

# Care

**Render Care:** a range of products for the external maintenance of buildings and surrounding amenities

### The Render Care range of products

**Render Care** is a range of products formulated for the maintenance of buildings external envelope and surrounding amenities. At the core of the range, **AlgoClear Pro** carries out the essential work of eradicating live contaminants. Other specific marks are identified and treated using the appropriate formulation.



The high purity biocide for the rapid eradication of surface biofilms

On porous renders the cause of discolourations are sometimes deeper under the surface than would appear to the naked eye. **AlgoClear Pro** wets the render deeply by virtue of its surfactant properties and when applied to saturation kills the biofilm deep into the porosity.

**AlgoClear Pro** is a powerful biocidal detergent: It foams on impact and will dissolve grime when brushed. The active ingredient is a high purity high concentration quaternary ammonium. **AlgoClear Pro** does not contain solvents and will not affect silicone additives/sealants/coatings found in modern construction products. **AlgoClear Pro** is recommended by **K Rend**.



The alkali gel for the rapid removal of metabolites and deep discolouration

**MetaClear:** Dark stains are not alive and out of scope for a biocide: **MetaClear** is a gel formulated to dissolve them without impregnation on porous substrates.

**On site:** The gel prevents evaporation of the active ingredient. It has low odour and suitable for use on dwellings. The gel maintains the surface concentration during the process. It allows variations in dwell time and agitation sequences allowing the operative a good control over the procedure.

The gel lubricates the brush and limits the risk of surface abrasion. It does not dribble down a vertical surface. The detergency is achieved through the action of sodium hypochlorite and the sequestration of impurities in the gel. **MetaClear** is fast acting.



**AlgoClear Pro:** when applied to saturation kills the biofilm deep into the porosity



**MetaClear:** dark stains are not alive and out of scope for a biocide



The acidic gel for rust and other marks from metal oxides

**OxiClear** dissolves metallic stains on stone, render, roofing slates etc. It is formulated to be non penetrating. The gel helps maintaining the surface concentration during the process. The active ingredient is an organic acid at a concentration where the risk to people and material is easily controllable. **OxiClear** is also used on synthetic materials: Canvass, GRP, uPVC etc.



**OxiClear: dissolves metallic stains on many surfaces**



The graffiti remover

**GraffitiClear** removes graffiti. A non toxic formulation, safe in use: Non corrosive and solvent free **GraffitiClear** dissolves inks and paints from porous and non porous substrates. Ghost marks are removed with an alkali soap. Fast and easy to use, water rinsable, low odour, non caustic.



**GraffitiClear: dissolves inks and paints from substrates**



Hydrophobic clear matt sealer for elevations under driving rain

A hydrophobic sealant: **HydroClear** is a clear, deep penetrating water repellent with good breathability and UV resistance. It is particularly used on render, on westward elevations or where the design does not make due allowance for overhangs.



**HydroClear: a deep penetrating water repellent**



Grease and oil remover

Stains caused by fatty spills are removed using **OleoClear**. The product is primarily used in amenity maintenance: Car park, bus stations etc. **OleoClear** keeps working for several weeks and has a low hazard formulation.



**OleoClear: stains caused by fatty spills removed**

## First step

The first step successfully cleaning render is determining the type of contamination present at the surface and below. Some contaminants are easily treated with a simple spray (algae) whilst some others will require brushing with the biocide if of biological origin, or a with an appropriate gel: This will apply to stains of fatty origin, wood tannin, metallic oxide run off etc.

Surface characteristics are also important to the procedure. Smooth or deeply textured, porous or non porous, hard or soft. The aggregate cohesion of a render can vary from hard wearing to powdery. The ratio of ingredients and use of plasticisers at the time of application are a probable cause. If left for an extended period under a thick biofilm, the surface is will eventually soften to the point of marking under a low pressure jet.

## Second step

Establish the procedure.

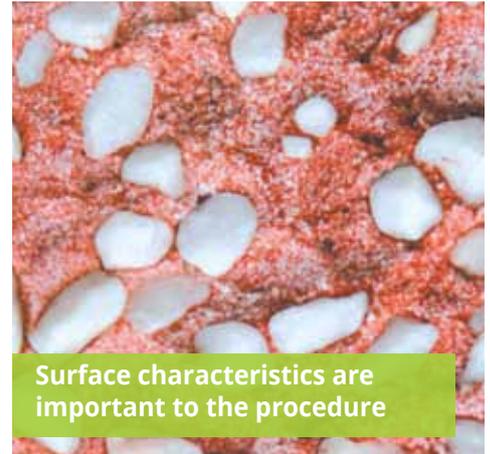
1. The surface is relatively clean, with a green algae sheen. The treatment will consist of a generous spray of **AlgoClear Pro** aiming at impregnating the render sufficiently to store some active ingredient in the porosity: This will ensure a good latency in the effects of the treatment.
2. The surface shows red streaks: As above, the agent is a green algae, and the treatment is the same. The red die (betacarotene) produced by the algae is water soluble and will wash away rapidly under the rain.

If the red patches are dark and established for sometime the render behind is likely to host a fungi taking the opportunity of a UV filter and comfortable moisture level to develop within the porosity. The presence of the fungi will be revealed upon self cleansing when grey patches become visible.

3. The surface has localised black marks. The black paste is often mistaken for the fungi itself. The filamentous fungi develop their hypae within the substrate porosity and extract from it the chemical elements they need to metabolise a dark melamine protecting them from UV light. The process is called biomineralisation. The dark paste is referred to as a metabolite. Filamentous fungi also colonise concrete and stone. Wall copings, window sills, and other incidental features in cast concrete often generate black streaks.

The applicator has the choice to remove the metabolites first, if their presence and location is evident, or after the biofilm has dispersed and return for a finishing visit.

4. The surface has an extensive layer of dark metabolites: The first step will be to remove the metabolites with the alkali gel **MetaClear**. Once the porosity of the render is reinstated, the treatment with **AlgoClear** will penetrate deep enough to kill the mycelium.
5. Prior to painting: If the surface is cleaned in preparation for painting, the work will consist of removing the biofilm from the surface without soaking the render. Brushing with a weaker solution - 1/30 - and light rinsing of the stained foam will complete the preparation work.



Surface characteristics are important to the procedure



1. Green algae to be treated with a generous spray of AlgoClear Pro



2. Red die (betacarotene) produced by the algae causes red streaks



3. Wall copings in cast concrete often generate black streaks

### Self cleansing

Self cleansing is important to the process. It is based on the concept that once dead a biofilm sheds itself. On a roof the rain washes the discolouration within a few weeks. Lichen and other symbiotic life forms breakdown with diurnal cycles and fall. The process is substantially complete within a few months.

On a wall, the amount of rainwater is not always sufficient to have the full cleansing observed on a roof. When the contaminant is an algae, there is enough driving rain for the job but not always with fungi and their dark signature. If left on the surface after the **AlgoClear Pro** decontamination grey marks will breakdown into a fine powder and dissipate over a period up to 18 months. Alternatively, brushing with **MetaClear** will complete the cleaning cycle in a single visit.

### Other techniques

**AlgoClear Pro** and **MetaClear** are sometimes used in conjunction with other techniques. They all have advantages and limitations. Steam at supercritical temperatures is useful to remove a first layer of grime, but can degrade acrylic resins with a melting point only slightly higher than that of the steam.

High pressure is not generally a good idea. If the render is laid over an insulating layer, a local pressure can generate cracks and loss of small debris. This has also been observed on boundary walls with no insulation.

### Wet or dry brushing

Attractive for it's simplicity, brushing will affect soft or low cohesion renders and should be done evenly. If an area where a long vertical streak of black is present (Window cills, coping stone joints) localised brushing can smooth the surface slightly giving the impression of a discolouration under some light conditions.

If uncertain, the use of **MetaClear** will lessen the risk. The soft brush used in the application of the gel is lubricated by the gel and does not abrade the surface. The discolouration is chemically removed rather than mechanically.

### Working on site

**Safety:** Broadly safety will focus on access, and factors arising as a result of using chemicals. For the operator: Gloves and face protection are required, and the use of appropriate brass connectors for the circuitry. In dense urban environments the biocide is applied with a low pressure bar alleviating all risk of splash back or spray drift.

**Ground protection:** Spray droplets will leave a local burn mark on foliage. Protection of delicate plants is best provided by means of a light geotextile fleece covering. If accidental spray reaches an unprotected area, clear water sprinkling will prevent damage. The active ingredient is not systemic.

**Domestic animals:** Incidents are very infrequent, but a concern to the pet owner. The product is used in low concentrations, but ponding and subsequent drying or partial drying of the pond will result in a temporary concentration conceivably bringing a risk to domestic animals.

Access should be restricted until the ground is dry and, if ponding has taken place, rinsed.



## Applying AlgoClear Pro

The appropriate technique allows a complete decontamination of a building. This consists in spraying fast and coarse droplets onto the surface until saturation. Pressure and flow are important to ensure delivery in windy conditions. The product is left to dwell beneath the surface, where it will provide protection and finish the decontamination process.

## Using AlgoClear Pro with brush

When **AlgoClear Pro** is brush applied, the foam resulting from brushing a biofilm is often reddish brown or yellow. When this is the case it needs rinsing by means of a final biocidal spray before drying.

## Using a gel

The **MetaClear** and **OxiClear** are gels formulated specifically for cleaning render and masonry. The viscosity prevents capillary ingress into the substrate. This is particularly important when the active ingredient needs to be kept out: Sodium hypochlorite and acids in particular.

**A gel does not evaporate.** As a result it does not release fumes. This is as important to the building occupiers and neighbours as it is to the operator who would otherwise inhale them for prolonged periods, whether their smell is masked or not.

The concentration of a gel remains constant throughout the cleaning process. This cannot be maintained when a water soluble oxidising agent is used (sodium hypochlorite). As the water evaporates, the surface concentration increases with the associated risk of damage. Controlling the process using oxidising agents is critical to delivering quality.

## Churning and dwell time

Gels do not penetrate by capillary action. It will only dissolve the first layer a few microns deep. To dissolve the full layer of metabolites, one needs to agitate the gel with a brush to renew the active interface. Dwell time has some short effects, but, and not has much as churning the gel.

## Durability

**Time to re-spray.** There is no standard answer to the latency one can expect from the **AlgoClear** treatment. Broadly, the time it took an elevation to collect grime will be the same with the addition of a clean period corresponding to time **AlgoClear Pro** dwells in the render, which would be about two years.

If the elevation is receiving regular driving rain, a decennial application of HydroClear will lower the moisture level in the wall and help maintain it in good condition. The biofilm is likely to return more slowly.

## Remedial work

When the main cause of a render disfiguration is an inappropriate design detail or dysfunctional component, it is sensible to address it. Insufficient overhangs on copings and sills are common and

easily rectified. The **AlgoClear Pro** applicators will make the appropriate recommendations.



AlgoClear  
PRO

MetaClear

OxiClear

GraffiClear

HydroClear

OleoClear



Render  
Care



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