RLA PENAPATCH HB50

High Strength, High Build, Medium Weight
Shrinkage compensated Structural Repair Mortar.

DESCRIPTION:

RLA PENAPATCH HB50 is a high-strength, high-build shrinkage-compensated structural repair mortar.
RLA PENAPATCH HB50 is designed for vertical or horizontal applications.
RLA PENAPATCH HB50 has high ultimate compressive strength and high abrasion resistance. The specially selected cement and polymers in RLA PENAPATCH HB50 provide a mortar with strong adhesion to concrete and masonry on vertical and horizontal substrates with negligible shrinkage.
RLA PENAPATCH HB50 requires the addition of water only.

RECOMMENDED USE:

- High build repairs for vertical, overhead and horizontal repairs.
- Repairs require high compressive strength.
- Repairing damaged concrete panels were structural strength is required.
- High build repair applications 5mm to 80mm for vertical surfaces.
- May be applied in verticals up to 120mm in small pockets or with the aid of formwork.
- Repairs to spalled or deteriorated concrete caused by corrosion of steel reinforcement.
- Repairs requiring low permeability and high resistance to chlorides and carbon dioxide.
- Can be applied up to 120mm in horizontal Surfaces.

FEATURES AND BENEFITS:

- High ultimate compressive strength.
- High build repairs achievable in a single application.
- Low permeability protecting from chloride attack and carbonation.
- High strength and high abrasion resistance.
- Dimensionally stable.
- Excellent workability.
- Shrinkage compensated, allowing for long term dimensional stability.
- Eliminates the need for formwork.
- Shrinkage compensated.
- Can be applied by dry or wet process, achieving high build with exceptional compaction and enhanced performance.
- May be coated with RLA range of protective coatings.
- Exceptional bond strength to concrete Substrates.
- Internal or external applications.
- Pre-bagged eliminates any on-site mixing Variation.
- Easy to use- add water and mix.
- Australian-made.

APPLICATION INSTRUCTION:

Surface and Substrate Preparation-

All surfaces must be free of oil, grease, dust, plaster, paint, and any other contamination that will inhibit the bond.

Any cracked or weakened surface should be removed and repaired to provide a solid foundation.

It is recommended that a minimum depth of 5mm be prepared for large areas to avoid excessive feather edging or skim coating.

Break out the repair area to a minimum of 5mm up to the saw cut edge.

Scabbing or high-pressure water blasting should be used to remove laitance and provide a mechanical key. If any corroded steel is present, remove all loose scale and corrosion/rust deposits. Grit blasting effectively removes corrosion, and all steel, including re-bars, should be cleaned to a bright condition.

Immediately after cleaning the steel, the steel should be treated with RLA ZINC RICH PRIMER. This will stop further oxidation and corrosion.

PRIMING-

CONCRETE/MASONRY: Priming is necessary.

All surfaces must be primed with RLA RENDERGRIP A BONDING AGENT AND PRIMER.

Allow the primer to reach a tacky consistency before applying RLA PENAPATCH HB50.

For very **POROUS** substrates,

Substrate should be pre-soaked with water and excess water removed before the application of *RLA RENDERGRIP A*

For dampness or repairs exposed to occasional or permanent dampness, the substrate must be primed with *RLA EPILOX BINDER.*

STEEL/REBAR: ALL exposed steel and rebar should be primed with RLA ZINC RICH PRIMER.

Remove all loose corrosion deposits on steel. Steel should be cleaned to a bright condition; on completion of cleaning, prime all steel with RLA ZINC RICH PRIMER immediately. Note: care must be taken to avoid contact of RLA ZINC RICH PRIMER with host concrete.

NOTE:

If the RLA RENDERGRIP A BONDING AGENT AND PRIMER dries before the application of RLA PENAPATCH HB50, the RLA RENDERGRIP A must be re-applied and allowed to reach a tacky consistency before the application of RLA PENAPATCH HB50.

If the RLA RENDERGRIP A BONDING AGENT AND PRIMER Is too wet, the ultimate build-up of the RLA PENAPATCH HB50 will be difficult as a slump will occur at the interface of the concrete substrate and repair mortar.

If *RLA EPILOX BINDER.* is used as a primer, the RLA EPILOX BINDER must be tacky, NOT DRY, before applying RLA PENAPATCH HB50.

MIXING:

- RLA PENAPATCH HB50 is ready to use- add the powder to ***3.0 LITRES OF WATER*** and mix using a mechanical forced action mixer with a high-shear spiral mixing paddle.
- DO NOT USE FREE FALL MIXERS.
- Always add the powder to the pre-measured water and mix until a homogenous mix is obtained, which is lump free.
- Mixing typically takes 3-5 minutes.
- Any shorter mixing time will result in an inconsistent mix.
- DO NOT MIX PART BAGS; DO NOT MIX BY HAND
- DO NOT ADD EXCESS WATER.
- ***DO NOT ADD MORE THAN 3.0 LITRES OF WATER.***
- Excess water will reduce the ultimate (final) strength and extend the drying time of the product.
- Additional or excess water will increase the sag and reduce the build-up of the mortar.
- Only mix the quantity of material used within the set time. Discard partially set or hardened material.

APPLICATION:

Apply the mixed material to the prepared surface using a trowel or a gloved hand.

Thoroughly compact the mortar into the prepared and primed substrate and around the exposed steel reinforcement and re-bars.

A smooth surface can be obtained using a steel trowel.

DO NOT OVERWORK THE SURFACE

Spray Application:

RLA PENAPATCH HB50 can be applied using the wet application technique. The mortar is pre-mixed with the required water dosage and then pumped through a suitable nozzle through a delivery hose through a spray gun. Consult RLA for further information.

Low-Temperature Application:

Do not apply at temperatures below and falling.
For all temperatures of 5º C and below, warm water is recommended.

High-Temperature Application:

Do not apply at temperatures above 35ºC as the initial set will commence early, and the product will be difficult to apply. It is recommended that chilled/cold water be used to mix the product.

CURING:

Curing should be conducted by good concrete practice, and RLA recommends the use of suitable curing compound, *RLA CURECON A*, applied according to Technical Data Sheet.

Overcoating with protective coatings-
RLA PENAPATCH HB50 can be over-coated with the RLA range of decorative and protective coatings.
All coatings may be applied over the RLA CURECON A; therefore, removing the curing compound is unnecessary.

TECHNICAL DATA:

Based on Using 3.0 Litres of Water

PRODUCT INFORMATION:	
Colour	Grey Powder
Fresh Wet Density (kg/dm^3)	$2120kg/m^3$
Shelf life	12 months
Packaging	20kg Polylined Bags
Bags per cubic metre (m^3)	106
Application Temp	Min 5ºC-Max 35ºC
Coverage – (Kg/mˆ2/mm	1.85
Water per 20kg bag	3.0 litres
PERFORMANCE DATA:	
FLEXURAL STRENGTH MPa-AS 1012-11-2000	
1 day	5
7 days	7
28 days	8.5
COMPRESSIVE STRENGTH MPa-AS1478.2-2005	
1 day	15
7 days	40
28 days	55

SETTING TIMES 20°C	
Initial	2 hours
Final	4 hours

APPLICATION INSTRUCTION		
	Vertical	Vertical (Deep areas)
Minimum	5mm	5mm
Maximum	80mm	120mm
Youngs Modulus approximately 26GPa Co-efficient of thermal expansion 9-11x10-6/ºC		
DYING SHRINKAGE		
7 Days	< 100 micro-strain	
28 Days	< 350 micro-strain	
56 Days	< 450 micro-strain	
ABRASION RESISTANCE Tested to ASTM CS01-1984 (Tested Abrasion)		
AGE	WEAR INDEX	
28 Days	100	
Standard 40-50 MPa-concrete has a wear index of 71		

PRECAUTIONS:

- Addition of excess water other than specified will lead to extended cure times and low strength development
- If the substrate into which the RLA PENAPATCH HB50 is applied moves or cracks, reflective cracking will occur in the RLA PENAPATCH HB50
- Ensure existing concrete surfaces/ substrates are at least 21 days old before application of RLA PENAPATCH HB50
- Do not apply RLA PENAPATCH HB50 in areas less than 5mm thick; occasional thickness less than 5mm is acceptable only in very localised areas
- In an application where high winds and exposed areas are present, ensure the curing compound is applied after the final trowel
- Protect from direct sunlight/ heat
- Ensure RLA PENAPATCH HB50 does not come into contact with water or rain for a minimum of 24 hours.
- RLA PENAPATCH HB50 should not be used when temperatures are below 5°C and greater than 35°C.
- If RLA PENAPATCH HB50 is to be used in immersed conditions- *EPILOX BINDER* must be used as a primer

SAFETY & HANDLING:

- Do not breathe dust. Wear suitable respiratory protection.
- Use in well-ventilated areas.
- Avoid contact with skin and eyes.
- Wear eye protection and suitable gloves and clothing.
- Do not eat, drink, or smoke while using this product.
- Take off contaminated clothing and wash it before reuse.

The Safety Data Sheet is available upon request.

FIRST AID:

- If poisoning occurs, contact a doctor or the Poisons Information Centre.
- If swallowed, DO NOT induce vomiting; give a glass of water and immediately call the Poisons Information Centre and a doctor.
- For advice or if you feel unwell, contact a Poisons Information Centre: Australia ph. 131126, New Zealand ph. 0800 764 766 or a doctor at once.
- If on SKIN, remove all contaminated clothing immediately and wash skin with soap and water.
- If in EYES, rinse carefully with water for several minutes. Remove contact lenses; if present, then continue rinsing. If eye irritation persists, get medical advice/attention.
- If inhaled, remove them to fresh air, and keep them at rest in a position comfortable for breathing.

WARRANTY STATEMENT:

RLA Polymers guarantees this product against manufacturing defects and guarantees it to be manufactured to our published specifications.
We certify that this product is suitable for use when fully cured and will perform as described in our technical data sheet or other published materials.
RLA Polymers will replace the product free of charge when purchased from any legally verifiable source and where a product is proven to have been stored, handled, and installed according to instructions published on our packaging and within the stated shelf life. The Installation of all materials must be carried out per the relevant Australian Standards.
Warranty doesn't apply if damage, loss, failure to follow instructions, or other circumstances are out of RLA Polymers control.
Sufficient time and access to investigate any complaint must be accorded to RLA Polymers.
The consumer is responsible for any expenses incurred in making a claim.
A claim form can be requested by:

PHONE: 1800 242 931
EMAIL: info@rlapolymers.com.au
MAIL: 215 Colchester Road Kilsyth Victoria 3137 (Attention Customer Service)
WEBSITE: www.rlapolymers.com.au

AUSTRALIAN CONSUMER LAW:

Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality, and the failure does not amount to a major failure. The benefits under our warranty are in addition to other rights and remedies available to the consumer under the law in relation to the goods and services to which the warranty relates.

DISCLAIMER:

All statements and technical information contained herein are based on tests we believe to be reliable, but the accuracy thereof is not guaranteed.
Users assume all risk and liability resulting from the use of the product and must confirm the suitability thereof by their own tests. Conditions of Sale contain a limited warranty against manufacturing defects.