

MONOCOUCHE

R E N D E R S Y S T E M S

MONOCOUCHE XF CONSTRUCTION GUIDE

Understanding material selection and movement control

A guide to the best practice when constructing a property which will receive a Monocouche XF through colour render coating.



www.monocouche.co.uk

What is Monocouche..??

Monocouche = One Coat in French

Monocouche render is a type of decorative finish applied to the outside of buildings to provide both decoration and weather protection.

The French term Monocouche has been adopted by the European render industry, in an attempt to distinguish modern renders and their application methods from those of traditional renders and their application methods. It refers to the development of more advanced render formulations that can be applied in one coat to form and cure as one monolithic layer on the elevation of a building.

Monocouche XF.

Monocouche XF is a through colour cement based render system manufactured for direct (one coat) installation onto suitable open faced 7kn - 10kn general purpose concrete blockwork.

The substrate should be constructed with a sufficient movement control design containing bed joint reinforcement and or expansion joints as per the specific blockwork manufacturers guidelines and in conjunction with BS 5628-3 Code of practice for use of masonry and BS 6093 Code of practice for design of joints and jointing in building construction.

MonoMesh XF alkali resistant mesh is imbedded into the Monocouche XF at material junctions and surrounding openings to absorb stress.

The key to a successful one coat installation relies on the selection of a suitable block type, the management and control of materials and workmanship during the construction of the substrate and the specification of a suitable movement control system to ensure that the blockwork performs as it should when constructed.

When can Monocouche XF be applied in "One Coat"..??

To allow a single coat application of Monocouche XF render directly onto block there is detailed guidance that must be followed.

This guidance and the right specification of render system ensures that the correct substrate has been provided in the right condition and just as importantly the movement within these components is controlled to remove the risk of cracking.

Understanding this criteria and describing it clearly at the design and specification stage of a project is the key to avoiding latent defective issues with the exterior render coating.

A "Latent Defect" is a defect which remains undiscovered when the works are initially completed but later appears by way of actual physical damage.

Why do cracks occur..?

Cracks are generally caused through movement and shrinkage within a substrate or when adjoining substrate materials expand and contract at different rates.

If substrate materials are moving behind the cured Monocouche XF this movement may transfer through the render and become apparent in the form of hairline cracking.



Movement, shrinkage and or expansion can be caused by a variety of factors related directly to the building materials, how they are stored and the condition they are in when the Monocouche XF system is applied to them.



It is very important that each project is approached on its own merit.

Never apply a standard render specification to a project without first understanding the specific substrate materials and how they need to and have be installed and then perform.

Fully understanding the specific block or masonry that will be used and how it needs to be supported to address movement is crucial when planning a build which will be rendered.

Material selection & specification..

“One Coat” block selection.

Monocouche XF render has been developed to be applied “directly” to a suitable open faced 7kn-10kn general purpose concrete block with a suitable texture or key.



These highly stable blocks offer sufficient key or grip combined with the resistance required as the Monocouche XF cures.

The rate in which the water is drawn from the Monocouche XF material to the block is also sufficient and ensures a consistent aesthetic is achieved when finished.

Even though a block may have the correct density care it must also have a suitable face to achieve a successful key/bond.

Important: Blocks should be kept as dry as possible prior to the application of the Monocouche XF render, a block that contains more than 12% moisture when the render is applied would almost certainly mean cracking would occur due to excessive shrinkage when drying out and settlement occurs.

Other block, brick or substrate types.

Monocouche XF can also be installed onto lightweight block, brickwork, stonework, and most masonry construction with the support of a layer of MonoBase XF polymer modified base coat and MonoMesh XF installed to prepare in what we advise to be best practice in all circumstances.

The addition of the MonoBase XF and MonoMesh XF layer provides greater resistance to movement within the substrate whilst increasing protection against water penetration and weathering.

This comprehensive approach provides a consistent base layer without impurity onto which the through coloured Monocouche XF coating is applied thus going as far as possible to protect against issues which may be caused due to the condition and behaviour of the masonry substrate.

Bed joint mortar.



A fundamental component in the construction of any property is the mortar used to bind the blocks together.

It is crucial that the mixing or batching of the mortar material is controlled ensuring the same consistency is reached and more importantly the strength of mix is continuous throughout the entire project or build.

To allow stress to flow throughout the structure as it is designed it is recommended that the mortar joints should be weaker than that blocks that it has combined.

If the mortar joints are stronger than the block this serves to restrict any movement within the blocks which may then due to build-up of stress fail, again often in the form of a crack.

A mortar mix such as 1:1:6 using Cement, Lime and Sand is suggested

Bed Joint Reinforcement.

The substrate should be constructed with a sufficient movement control design containing bed joint reinforcement and or expansion joints as per the specific blockwork manufacturers guidelines and in conjunction with BS 5628-3 Code of practice for use of masonry and BS 6093 Code of practice for design of joints and jointing in building construction.

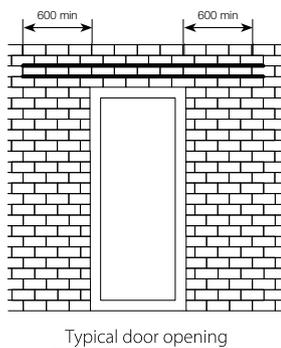
Information and guidance on the required movement control system should be requested from the selected blockwork manufacturer.

Bed Joint Reinforcement and Movement Joints are installed to allow movement with the substrate.

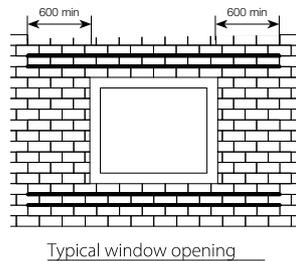
Movement Joints within the substrate are then mirrored within the render coating using a UPVC Expansion Bead.

Bed Joint Reinforcement

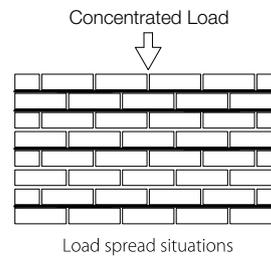
Typical scenarios



Typical door opening



Typical window opening



Movement joints

Guidance as to where these movement joints should occur should be obtained by the manufacturer of the particular block installed at site.

This advice should be used in conjunction with BS 5628-3 Code of practice for use of masonry, BS 6093 Code of practice for design of joints and jointing in construction and the Concrete Block Associations guide to movement control.

As a rule of thumb joints should be installed through the entire wall build up and render coating;

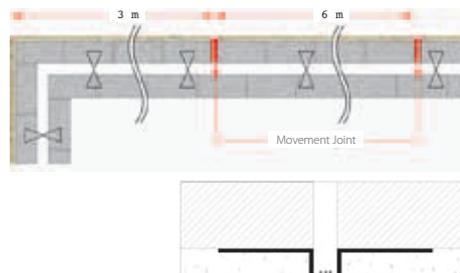
Up to every 6 meters for unreinforced blockwork

Up to 3 meters from corners

Changes in wall loading

Changes in wall height and thickness

Zones within 1 to 3 meters from corners



Material Application..

Monocouche XF and its installation is a specialist undertaking which should be carried out by experienced applicators, below is a list outlining some of the fundamental principles which must be followed during the install process;

1. Mixing of material



Monocouche render must be mixed with consistent volume of water throughout the application and across all areas, this requirement and increased output and efficiency is the reason that we state that application by render machine is best practice however with experience it can be mixed using a cement or paddle mixer and applied with conventional hand (hawk and trowel) methods.

2. Material Thickness

Monocouche render is designed to be applied at 15mm thickness no less.

This thickness allows the correct amount of time for curing, achieves the required resistance to the substrate and protection against water ingress.

3. Weather conditions

Monocouche should only be applied in temperatures between 4c and 30c, caution should be taken that temperatures do not drop below 4c during the evening after an afternoon application session.

Monocouche should never be applied in heavy and persistent rain.

4. Bonding of beads and mesh

Beads and Mesh should only be stuck with Monocouche XF or MonoBase XF only no mechanical fixings should be used and the use of 3rd party compounds such as dry lining adhesive is strictly forbidden.

5. Time of scratch finishing

The correct timing of the scratch finishing is crucial to achieve a consistent and uniform finish. Being able to gauge when this time has arrived comes with experience in using the material.

The time of day at which the materials are applied, current and prevailing weather conditions and daylight hours are all factors when planning the finishing of a particular application session.

Ready to render checklist

The following checklist can be copied and used at site to determine if a particular site is suitable and ready to receive a Monocouche XF coating.



Block selection.

Has the correct block been installed throughout the entire exterior and is the face of this block suitable to achieve a good key?

There should be one type of block throughout the entire substrate, all cut and infill pieces should be from the same block, no bricks or other types of masonry should be present to infill gaps or make-up heights.

If multiple masonry components are present MonoBase XF and MonoMesh XF must be installed to prepare to minimise risk of damage through differential movement.



Mortar Strength.

Has the mortar been mixed to ensure that it is weaker than the strength of the selected block, is it mixed consistently with the same strength throughout?



Bed Joint Reinforcement

Has Bed Joint Reinforcement been installed as per the specific block manufacturer's guidelines?



Expansion joints

Have Expansion Joints been installed as per the specific block manufacturer's guidelines?



Substrate condition

Is the blockwork free from dust and loose material, are the blocks suitably dry across the area ready to receive render?



Protection of elements

Are windows, doors, porch roofs and other vulnerable features protected from overspray during application; are architectural elements such as sills, copings also protected from render staining due to contact during application?



Weather conditions

Are the current and prevailing weather conditions correct for successful application?



Approved Applicator

Is the material being installed as per our guidelines by a fully experienced and or approved installer?

If there is any doubt as to the suitability of a substrate always consult a Monocouche Render Systems technical advisor: www.monocouche.co.uk

Monocouche XF system “best practice”

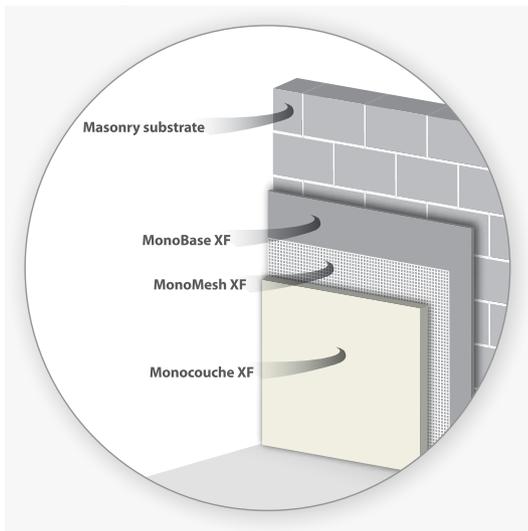
This comprehensive approach provides a consistent base layer without impurity onto which the through coloured Monocouche XF coating is applied thus going as far as possible to protect against issues which may be caused due to the condition and behaviour of the masonry substrate.

Through extensive testing and on site development we have enabled the formulation of the Monocouche XF system components to allow an increased level of movement in the substrate materials.

Best Practice application explained;

1. Bond 15mm PVC Monocouche specific beads onto wet Monocouche XF or MonoBase XF where required.
2. Apply MonoBase XF to the entire area between beads evenly at 4mm thickness.
3. Imbed MonoMesh XF into the entire MonoBase XF coat when wet ensuring that the MonoMesh XF is below the surface of the base material and there is no mesh visible.
4. Comb the MonoBase + MonoMesh layer horizontally leaving now spaces and leave to cure ready to receive Monocouche XF finish.
5. Machine or hand apply Monocouche XF to just past the beads (approx 17mm) then scratch back to finish with the face of the beads (15mm) when sufficiently cured to achieve the desired textured finish.

XF Best practice



MonoBase XF applied to 4mm thickness over masonry
MonoMesh XF imbedded into entire MonoBase XF layer
Monocouche XF finish to face of 15mm UPVC beads

Monocouche XF System Warranty Options

Standard XF System Warranty

The Monocouche XF system is supplied with a 10 year materials warranty covering the performance of the system components when installed at any given site or project. Details of this warranty are explained in our terms and conditions which can be received upon request.

2 Year Defects Liability Warranty

Monocouche Render Systems offer the 2 year defects liability warranty to national house builders and developers where we assume complete responsibility for the external Monocouche XF render at a registered site, project or plot throughout the entire defects liability period.

This comprehensive cover means that should a latent defect such as hairline cracking appear in a building during the builder's liability period the builder or owner of the property would make direct contact with Monocouche Render Systems and we would attend to repair the fault using the MonoMend RXF system absolutely free of charge.

The standard 10 year XF system warranty would also run alongside and remain in place giving new and prospective purchasers a level of confidence in the external render that is not offered elsewhere.

No other render system manufacturer in the United Kingdom is able to offer such an encompassing warranty and it is our complete confidence in the integrity of our best practice system that enables us to do so. Details on the comprehensive 2 Year Defects Liability Warranty are available upon request.



Systems in brief

MONOCOUCHE XF Through colour Cement based render system

Monocouche XF is a through colour cement based render system manufactured for direct (one coat) installation onto suitable open faced 7kn - 10kn general purpose concrete blockwork.

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MONOMEND RXF Acrylic Renovation & repair system

MonoMend RXF is an acrylic based through coloured coating developed specifically for the repair and rejuvenation of existing Monocouche renders.

In most cases the MonoMend RXF system can be applied over the course of a few days using light weight towers or cherry pickers thus removing the need for intrusive scaffolding and minimizing the disruption to those occupying the property and reducing the overall time and cost of the works.

LAF SYSTEM Lightweight Architectural Features

The LAF system is a lightweight cost and time saving alternative to creating and installing decorative architectural features with traditional stonework especially when specified for renovation projects where a commercial building may be reconfigured as apartments or as part of a scheme to improve the external appearance.

The nature of the manufacturing methods and flexibility of the EPS core material enables complete freedom of design with limitless scope for the creation of bespoke window and door surrounds, raised bands, string courses, quoins, corbels, cornices, cills, bands, keystones, pediments and other such features. Existing features can also be matched to ensure a newly built or renovated property is in keeping with those that surround it.

Services in brief

Material Manufacture and Supply

Monocouche Render Systems supply our manufactured render systems direct to the construction industry and private clients within the UK, Europe and Middle East.

Remaining the sole stockist and distributor of our products gives us complete control over delivery and customer service countrywide. Every order large or small is processed and tracked through one single point and therefore understood completely by the same team and followed through until it arrives at site. We pride ourselves in the fastest delivery turn around in the UK and have an impeccable history of ensuring what has been ordered is exactly what is received at site on time every time. Having the total control of all system sales and their subsequent delivery means that we are able to track and oversee their application, where required supporting the end user to pass on the highest quality of finish and service to their respective clients. We offer render system specification to house builders both national and private to ensure that the optimum system is selected and supplied suiting the particular construction scenario, achieving the required finish and reaching the performance required within the regulation. Supporting Architects at design stage allows us to give invaluable input to the functional and aesthetic materials and features selected within the scheme ensuring the combination of these elements works and appears as it should the day it is built and many years after. Our single point of contact approach and dedication to ensuring that our materials and systems are installed as they should be set us above the rest.

Render System Application and Installation

Monocouche Render Systems are able to offer a turnkey system supply and application service to our clients.

Using our national network of "approved" applicators we are able to provide quotations from plans and where possible site surveys carried out by technical representatives. In most cases and subsequent to the physical at site survey prior to works commencing we are able to offer an Insurance backed 10 year Guarantee which fully covers the systems applied within these contracts and the workmanship carried during the installation process. Each and every project carried out by these approved contractors is overseen by a fully qualified and experienced Monocouche Render Systems technical representative to ensure that the respective client receives the level of service and render system finish that is expected. Monocouche Render Systems manage these contractors and remain the point of contact for the clients during the application of the systems, whenever there may be questions and to give assistance and instruction wherever it is required. These contracts begin with the on time delivery of the chosen system direct from our central storage and distribution facility. The system is then applied under supervision by the approved teams and Guaranteed by us to give complete confidence to every client long after the works are complete and onwards throughout the properties life cycle.

Existing Render Repair

The nature of these very specialist systems mean that sadly a large amount of external render has been applied incorrectly without the experience and technical understanding required. Using in house developed materials and systems Monocouche Render Systems skilled repair operatives are able to return any affected exterior to the aesthetic brilliance which was expected at the time of initial installation.

Facade Cleaning and Maintenance

As a matter of fact all building façades are susceptible to the build-up of dirt and other airborne contamination.

Whether this discoloration or staining occurred during the construction period of the property or has simply built up over its life time it can make an otherwise vibrant property look tired and in need of attention. Monocouche Render Systems have developed a fast and cost effective solution to this issue using the latest in Dyna Jet and chemical technology.

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The information within this document is offered as a general guide only.
It is strongly advised to consider each application scenario within its own specific set of conditions and environment.
Monocouche Render Systems accept no responsibility for the conditions of usage and labour involved in the application of this system.
Testing and approval of the system is the responsibility of the end user and should be carried out before going forward.