PAREX
Building expertise, together

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TECHNICAL INFORMATION SHEET

Parex Facade Renders
The information given below applies to the Parex through coloured renders Monorex GM and Monorex GF, bright white renders Monoblanco and Blanc du Littoral and grey render Parmurex and Monogris E and the Parex through coloured heritage lime range of renders, Parlumiere Fin, Parlumiere Moyen and grey renders, Parlumiere Clair and Parlumiere STH

The Parex range of through coloured façade renders are single bag products that are suitable for both hand or machine applications to a range of masonry substrates subject to specification requirements to meet specific design criteria's. Several finishes can be achieved using different application techniques. For more information on finishes refer to our Guide to Finishes.

Parex façade renders are totally weatherproof and fully breathable products. All our renders are CE marked and Monorex GM, Monorex GF and Monoblanco also has full BBA accreditation. Due to the special manufacturing processes, the product when applied in accordance with our application procedures will resist the penetration of water but will allow the building to fully breathe. One of the benefits of this breathability is that the masonry does not require the use of weep vents.

Why are weep vents installed?
Cavity walls were introduced during the mid-20th century to deal with leaking, single skin brick wall construction. The bricks used were generally poor quality and therefore were often very porous. To counter this, a gap was created (cavity) and a single skin of brick was then built externally, which became the facade that was exposed to the element. Though this did not and still does not deal with the fundamental issue of leaking brickwork, it was deemed and has become an acceptable approach.

As time has progressed this construction has taken a foothold in the UK. Brick technology has improved and has become less permeable, cavities have become wider to deal with the introduction of insulation but the invariables of mortar used to bind the bricks can and do still allow rainwater to penetrate through the facade and into the cavity. To deal with this issue, weep vents were introduced to vulnerable areas, namely over lintels and cavity tray locations to allow for the water to escape.

These weep vents create stain points on the facade and allow air to enter the cavity, which does by default provide an additional drying process which may assist in drying out the leaking cavity. Weep vents are also deemed to vent the cavity, which they do but they were not designed for this purpose and is not the reason they are installed. Weep vents create a series of cold spots across the facade and during the winter months add to the cost of heating the property.

The majority of mainland Europe and many other countries do not build with cavity walls but construct their buildings as a monolithic construction, with non-cavity walls and apply if required, a weatherproof render coating over it that also acts as a decorative coating and for alternative decorative purposes, may also install bricks slips or tiles or the rendered surface. The slips/tiles apart from providing a decorative finish, does provide a good weatherproof capability but the primary weatherproofing capability is created by the render. A non-cavity construction does not require weep vents and are not used or required in solid wall construction.

Parex has a BBA certification for the Monorex GM, Monorex GF & Monoblanco onto a single block construction that has also been accepted and approved by the NHBC and Premier Guarantee.

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Why are weep vents not required in a Parex rendered wall?
Moisture from within the building will naturally permeate through the whole facade and will not find its way specifically through weep vents. In a simple analogy, ask yourself how does the moisture escape from within the building in the first instance? There are not weep vents in the internal walls to allow the moisture to escape through to the outside. This is because the moisture escapes through the whole building fabric.

Parex facade renders are produced with a blend of high quality raw materials and a range of admixtures e.g. water retention agents, air entraining agent, waterproofing agents, accelerators/retarders, etc. which provide the render with full weatherproof and breathable properties. If the render was waterproof in the true sense, the building could not breathe, moisture would form within the building, causing mould to form and this would then be detrimental to the building structure.

Parex produce specific waterproof renders which can be used on water towers, in basements or on swimming pools etc. We would not term these as breathable renders.

Permeability test
The render test that is carried out, to check how the render performs against rain and weathering effects is called a permeability test. This checks how well the render performs in extreme weather circumstances. The Parex facade renders have been tested to the highest ‘Very Severe’ exposure rating however in the UK there are no standards specific to ‘Very Severe’, so the BBA and other third party can only test to the ‘Severe’ rating.

Breathability
Modern buildings generally depend on a weatherproofing outer layer to keep out moisture, but no render applied to a building should be impervious as this would trap moisture therefore even a modern cement-based render needs to breathe. By contrast, old buildings tend to rely on their permeable nature ('breathability') to allow water absorbed by the fabric to evaporate back out and these would generally receive a softer, more porous lime render.

To understand how the render works, is just the same as understanding how a breathable membrane used in modern outdoor clothing works.

Rainwater molecules are larger than moisture molecules. In clothing the weave of the cloth together with some additives stop the water penetrating through the clothing but allows your body to breathe, preventing a build-up of moisture which causes the clothing to sweat. The same applies with our render through a mixture of the aggregates and with the cement- based render, the additives. Therefore, the rain is prevented from getting into the building, but the moisture can escape through the whole facade and not just through isolated points in the building (e.g. therefore we use the term weatherproof and breathable). A building that can breathe will be a building that will last a long time.

This is the reason we do not need weep vents in rendered facades.

Enhanced weather performance
Apart from increasing the depth of render to provide greater weather performance, Parex offer a product called **Paraguard** which is a clear liquid specially formulated with exceptional hydrophobic properties. The product provides increased weatherproofing performance, continues to allow the building to breathe but assists in keeping the substrate dry by enhancing the rain and moisture resistance penetration. **Paraguard** also allows moisture inside the building to escape into the atmosphere in a controlled way.
Paraguard is ideal for providing enhanced protection to facades or surfaces that are located near the coast, situated in highly exposed locations or where the wind driven index ratings are 'Severe' or Very Severe'.

The hydrophobic qualities also make the surface more resistant to mould, algae and mildew by allowing the water to run down the façade which helps keep the surface cleaner.

General information

The Parex renders, which are manufactured in France, have the benefit of being produced using high quality sands, aggregates & limes (France has an abundance of these high-quality materials and is also where most of the lime is produced). The sands have a very low clay content. Parex does not manufacture its façade renders in the UK because we believe the quality of naturally occurring sands available is not of a sufficiently suitable standard.

Clay content in sand has the potential of increasing the likely hood of mildew and algae attack due to its natural capacity to retain moisture, which prevents the render from drying out quickly, which may then allow dust and dirt particles to stick to the surface, which in turn allows the algae spores to take hold and this can create a green surface. Clay content in the sand may also increase the risk of cracks forming within the render itself. Poor quality sand also has iron ore deposits within it, which can also cause rust stains to form.

Parex façade renders is less likely to suffer from the above conditions due to the use of the high quality natural materials, however it has to be accepted there may be certain conditions beyond a manufacturers control that may cause algae to form on the surface of the render, namely close to large trees which are covering the render from natural light or where the wall may be north facing and perhaps as an example, where a tall adjacent wall is higher than the rendered wall that is blocking natural light. Another factor which is becoming more prevalent during the winter is that we are also suffering from warmer and much wetter winters. This unfortunately can cause conditions which allow algae and mould growth to occur and, in these instances, we advise having a regular maintenance programme in place where cleaning of the façade with a power washer is incorporated.

Lime render is less prone to mould and algae growth due to the higher PH value of lime, making it more acidic which the naturally created moulds and algae does not like.

Maintenance & Repairs

Though Parex facade renders are regarded as “low maintenance”, that does not mean NO MAINTENANCE. Often render can get dirty through circumstances beyond the control of the manufacturer. This is like having a new lawn laid and then blaming the company that did it for moss and weed growth spoiling the lawn after a single season.

If you do not carry out regular maintenance, then renders can suffer aesthetical appearance problems too which only get worse if left untreated. Good maintenance practice should be followed. Should the render begin to get dirty, a light power wash sometimes with the use of detergent will generally bring the render finish back to its original condition. It is not recommended to scrub the mineral facade render as this will generally leave a “scratch” mark on the surface.

In circumstances where the render has been damaged and a repair has been made, it must be accepted there will be a colour difference and a site line particularly at the intersection of the repair and the existing render. Unfortunately, this is unavoidable when using natural mineral based materials.

Despite all necessary precautions in the design and construction of structures, buildings naturally expand and contract due to everyday day seasonal climatic changes affecting the materials the building is constructed from. This generally goes unnoticed as the building copes with this daily shrinkage and expansion but sometimes these daily changes will induce what is termed as a shrinkage crack in the substrate. This generally only occurs if insufficient building design considerations have not been observed,

namely the addition of bed joint reinforcement or movement joints to the recommendations of BS5628 and BS6093.

In the industry, hair line surface cracks are generally not considered detrimental to the structure but are often considered an aesthetic issue. In these instances, a repair can be instigated to the crack by installing Parex Crack Repair filler. (Please note; the colour pigmentation process used in cement renders is different to those used in the Crack Repair material and therefore an exact colour match is not possible).

To provide some uniformity to the colour where repairs have been made Parex can offer a finish called **Colourwash*** and for an increased depth of coating **DPR Coating*** or **Crylane*** which can be applied to the render. This is colour matched as near as possible to the existing render.

Note
The colour pigmentation process used in cement renders is different to those used in paint technology, (as used in **Colourwash*** and **DPR Coating*** or **Crylane***). When these coatings are applied to a wall, due to a range of factors, application, aspect etc, it is very difficult to obtain an exact colour match.

It is therefore advisable to carry out a sample panel to check the colour match first as the **Colourwash*** and **DPR Coating*** or **Crylane*** can be tinted to a huge range of paint shades).

It is recommended to coat a whole wall panel to avoid a site line showing. These products are generally diluted prior to application and if the Parex recommendations are followed will continue to provide a "low maintenance" solution that does not affect the renders performance.

Colour Stability
Most products when left outdoors will change colour over time given changes in temperature and exposure to ultra violet (UV) light. In general, dark render colours will fade more than light colours. This change in colour no way affects the performance of the render, but periodic re-coating using a Parex re-coating product as detailed above will keep your properties exterior in pristine condition.

Parex can offer a UV stabilisation coating called **600 Sealer*** which can be applied to the render after it has dried.

When applied in the correct manner the Parex facade renders will provide a low maintenance and long-lasting finish that has a predicted life span more than 25 years which has been concurred by the British and Irish Boards of Agrément. Monorex & Monoblanco has a BBA certificate ref 06/4400 and an Irish Agrément Board certificate ref 05/0219.

Parex renders carry a 10-year manufacturer's limited warranty.

Do Silicone Enhanced Products Really Work?

Parex do not need to contain any silicone enhancement but it is often assumed that silicone will provide additional benefits which are not the case. We have detailed below some typical questions and answers relating to silicone enhancement.

The following is information about the performance of silicone enhanced products.

1. Silicone: Real Advantages?

- Water beading: you need 1% of silicone or more to achieve this!
- If 1% of silicone was used it would increases the cost of a bag by about 30% or more.

- Other than water beading on the surface there are no other advantages found.

2. Silicone: Mildew & Algae Protection?

- Does Silicone have any effect on mildew or algae protection? No, mildew & algae protection comes from the additions of biocides at the manufacturing plant.

3. Silicone: Surface Performance?

- Silicone has little or no effect on permeability. Permeability is affected mostly by levels of polymer and texture.

- Silicone provides no improvement in resistance to dirt and may in fact show an increase in surface dirt accumulation over time.

4. Silicone: Long term surface performance?

- Silicone enhanced finishes or coatings show a higher rate of surface chalking than non-silicone products.

- Increased levels of silicone can increase cracking and staining of a render finish over time.

Conclusion
Silicone enhanced finishes are generally perceived to have more to do with marketing benefit rather than actual product benefit.

Additional support information
To assist designers and specifiers we also recommend that you refer to our other Technical Information Sheets for additional guidance and support

- Mineral render advice – Finishes, water content
- The importance of creating a good depth of render – permeability
- Wind driven rain index
- BS EN 13914 guidance on assessment of external rendered finishes

*Subject to the product used, always refer to the product data sheet for full guidance on temperature and application guidance.

For additional information, project specific specifications or other Technical Information Sheets, please visit our web site link http://www.parex.co.uk/Render_Systems/Technical_Information_Sheets_and_FAQs
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