

RENDER-GENERAL SPECIFICATION AND GUIDANCE NOTES

The installation of the Parex Render systems must be completed by suitably qualified application companies or ideally Parex accredited applicators.

1. MATERIAL DESCRIPTION

MONOCOUCHE (one-coat) coloured renders from the PAREX range of cement/lime renders is supplied ready to use. Only the addition of clean water is required for mixing.

2. GENERAL REQUIREMENTS

Surface preparation requirements for PAREX renders are the same as for ordinary sand and cement renders; BS EN 13914-1 Code of practice for "External renderings" and BS 8000 code of practice "Workmanship on Buildings Sites" Part 10 should be followed.

Only clean water should be used.

Ideally scaffolding should be independently tied to allow uninterrupted application as patch repairs can be visible. Ensure there is sufficient space (minimum of 150mm) between the inner board and the wall being rendered.

Protection must be provided when applying PAREX renders in rain or other inclement weather. Application should cease in temperature below 5°C or where rapid freezing is considered to be a potential threat.

Cement products should not be applied to substrates which are frost laden or which have recently been subject to prolonged rain.

Do not render onto saturated substrates as this may affect the bond strength and cause lime bloom (discolouration), salts to occur and patchiness due to uneven suction. **(See also item 19 General Information).**

Local weather and site conditions must be taken into account by the applicator before any cement product is applied.

The quantity of material required for a given area should be of the same batch number or if not the different batches must be thoroughly mixed together to avoid shade variations

When applying in hot weather, it is advisable that work coincides with the shaded areas of the building. During longer periods of hot and dry weather it may be appropriate and necessary to apply an even mist spray of clean water to the substrate before application and to surface finish for a couple of days afterwards subject to site and weather conditions

3. SURFACE PREPARATION

All surfaces must be clean, suitably dry, sound and free from anything that may interfere with the adhesion of the material to be applied.

All mortar joints are to be flush pointed and should have a minimum of 7 days curing allowed before the application of the render. During prolonged wet spells this period is likely to increase. If the render is applied onto wet mortar joints there is a possibility of the joint lines showing through the render finish.

On wet or wet patchy substrates or where different materials have been used it is advisable to apply an enhanced key coat first before applying the finishing coat. Allow the key coat to fully dry a minimum of 48 hours before the application of the next coat. This suggestion will assist against the effect of 'block ghosting' and shade variation.

Additional advice is included in section 5. Substrate Application.

4. TEST PANEL & COLOURS

Prior to commencement on site it is recommended that a test panel is produced for inspection by the client, customer, architect etc. so that they may satisfy themselves with the finish, texture, colour and appearance of the render.

Parex can provide colour samples for planning applications or for design consideration. Colour samples are for guidance only and it is important that a test panel is produced on site for final approval. Variation in shade, due to weather, site conditions and method of application should be expected. Colour will vary depending on the type of finish selected. Spray applications particularly a textured application will generally increase the depth of colour and always check the materials are from the same batch but if this is not the case make sure the materials are well mixed.

International, UK and Parex colour reference guides/charts should be considered as indicative colours only and therefore colour matching to these guides or an existing render whether a mineral or acrylic render/coatings is difficult to achieve. A nearest match will be offered by Parex initially for consideration and approval. Ensure the Parex general guidelines, conditions, product data sheets, instructions and precautions are taken into consideration when using coloured renders.

This information is provided as guidance only and it is the individual's responsibility to ensure

that they and the client are satisfied with any colour matching. Parex are unable to offer any colour matching guarantees.

5. SUBSTRATE APPLICATION (CHECK SUITABILITY OF EACH PRODUCT)

MONOCOUCHE render is suitable for most masonry substrates but certain precautions or surface preparations may be required, particularly where different materials are to be found on the same façade. MONOCOUCHE renders are designed as a decorative finish with certain weatherproofing properties. They do not have any structural capability and are liable to crack if the substrate has not been designed or constructed in accordance with good building practices to accommodate potential material movement, either through initial drying out or normal flexural movement. These types of movement will occur in structures due to seasonal and daily weather conditions. Parex are able to offer some design and construction advice to assist both designers and contractor to alleviate some of these potential problems, the outlines of which have been detailed in these general recommendations.

For guidance on crack control, refer to sections 10, 11 and 12.

Construction should conform to BS 5628 code of practice for use of masonry.

Despite all suitable precautions being taken, it has to be accepted that buildings continuously move due to seasonal and daily weather conditions. If poor construction techniques have been applied or insufficient movement/restraint has not been allowed for in the design, cracking of the substrate will occur, generally at the weak points in the building, namely around openings or near corners. This is not the fault of the render.

a. CONCRETE BLOCK

Concrete blocks can generally have the single coat render applied as a one coat application with no key coat required. However due to the range of block manufacturers, please advise Parex which block is being proposed for further specification clarification.

Avoid using different strength concrete coursing bricks or clay bricks. If this is unavoidable, ensure these areas are fully meshed with the TV10 mesh to assist against the potential for differential substrate movement.

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b. LIGHTWEIGHT AIRCRETE BLOCKWORK OR HIGHLY ABSORBENT MATERIALS

On high suction e.g. Lightweight aircrete or terracotta blockwork, first apply a coat of ready-to-use MICRO GOBETIS 3000 or a MONOGRIS E key-coat or a key-coat made up by adding 0.5 litres of 751 LANKOLATEX to the mixing water volume for 30kg bag of PAREX render and allow to dry a minimum of 48 hours before the application of the next coat. (Refer to the individual products data sheets for full application details). Please be aware: There is the possibility of general blockwork cracking if the mortar joint strength is greater than the block strength.

c. IN-SITU CONCRETE & LOW POROSITY MATERIALS

For dense concrete or low suction substrates, apply a key coat of MICRO GOBETIS 3000 prior to the MONOCOUCHE being applied. (Refer to the individual products data sheets for full application details) or alternatively apply using a stiff brush or notched trowel a key coat made up by adding 0.5 litres of 751 LANKOLATEX solution to the mixing water volume for a 30 kg bag of MONOCOUCHE prior to any render application. (See technical data sheets for full application details).

d. BRICKWORK

For brickwork it is recommended that a preparation key coat of ready prepared MICRO GOBETIS 3000 should be applied to the wall prior to the MONOCOUCHE being applied. (See technical datasheets for full application details) or alternatively apply using a stiff brush or notched trowel a key coat made up by adding 0.5 litres of 751 LANKOLATEX solution to the mixing water volume for a 30 kg bag of MONOCOUCHE prior to any render application. (See technical data sheets for full application details). Please check with Parex for further advice.

Ensure that all mortar joints are finished flush with the surface. If this is not the case or there is concern as to the suitability of the substrate then it is advisable to apply the render in two applications with the first key coat using the render mixed with the 751 LANKOLATEX as detailed above or apply a key coat of MONOGRIS E to avoid joint shadows or similar discolouration occurring through the render. Allow the key coat to dry before applying the second coat.

For best results it is highly recommended and good building practice to construct the section of building to receive render using the same type and density of material throughout to minimise the potential for differential thermal movement and different suction that each type of material may offer. As a simple guide – Man made materials such as concrete or lightweight blocks have a natural tendency to shrink, which is

particularly prominent soon after production. Bricks made from natural materials such as clay have a tendency to expand. The above materials in a wall will not only have a tendency to work against each other, which may cause potential cracking but they also have different absorption rates which could cause shading issues.

6. FINISHING APPLICATION

For speed of application and efficiency, the MONOCOUCHE coloured render is designed to be applied using a render spray machine. Nevertheless, the MONOCOUCHE coloured render is also suitable for hand application but must in all situations be thoroughly mixed by machine prior to using. It is not recommended to mix this product by hand.

Scraped Finish

Apply a level, compact 18 mm thick coat, level the surface with a straight edge, spatula or trowel flat. When sufficiently hard, normally between 3-16 hours and depending on the substrate and drying conditions, scrape the surface in small circular motions using a scraping tool, removing no more than 3 mm from the surface. This scraping process must remove any slight imperfections and bring the application to the specified finished thickness.

Each elevation must be scraped at the same stage, as early scraping will result in a slightly darker shade and later scraping in a lighter shade.

The minimum finished thickness after scraping is 15 mm.

After scraping, any dust on the surface should be removed by brushing with a clean soft bristle brush. Always stand back and examine the whole surface for blemishes and unevenness. Errors must be corrected at this stage as rectification later is not practical.

Spray Textured & Smooth Textured Finish

Apply a level, compact, minimum 15 mm thick 1st coat, allow to dry and then spray the textured coat to the desired finish. The Smooth Textured appearance is obtained by pressing a plastic or stainless steel float onto the stiffened but not fully dry Textured coat.

Sponge or Trowel Finish

A sponge or trowel finish to the desired effect is achieved as per normal render applications.

Additional Surface Protection

For additional surface protection and water repellency, apply PARAGUARD AG sealer to the surface of the render.

Cautionary note (This applies to most render applications)

Due to shrinkage differentials, avoid applying a thin base coat render and then applying a thicker top coat application as the shrinkage values of a thicker top coat could cause the render to delaminate from the base coat. The same effect

is also caused by applying a very hard render over a softer base coat.

7. ARISES AND FEATURE STOPS

Arises, head, base and corner details are to be formed using PVC type beads.

Scraped finish renders may, during the scraping process, spall away from the nose of some angle beads. We have found the use of PVC beads is the most successful but bead edges will be visible and must be accepted as part of the finish.

When beads are not preferred, the skill of the applicator is paramount to avoid unnecessary joint lines showing, particularly at the corners. For further advice contact Parex Ltd.

8. LINTELS

Unless advised to the contrary, form the head return to lintels using a corner bead set a minimum 10mm lower than the underside of the steel lintel and then slope back the underside render up to the steel lintel plate and leave a smooth trowelled finish. Please note: Due to the thinness of the lintel plate do not attempt a scraped application as this may result in a poor finish.

If a belcast detail is required to the head of openings, set the bead at least 5 mm below the line of the block and ensure the rear face of the substrate and the bead is flush pointed. **NOTE: Check with the Main Contractor / Specifier what finish they require to the exposed block underside.**

9. ASHLAR DETAILING

As soon as the proposed finish has been completed (generally the scraped finish) and while the render is still green, mark out the ashlar cuts using a chalk line and timber batten or similar and run the cutter along the batten to the required depth. (Ensure the chalk line is removed by the cutting process)

Care should be taken with detailing to avoid highlighting inaccuracies in alignment and levels particularly around windows and doors which occur in the same plane. As guidance, keeping cuts about 50 mm down from the head and 50 mm up from the sill base will assist in disguising inaccuracies along these points and keep ashlar lines away from any defined features such as transoms.

Please note: Where ashlar cuts are required the finished render must maintain a minimum thickness of 12 - 15 mm at the base of the cut.

For guidance on different decorative finishes please contact Parex Ltd.

GENERAL SPECIFICATION & GUIDANCE NOTES FOR ONE COAT RENDERS

10. CRACK CONTROL - WINDOWS & DOORS

To reduce the risk of façade cracking at high stress locations, particularly on new build construction, it is recommended that any likely stress fracture locations, for example around windows and doors and crack inducing points such as weep vents, receive a minimum 2m² section of PAREX TV10 alkaline resistant fibreglass reinforcement mesh. **This material alone will not prevent cracking; it is only included as an additional precaution to well constructed and reinforced substrate materials.**

Where existing masonry has cracked, or where the abutment of two forms of masonry meet e.g. a rear concrete block extension against a brick house, it is recommended that this is first repaired/reinforced using a retrofit bed joint reinforcement solution or by creating a movement joint. When this has been completed, the TV10 mesh should be applied a minimum of 500mm past the line of the cracking in all directions.

The TV10 mesh should not be mechanically fixed but fully embedded and bonded within the render during the initial application/key coat stage.

For guidance please see the **Reinforcement and Mesh Application** detail below.

11. MOVEMENT JOINTS

Movement joints should be introduced into the structure as recommended by the brick/block/substrate manufacturer and in accordance with the guidelines offered under BS 5628 – Code of practice for use of masonry and BS 6093 – Code of Practice for design of joints and jointing in building construction. As a guide these are generally placed at 6m centres and within 3m of a corner. Locations often correspond with down pipe locations. To avoid the use of movement joints the introduction of bed joint reinforcement will be required.

Stop beads/specialist movement joint beads should be applied to correspond with the building movement joints. Movement joints created solely within the render will NOT prevent cracking.

12. BED JOINT REINFORCEMENT

Cracking of the substrate can be significantly reduced by introducing bed joint reinforcement within the mortar. Ideally this should be applied throughout the building during construction and in accordance with the substrate manufacturer's recommendations. As a general guidance, reinforcement is generally placed every 450 mm centres vertically (every 2 blocks) for masonry panels between 6 and 9m. For masonry panels between 9 and 12m the reinforcement should be placed every 225 mm centres (every block course). Please ensure that the reinforcement is continuous, joints are lapped in accordance with the manufacturers requirements, generally 450 - 500mm laps and continued around corners. Specialist corner units are likely to be required (check with the manufacturer).

The incorporation of bed joint reinforcement will enable the designer to increase the distance at which movement joints are required.

Introducing reinforcement at weak points such as above and below window and door openings is strongly recommended as a minimum requirement in all applications as it will greatly assist in minimising cracking to these areas. For guidance please see the

Reinforcement and Mesh Application detail below.

As a minimum we would recommend the use of reinforcement one course above and below all door and window opening and extend the reinforcement a minimum of 600 mm past the reveals though 1000 mm would be preferable. If openings are closer together then continue the reinforcement between in one continuous run.

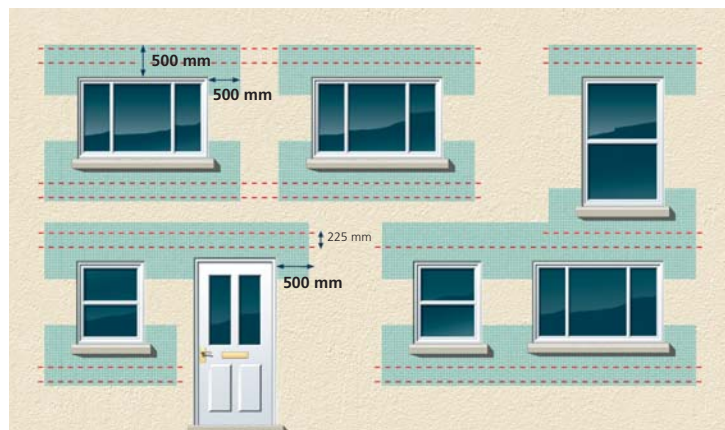
Where the distance between the window/door head and the sill above are greater than 1.2m it is advisable to introduce an additional intermediate course of reinforcement.

Though we are able to offer guidelines for items 10, 11 and 12, we strongly recommend that you also consult the substrate and reinforcement material manufacturers and obtain their technical guidance regarding these matters.

Where a specific block type is specified, we may consult with the manufacturer to obtain additional information where possible to produce a project specific requirement. Generally a 7 N/mm² block is recommended.

Typical Bed Joint Reinforcement and TV10 Mesh locations (minimum requirement)

Extend TV10 mesh min 500mm past openings, above and below the heads and sills.



KEY:

--- Bed joint reinforcement

■ TV10 Mesh

Reinforcement 1 block course above lintel and below sill, with an additional chord 1 block apart. Extend the reinforcement a min of 500 mm past opening or where openings are closer together, create a continuous chord.

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13. OTHER DESIGN CONSIDERATIONS

Gutters and down-pipes

Must be designed to ensure they keep water away from the render facades.

Flashings, overhangs, sills and copings

These should be suitably designed with sufficient overhangs and drips to avoid creating a capillary path, which may cause water to collect in a single location. Overhangs should be of sufficient design to prevent water washing or splashing on to the surface of the render as this could cause staining.

DPC

Rendering should not bridge the DPC and a suitable stop bead should be created at the DPC level. We strongly advise that in normal applications you should not apply render below the DPC level as it will be prone to staining, lime bloom and may also delaminate from the substrate.

Pipes, Cable, Gas Vents and other projections

It is advisable to ensure the render is not placed directly against projecting pipes or gas vents or to bury pipes or cables within the render. For projecting pipes these must be sleeved using an appropriate material that is at least 10mm larger than the diameter of the pipe or projecting item. For gas vents or similar, these should have an appropriate sleeve or receive a stop bead neatly fitted around the vent, leaving an even 5mm gap around. In all instances an appropriate weatherproof sealant such as 613 LANKOCRYL should be used to seal the gap. For pipes and cables running up or along the wall an appropriate Parex access duct should be installed.

Chimneys

If the chimney is a new construction, designed to be used as intended, check it has been correctly lined in accordance with current regulations to suit the proposed fuel. An unlined chimney will not control heat dissipation as effectively and soot will eventually corrode the mortar which could result in the render cracking. This is common on old chimneys. (If required, consult Parex for further advice). In all cases the chimney must receive a sealer coat / bonding coat as described above and be fully meshed with TV10 mesh. For dressed in lead flashings, sit the drip bead directly onto the top edge of the lead, if the lead has not been dressed into the substrate, sit the bead over the lead approximately 20mm. **Do not anchor the bead through the lead.** After rendering, seal the joint between the beads and lead using a proprietary lead sealant. **Do not use silicone sealant.**

The above are not an exhaustive list of recommendations and guidelines but should you have particular design considerations, please contact our Technical Department.

14. SITE PRECAUTIONS

Rendering should only be carried out in appropriate weather conditions, unless suitable precautions are taken

Consideration should be given to the likely

weather conditions to ensure that render coats cure satisfactorily.

The following conditions should be considered:

- Moisture conditions of the background
- Temperature (hot and cold)
- Wind
- Precipitation

When applying the render:

- Air temperature should be at least 5°C and rising
 - The background should be free from frost
 - The background should not be saturated
- At times of the year where adverse weather conditions are likely to occur, it is recommended that backgrounds intended to be rendered are protected from adverse weather at the earliest opportunity.

Before rendering begins, ensure the scaffolding has been positioned to provide suitable access to the whole of the façades. Avoid placing scaffold tubes close to the walls as this causes application difficulties which may result in site lines showing when the scaffold is stripped.

Due to the nature of the render ensure that water is not allowed to splash onto the finished face particularly during the first 48 hours after application as this could cause staining particularly noticeable on strong colours. If in doubt place temporary protection to vulnerable areas.

Ensure that all guttering and temporary down-pipes are in position well before rendering commences. This is essential to avoid wet patches being formed where a concentration of water has collected from an open down-pipe hopper.

15. REPAIRS

One coat renders can be repaired but certain skills and requirements will need to be observed dependent upon the damage that has taken place. Repairs are likely to be visible upon completion.

For assistance contact Parex Ltd.

16. MASKING

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

Carefully remove splashes of material, in particular from glass or aluminium immediately as they may etch the surface and leave a permanent mark.

17. CURING

Care must be taken to protect cement products soon after the application from rapid freezing and heavy rainfall. For other drying conditions i.e. where there is direct exposure to sunlight or drying winds, the render may require to be kept evenly damp for about 3 – 4 days by lightly spraying periodically with clean water. This process is important to ensure complete hydration of the cement and the lime can take place.

18. STORAGE

Cement based products must be stored off the ground, under cover and in dry conditions.

The information that is provided in items 1 - 18 inclusive is offered as general guidance only and is not an exhaustive list of applications and situations.

We would strongly recommend that you contact Parex Ltd at an early stage to provide specific technical advice and guidance.

19. GENERAL INFORMATION

Lime blooming - discolouration of the finish

Lime blooming, is a natural process caused by the migration of soluble salts to the surface of cementitious systems and products. It is generally not harmful and does not affect the strength or durability of the render. Weather is a consideration and damp climatic conditions may cause lime blooming to occur. As such it is advisable to take extra consideration when applying strong dark colour.

Lime blooming is often the effect of poor site control of rainwater from the roof. If a large amount of water is allowed to soak the masonry face for a period of time it may take several weeks if not months to disperse from the substrate causing efflorescence to occur. If this is rendered over before the substrate has dried sufficiently, the render is likely to discolour and lime blooming (discolouration of the finish) will occur. The efflorescence is likely to penetrate through the render and in severe cases; the amount of moisture retained in the substrate could also affect the quality of the render consistency causing it to spall.

Substrate movement

Long expanses of new concrete blockwork masonry with out any control joints may crack, generally around openings as these are the weakest areas. Cracking occurs because the concrete blockwork has a tendency to shrink. To compensate for this shrinkage movement joints must be incorporated within the design. Bed joint reinforcement even to localised areas may assist in preventing this from occurring. If long expanses of masonry are rendered over, even with reinforcement mesh within the render, the masonry is likely to crack at its weakest points. We would recommend that the blockwork is retro-reinforced and movement joints cut into the masonry before the render is applied. Parex can offer advice for retro reinforcing the blockwork.

Different materials

The use of different density materials may cause differential movement in the substrate. This can result in cracks forming as the materials expand and contract at different rates. This is a common fault caused by using either clay bricks or much stronger concrete bricks as coursing materials below windows, at floor levels and closures near corners. If left untreated, these cracks are likely to manifest themselves through the render finish. Different substrate materials should be avoided at all times.

A full range of project specifications for different substrates and systems using Parex products are available through the NBS Scheme or directly from Parex Ltd.

PAREX