

PRB MINERAL RENDER FINISHES MAINTENANCE GUIDANCE

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Every finish requires some maintenance to keep it looking fresh and clean.

This information will assist in informing you how to care and maintain the finish on your building. It will also answer some questions you might have as you enjoy the benefits of ownership of a render finish and includes maintenance instructions and answers to frequently asked questions about the finish. Please keep this information with your other property documents so you can refer to it should you ever need to.

What every new owner with a PRB render finish needs to know:

Render finishes are one of the most durable finishes you will find. Over time, all finishes benefit from an occasional cleaning with low pressure washing and an approved detergent to remove airborne dust or other atmospheric matter.

The following are some recommendations for maintenance for the PRB mineral render finishes.

Aesthetic performance

As with traditional renders, the aesthetic performance of the render, e.g. discolouration, soiling, staining, algae growth, or lime bloom, is depended on a range of factors such as:

- Type, colour, and texture of surface finish
- Water retaining properties of the finish
- Architectural form and detailing
- Ensuring suitable overhangs to sills, copings, flashings are achieved – Generally this should be 40mm from the face of the render
- Building orientation/elevation
- Local climate/atmospheric pollution

Adequate consideration should be given at the design stage to all the above to ensure that the level of maintenance necessary to preserve the aesthetics of the building is acceptable.

Maintenance schedule

The location of a building will generally determine how much maintenance to the render finish is required. A building located in the countryside where there is less pollution will generally keep clean for many years without any maintenance whereas a building in a built-up area, or next to a road, or which is surrounded by trees will require more frequent maintenance.

It is good practice to carry out regular checks on your building to keep maintenance down to a minimum and to deal with any areas of contamination before it takes a foothold. In general, this only requires a visual check and can be carried out quite quickly. Though it difficult to determine how regular these checks should be, we would suggest checking after the first 3 – 6 months for more polluted locations and every 12 months for less polluted location however these can be amended to suit if more frequent or less frequent inspections are required.

GENERAL INFORMATION

- PRB renders are mineral based materials. They are only compatible with **non – abrasive** cleaning agents that can be used on exterior surfaces.
- Always minimize contact of cleaning agents with the skin, avoid breathing their fumes or vapours, wear goggles, and carefully follow instructions by the cleaning agent manufacturer.
- Cleaning agents should be non-toxic, non-abrasive, non-petrochemical based substances. A simple rule of thumb is if it does not dilute in water **DO NOT** use it. The cleaning agents should be applied using a soft brush. The surface should **NOT** be scrubbed as this will mark the render finish.
- Test cleaning should be carried out on a small inconspicuous area of the finish to ensure that no detrimental effect will occur.
- Cleaning of soiling should begin with dry finishes. If the finishes have been well soaked by rain, lawn sprinklers, etc., the cleaning action may drive soiling deeper into the finish.
- Exception: If a liquid staining substance has not yet dried, efforts to remove it should commence immediately, before it can dry. Begin all cleaning by liberally flooding surfaces to be cleaned with clear, running water and end all cleaning by thoroughly rinsing with clear running water.
- For especially stubborn stains, two applications of cleaning procedure will usually be more effective than one heavier, lengthy application of the cleaning agent. Sometimes leaving a cleaning agent on the surface for a slightly longer time to react with the stain can also be beneficial (carry out a small indiscrete trial first though).
- If a pressure washer is used, always use on the lowest setting first and trial an inconspicuous area.

GENERAL SOILING

Option 1 – Using a soft broom or brush, gently brush the affected area with a solution of strong commercial detergent and warm water.

Option 2 – Pressure wash at a low-pressure setting – Most domestic pressure washers have a maximum pressure delivery of between 110 – 130 BAR and are the best choice for light-duty cleaning. Warm water may be used. Some pressure washers, usually the smaller ones, come with a single adjustable spray nozzle that delivers zero to 60-degree fan patterns. Some brands offer accessory “rotating” or “turbo” nozzles. We recommend that you do not use these. Some may come with a selection of coloured nozzles, choose the fan spray options which are generally; Green: 25 degree spray, White: 40 degree spray or Black: 65 degree spray. The nozzle of the pressure washer wand should be held no closer than 300mm from the surface finish and should commence on the widest fan setting to avoid damaging the surface – **DO NOT** use a setting that concentrates the water into a powerful stream as this will mark the render surface. Always check the nozzle setting is correct for the application and do not concentrate the nozzle in one area as this may also result in damage to the surface. **We recommend you carry out a trial area first to a non-conspicuous area.**

Option 3 – Mix 1/4 cup of Trisodium Phosphate (TSP) to 5 litres of warm water or similar ready mixed products and gently brush the affected area. Rinse thoroughly. Caution: If not fully rinsed off, TSP can become a nutrient source for algae growth. If required treat the area with **PRB ACTI FLASH** – Ensure you read the product data sheet and fully protect adjacent areas before application.

BIOLOGICAL GROWTH ON RENDER

It is not always possible to explain the growth that occurs onto render which generally causes a green discolouration. Sometimes one part of the façade has discolouration, and another part of the same façade does not. For an organism to grow in a certain environment, different requirements such as abiotic (physical

and chemical) and biotic (biological) factors must be fulfilled. Suitable conditions for growth of organisms on façades are certain ranges in temperature and a high moisture level (Relative Humidity). In addition, the surface structure, nutrient availability, pH value, building position etc. might all be influencing factors too. Different organisms have different demands on these factors, and it is a complex interaction of these different factors that decides if an organism can grow in a certain environment. Therefore, a render façade can suffer discolouration from algae or mould growth which is generally nothing to do with the render products or the application but are just unfortunate circumstances beyond the control of PRB Systems Ltd.

CLEANING

PRB finishes are manufactured to give attractive appearance and long service but are not a fit and forget finish as they do require general housekeeping measures to ensure the finish is maintained. Factors beyond PRB control can affect the finish and if left untreated can leave the surface looking stained. One of the most difficult situations for PRB to anticipate is the effect building detailing and local weather conditions can have on a building facade, particularly wet and damp climates which can cause algae staining to form. This is not due to the product or application but circumstances beyond the control of anyone. Some guidance on how to deal with various scenarios is detailed below.

The desired colour of the finish is manufactured into the product and does not require painting for many years but like any building finish staining will occur and if left untreated will stain the surface. The following procedures are suggested to treat the finishes in case of accidental or environmental soiling or minor damage.

Always apply any remedial measure using soft brushes to avoid damaging the surface. **Do not** use anything abrasive on the surface as this could scratch the finish.

Rust stains

Rust stains on render finishes can come from iron or steel construction components e.g. cast-iron gutters, adjacent to the installation or when placed against the finish (always use stainless steel or non-corrosive fixings as even coated screws (e.g. zinc coated) and fixings will cause staining to the finish). To effectively address the staining, its source should be removed or treated to prevent its re-occurrence.

To clean the PRB finish affected by rust stains, use a commercially available metal oxide remover. Cleaning a rust stain from the surface is very difficult to achieve and in general the only way to mask this is to prepare the affected area first, perhaps apply a stain blocker then paint over but this will generally show as a different finish unless a whole area is painted. **Do not** use anything abrasive on the surface as this could scratch the finish.

Wood stains

Tannin or other staining fluids from redwood, cedar, plywood or treated timber can be very difficult to remove once they have penetrated the render. If possible, these stains should be removed immediately. If the stain does not respond to cleaning, the affected area may have to be sealed and re-coated. Please contact PRB Technical Department for possible options. **Do not** use anything abrasive on the surface as this could scratch the finish.

Tar & asphalt material

Like stains produced from woods, tar-like materials can be very difficult to remove.

PRB TECHNICAL GUIDANCE



If the render finish is fully dry and the affected area small, quick action must be taken. Remove any excess residue, taking care not to enlarge the stain. Cold water and/or ice may be helpful in containing the affected area.

Commercial cleaners are available that may be effective in removing the remaining stain e.g. white spirit but ensure this is then cleaned using soapy water afterwards – **do not** use anything abrasive on the surface as this could scratch the finish. If the stain cannot be removed, it may be necessary to seal and re-coat the surface with a PRB compatible coating.

Mildew, Fungus & Algae

For installation of PRB mineral renders in geographic areas prone to microbiological fungus and algae growth, a regular schedule of cleaning is advisable. At the first signs of organism growth, the affected area should be cleaned. At a very early stage this can be achieved with a light power wash. For more infected areas, an application **PRB ACTI FLASH** (take necessary precaution against splashes and read and observe the instruction on the container) may be suitable. Take care on dark colours and carry out a trial sample area first. After cleaning to assist with water repellancy, treat the surface with **PRB HYDROFUGE**. For additional guidance, refer to the **Remedial solution for dealing with mould and stains onto render surface finishes** below.

PAINTING

PRB mineral finishes remain attractive for many years but if desired can be coated with **PRB COLOR SILOCRYL** coloured coating to either freshen up the appearance or to change the colour - A higher performance coating of **PRB COLOR SILOXANE** can also be used. For lime render finishes use **PRB COLOR MINERAL PLUS** as this is a mineral paint compatible with lime finishes and does not alter the breathability of the finish. These or other coatings may alter the texture and sheen of the original finish. This is an especially important point to consider if the paint is covering a scraped textured finish. Due to the nature of these finishes, some of the texture may be lost when coating.

If matching the colour of the existing render, you may need to carry out some colour swatches first as existing aged finishes may have changed from the original colour. Be aware the pigmentation process used in organic and mineral finishes are completely different and therefore there is no cross over colour matching available. Colour matching is carried out by eye and therefore will be a nearest match.

The existing finish should be clean and dry prior to painting. The **PRB** coatings can be applied with a brush, roller, or suitable spray equipment in one or two coats depending on the texture and/or colour of the existing finish.

For single applications using a roller, apply the coating in vertical strokes, overlapping each stroke by half a roller width. For two coats, apply the first coat in horizontal passes and allow to dry. The second coat should be applied at a right angle to the first coat in a similar fashion to a single application. Always check the finish for blemishes or misses to ensure an even finish is achieved.

Ensure the applicator is competent in the specific skills requires when applying a new coating.

PATCHING & REPAIRING

Any occurrence of damage, such as dents, punctures, holes, etc., is best repaired by an applicator with experience in the use of render materials. Regardless how good the applicator is, any repair to a render finish will be seen.

Given the varying circumstances and the variety of damage that can be encountered, you may wish to contact the PRB Technical Department for guidance.

REFINISHING

Mineral render finishes are very difficult to patch in, and any form of repair is likely to be seen. If repairs need to be completed it may be desirable to re-render the affected wall in full.

This type of work should be left to an experienced applicator with prior experience, and we suggest contacting the PRB Technical Department for additional guidance.

FLASHINGS AND SEALANTS

The first notice of water entry into the building should indicate a problem and should be repaired as soon as possible. Render finishes like other wall claddings; rely on flashing and sealants to prevent moisture entry behind the face of the finish. For this reason, it is good practice to periodically check the installation at these key locations:

- Window and door perimeters.
- Expansion joints
- Abutments to dissimilar materials.
- Penetrations, such as around fixtures, hose bibs, outlets, etc.
- Terminations at top and bottom of walls
- Wall and roof line intersections

Repairs to sealant joints may require their removal and replacement. When removing take care not to damage the render.

The sealant manufacturer should also be consulted to ensure the compatibility of the sealants to the surfaces to which they will be applied. Special surface preparation or primers may be necessary.

LEAD FLASHINGS

Always ensure that any lead flashings are treated with patination oil to seal the lead against staining the render system. Ensure you use a special lead sealant, which is generally lead coloured too, as normal silicone sealants will often peel away from the lead.

FIXING BRACKETS, LIGHT FITTINGS etc.

When fixing anything onto the render, ensure you use the correct drill type. For these applications you should use a rotary percussion drill – these are generally defined with a 3-jaw chuck and are far less destructive to the render finish. A rotary hammer drill is a drill that has a ‘hammer’ action as it drills and may also have a ‘hammer-

only' mode with no rotation. These drills are generally far more powerful and are designed for drilling lots of holes into concrete and other harder types of masonry. They are far more destructive on render surfaces and could cause the render to spall very easily – these are generally defined with an SDS type chuck.

1. Drill a hole in the desired location to suit the diameter of the sleeve being used, until the drill reaches the original substrate. Ensure you **do not** use the hammer mode of the drill as this could shatter the render / brick finish.
2. Cut the sleeve at least the same length as the insulation and render system and install into the hole.
3. Drill the hole to receive the desired fixing. The depth of hole and the fixing type may vary subject to the type of building substrate.
4. Install the fixing into the substrate and carefully seal around the edge of the fixing with a proprietary sealant and then apply a further layer of sealant behind the item being fixed around the fixing location ensuring the hole is fully protected from water ingress.

When drilling holes, it is recommended to place a dustpan directly under the drilling location to catch the dust created by the drilling process. This avoids significant masonry dust falling over the render finish which can be difficult to remove. It is also recommended any dust that does get onto the render should be vacuumed off first using a brush attachment then wash off with clean water. Avoid leaving the dust on the surface for a long period as it may stain the finish.

If in doubt, contact a professional or competent person to carry out the work for you or if required contact PRB for further assistance.

REMEDIAL SOLUTION FOR DEALING WITH MOULD AND STAINS ONTO RENDER SURFACE FINISHES

NOTE: Before treating the whole building, always carry out a trial to an area that is less visible to ensure the proposal is suitable and provide temporary protection to plants and other vulnerable items. Ensure all adjacent surfaces, non-render surfaces are protected against splashes etc. No guarantees can be provided by this remedial solution and is only offered as general guidance. If unsure do not proceed.

1. GENERAL REQUIREMENTS

Always start the cleaning process from the base and work upwards. Follow the preparation and application guidance issued on the product data sheets.

Apply **PRB ACTI FLASH** as a saturation coat using a spray, brush or roller to the whole wall area. Leave the applied area for a minimum period of 6 hours to allow the product to take effect. The algae/lichen/moss should turn a light brown colour, indicating that the product has killed the spores.

When the algae/lichen/moss has changed colour and the treatment has taken effect, clean the treated area using a low-pressure power wash and allow the excess water to dissipate and the wall to dry then apply a further coat of **PRB ACTI FLASH** and allow to dry to ensure the surface has been fully treated and all spores have been killed.

PRB ACTI FLASH is designed to kill the algae/lichen/moss and its spores but may not necessarily completely remove the stain, particularly when the surface has an open texture. This is not a failure of the product.

Additional Support Information*

If a stain is still apparent, it may be appropriate to treat any small stains with a diluted solution of 1-part thick domestic type bleach to 6-part water and apply to a small obscured affected area using a small paint brush in a dabbing action. Allow the solution to soak into the area for a period of 5 – 10 minutes then power wash. If this has not removed the stain apply the same procedure but with a stronger solution of 1 to 5, increasing to 1 – 4 then 1 – 3 etc. to new discreet areas until such time the stain has been removed. Once the prescribed dilution has been successful, trial a larger area to ensure the desired result is achieved and then continue to treat any remaining affected areas. If a localised stubborn area is encountered, then apply a stronger concentration to remove but ensure the wall is always thoroughly washed afterwards. Avoid splashing the solution and always wear adequate safety protection.

***Please note: This 'Additional Support Information' is only offered as guidance only and may not have any additional effect or benefit. PRB is unable to offer any guarantees or suitability on the use of bleach products and suggest that checks are made on the product being used direct from the manufacturer before using. Always protect adjacent surfaces.**

Masking

Full masking should be used to give protection to adjacent areas of work, windows, doors etc. It should be removed immediately after finishing.

Carefully remove splashes of material as soon as they happen, using water to avoid the potential of leaving residue marks.

Re-coating

For advice on over-coating an existing render please contact PRB.

Read fully and always take note of any product data sheets and follow the surface preparation and suitability checks in full.

The above information is offered as general guidance only and is not an exhaustive list of applications and situations and may not totally eradicate the staining effects caused by algae.

Frequently asked questions:

1 Should I expect the PRB finish to crack? When should I be concerned with cracking?

Generally, no but buildings can settle over time. The mineral render finish is not considered a flexible finish and sometimes if the substrates they are applied to are brittle or move, the render will produce cracks that match the crack in the substrate. Small hairline cracks do not affect the performance of your wall but will need to be treated. If the building substrate continues to move, then you may need to contact a building surveyor or engineer.

2 My house has changed colour from when it was new: Is this normal?

Most products when left outdoors will change colour over time given changes in temperature and exposure to ultraviolet (UV) light. While traditional render will darken with age, acrylic and siloxane finishes will lighten as composition polymer resins changes with time. This change in colour no way affects the performance of the render, but if desired the render finish can be coated.

3 What is that white powdery substance I have near the base of my render wall? How can I remove it?

This is probably "efflorescence", also known as "alkali". Efflorescence consists of calcium carbonate salts leached from cement-based materials when exposed to excessive, saturating moisture. It can be removed by following the directions outlined previously in the render maintenance section. Taking care to direct lawn sprinklers or other sources of water away from render walls will help prevent it.

4 What is the darker, fuzzy growth appearing along the bottoms of the render walls near my flower beds?
What can I do about it?

Shrubs and other organic materials create ideal growing conditions for these organisms. It can be prevented, or minimized, by eliminating excess moisture. Ensure irrigation systems are not directed against walls and keep plants trimmed back to allow ample light and air circulation. Remove the discolouration by following the directions outlined previously in the render maintenance section.

5 How can I change the colour of my finish?

PRB finishes generally remain attractive for many years of service. However, if desired, mineral finishes can be coated with an acrylic based finish to either refresh or change the colour. It should be accepted that applying a new coating will alter the appearance and sheen of the original finish. This is an especially important point to consider if the paint will cover existing textured finishes. Due to the aggregate size in these finishes, some of the texture will be lost when over coating.

The existing finish should be clean and dry prior to painting. The new coatings can be applied with a brush, roller, or suitable spray equipment. It may be necessary to apply two coats.
they are applied. Special surface preparation or primers may be necessary.

NOTICE

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