer is coated with curing compound or otherwise maintained wet for at least three days.

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Product Data

Please refer to Important Notice on following page

Packaging	20kg bags
Water Addition	3.5 - 3.7 litres per 20kg bag
Yield	16.2 litres per 20kg @ 3.6 litres water
Application Thickness	Refer to Bluey Technologies for advice and approval on thicknesses with dimensions exceeding 40mm
Maximum Particle Size	1.2mm

TESTED CHARACTERISTIC	STANDARD	RESULT
Portland Cement	AS3972	Complies
Aggregates	AS2758.0	Complies
Compressive Strength	AS1012.9	3.5 - 3.7 litres water per 20kg Trowellable 10MPa @ 24 hours 23MPa @ 7 days 27MPa @ 28 days
Coefficient of Thermal Expansion	EN 13295	14 μstrain/°C
Chloride Ion Content	AS1012.20	<0.01%
Elastic Modulus	AS1012.17	3.5 - 3.7 litres water per 20kg Trowellable 10GPa
Tensile Strength	AS1012.10	3.5 - 3.7 litres water per 20kg Trowellable 2MPa
Drying Shrinkage	AS2350.13	850μstrain @ 28 days
Electrical Resistivity	Taywood-Warner 4 Probe	20000ohm-cm @ 28 days
Flexural Strength	ASTM C348	4.5MPa @ 28 days
Setting Time	AS1012.18	Initial set - 300 minutes Final set - 420 minutes
Fresh Wet Density	AS1012.18	1450kg/m^3

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