BUILDING TRUST

TECHNICAL INFORMATION SHEET

Mineral Renders: Substrate preparation, water quantities and finishes

Advice prior to applying render to walls - all substrates including EWI systems where applicable

Prior to applying the render, always check all substrates for suction by splashing water onto the surface of the elevation going to be worked on. If the water drips down the wall, the substrate has little or no suction. If the water absorbs immediately into the substrate then the substrate has high suction. When the above two scenarios are experienced it is likely that the surface will need priming with **Micro Gobetis 3000** for or Fixopierre**.**

*Some products can be enhanced with **751 Lankolatex*** as an initial scratch / key coat which can assist against lime blooming and in some instances, may then eliminate the need for **Micro Gobetis 3000*** to be used. Check the render product data sheet for more guidance or when issued, the Sika specification.*

Check the Sika specification and product data sheet as this will provide the exact requirements, or if in doubt, contact the Sika technical department.

When applying an External Wall Insulation (EWI) system using the Kingspan phenolic board and prior to applying the base coat, the insulation board will need priming with Micro Gobetis 3000*. To reduce initial suction, it is recommended to brush the surface of the insulation board with water first before applying the Micro Gobetis 3000*.

It is advisable to apply the EWI render system to a cool insulation surface e.g. avoid a surface that has been exposed to the sun for a period of time. This is because the heat in the insulation will cause the render/adhesive to cure too quickly.

In the summer months or on hot days, always work on cool walls i.e. working on the opposite walls to the direct sunlight e.g. in the shade and follow the shaded walls throughout whenever possible. If this cannot be achieved, protect walls from direct sunlight, strong drying winds, frost and rain soon after application.

For more detailed information on hot weather applications, refer to the Technical Information sheet: Hot weather working - General guidance.

In the winter months the potential for very wet walls and freezing conditions will also need to be considered prior to applying the render system. Render should never be applied to a frozen substrate and the temperature should be 5° and rising before application should begin. Always protect newly applied render from freezing conditions particularly during the initial cure after application.

For more detailed information on cold weather applications, refer to the Technical Information sheet: Cold weather working - General guidance.

Applying render to wet walls could cause the effect known as ‘block ghosting’ or lime blooming. This is when the block joint effect shows through the render finish, either when the wall is dry or after it has rained. This is caused because:

1. The wall was wet when the render was applied
2. The render is too thin
3. The masonry joints are recessed or raked out
4. The mortar used to bond the masonry is of a weak consistency
5. The mortar joints haven’t had enough time to cure after construction of the masonry

Water quantities for pump or hand application of bagged products

Below is a list of recommended water contents, per bag, for our standard products:

• Maite*	5.1 litres
• Parmurex*	4.5 - 5.4 litres
• Monogris E*	6.5 - 7.5 litres
• Monorex GM*	6.9 - 7.5 litres
• Monorex GF*	6.9 - 7.5 litres
• Monoblanco*	6.0 - 6.5 litres
• Blanc Du Littoral*	4.7 - 5.3 litres
• EHI GM*	6.9 litres
• EHI GF*	6.9 litres
• Parinter*	5.5 - 6.2 litres
• Parlumiere Clair*	5.4 - 6.6 litres
• Parlumiere Moyen*	6 – 7 litres
• Parlumiere Fin*	6 – 7 litres

Application Finishes

Scraped Render or Scratch Render finish (may also be known as Scratch Plaster)

For most traditional masonry substrates in sheltered, moderate and severe exposure zones, the render is generally (subject to the desired finish), an 18mm applied one coat (monocouche) render finish. This can be applied by machine, or as a two coat/pass, hand applied wet on wet application, which is taken up slightly to level using a Darby (a straight edge with 2 handles attached for ease of use), straight edge or spatula. For very severe exposure zones, the render is generally (subject to the desired finish) applied to an initial thickness of 23mm.

For a **PAREXTHERM** Mineral render system using **EHI GM*** or **EHI GF*** the render is generally (subject to the desired finish) applied at 13mm. For very severe exposure zones the base coat of this system is increased.

Once almost dry (this is where an applicators experience counts) and to commence creating the 'scraped' effect, take off the initial surface with an aluminium 'I' or 'H' bar in vertical up and downward scraping actions to remove high spots and to create a flat surface. This action is by far the best way to provide a level surface and assists in eliminating surface blemishes. The final 2mm to 3mm is then removed with a scratching or scrape float tool (with 6 - 8mm teeth) in a light circular motion to create a 15mm textured finish, 20mm for very severe exposure zones and 10mm onto a **PAREXTHERM** Mineral render system using **EHI GM* or EHI GF***.

Once completed, stand back and check for any 'misses' which often look like 'white marks'. These will need to be removed at this time (before final curing) using the scraping tool. Failure to do so will result in these white marks showing through when the render has dried.

After scraping, vertically brush the surface downwards with a soft broom to remove any grit particles sitting on the surface and leave to fully cure. (Take care not to leave brush marks in a soft render surface as these will show in the render finish). Sika has some products which are available in 2 types of finishes classed as GM or GF, providing a *medium scrape* and *fine scrape* finish.

There are generally a variety of different size and types of scrape or scratch floats which are available from a range of suppliers. They are normally available in three depth sizes, 6, 8 and 15mm teeth. For a *medium scrape* finish, use an 8mm toothed float. For a *fine srape* finish, use a 6mm or 8mm toothed scrape or scratch float depending on hardness of the material. Should the surface be left to dry too hard it may be possible to use a 15mm toothed trowel to open the surface and then revert back to the 6 or 8mm toothed trowel to complete. If the scraping procedure is rushed, started on a soft surface or left too late to a very hard surface, it can cause surface blemishes known as tram lines and will create a poor finish and thus spoil a good application.

For additional information also refer to the Technical Information sheet – What causes holes in my mineral render finish.

Smooth render finish (Stucco)

A 15mm applied, 20mm for very severe exposure zones, (10mm onto a **PAREXTHERM** Mineral render system using **EHI GF***), one coat (monocouche) render finish applied by machine, or as a two or three coat/pass, hand applied wet on wet application, levelled out using a serrated straight edge, spatula, or Darby (a straight edge with 2 handles attached for ease of use) to aerate the surface.

Indents are filled in with the surplus materials taken off with the straight edge. It is then left to take up its initial set, and whilst still workable, is floated with either a wooden or plastic float, if needed, and finished in an almost dry condition with a sponge float to leave an even and smooth aesthetic finish.

Alternatively, once it has reached an initial dry finish, it can be trowelled with a stainless-steel trowel to achieve an even smoother polished finish. Left to cure for 7 days or more it can be used as a backing or base coat for acrylic, siloxane or silicane coating applications (Parex Revlane+ Silicane finishes) in a variety of styles and aggregate sizes.

Please note: Over working the finish will bring the 'fats' to the surface, causing a slurry effect which may micro crack when curing. This effect is not detrimental to the render system, but may look unsightly. Also, be aware that as the render dries, the water vapour needs to escape via the surface. If the surface has been closed too early in the application by trowelling, there is nowhere for the trapped water vapour to go. Over time the water may form surface bubbles which get bigger as more moisture tries to move through the render, collecting together under the surface. If this occurs the render will generally need to be repaired, as the bubbles will degrade leaving unsightly surface marks.

The problem generally occurs if the render has not been aerated sufficiently with a serrated spatula or Derby first, particularly when the applicator has sprayed the material onto the wall. The same can also occur in walls that have been hand applied but this is far less likely.

For additional information also refer to the Technical Information sheet – What causes holes in my mineral render finish.

Applications using EHI GF* for creating smooth trowel finish on EWI applications

Please note: *If you are considering using EHI GF as a sponge or trowel finish to large areas, please be aware that micro cracking and shade variation may occur. This is not detrimental to the render but does not look aesthetically pleasing.*

On **Parextherm EWI** applications, **EHI GF** is particularly suited for creating decorative bands, plinths, finishing to reveals and ingoes around openings, porches, or other small designated areas.

Dry Dash Finish / Roughcasting / Harling – regional names for the same finish

A 10 - 15mm applied base coat e.g. **Trad-Dash Base Coat*** (or a 3 - 4mm coat **Maite*** or **Maite D*** onto a **PAREXTHERM Marbri** render system or 5 – 6mm for very severe exposure zones), render finish applied by machine, or as a two coat/pass, hand applied wet on wet application, levelled out using a straight edge or Darby.

The dry dash is a traditional hand application technique used throughout the United Kingdom, using dry dash aggregates varying from 3 - 8mm, which are generally cast into polymer modified renders or specialist top coats known as dash receivers e.g. **Trad Dash Top Coat***, **Maite*** or **Maite D***, to create a range of aggregate finishes that can be left in their natural state or can be painted.

Available in many colours and mixes, the backing dash receiver is coloured to blend with the aggregate finish to form a pleasant aesthetic looking finish. It can be left exposed or in some cases patted to leave the aggregates less exposed. Manufactured aggregates such as ceramics, marble and glass are also available and used on more specialised projects, as the supply cost can be greater than for natural aggregates.

The aggregates are applied using a harling trowel to cast the aggregates into the wet receiver coat. It is generally known as dry dashing or wet dashing in England and Wales, roughcasting in Scotland and Northern Ireland and harling in the Scottish Highlands.

Wet- Dash finish (Rough-cast)

Generally known in England and Wales as rough-casting and in Scotland as wet dash.

A 10 - 15mm applied base coat render finish e.g. **Trad-Dash Base Coat*** applied by machine as a one coat, or as a two coat/pass, hand applied wet on wet application, levelled out using a straight edge or Darby. (10mm onto a **PAREXTHERM** Mineral render system using **EHI GF*** only – the wet-dash/roughcast effect can only be achieved using a machine application).

The wet-dash finish can be completed using a pre-coloured top coat finish e.g. **Trad-Dash Wet Dash*** which is cast using a harling trowel.

Alternatively, a traditional wet-dash slurry render of 1:1 aggregates and top coat render is cast using a harling trowel at an intermediate 6mm thick render coat to achieve a lumpy textured finish coat. This process is generally a 3-coat system if hand applied or by using a wet-dash box.

It is generally accepted that this 'traditional' finish will need painting afterwards to achieve an aesthetically desired finish. An alternative finish, using a pre-coloured Tyrolean finish (**Pardeco Tyrolean**), which is a finer textured finish using a specially formulated bagged product, can be applied as above or with a wet box applicator.

Monocouche renders (**Monorex GM*** or **Monorex GF***, **Blanc du Littoral*, Monoblanco***, **Parmurex***, **Monoblanco E***, **Parexal*** etc), can also create a wet dash finish effect using a spray render machine, using a variety of nozzle sizes in a one or two coat pass to create the desired effect.

Bagged render systems have the benefit of being factory batched and pre-coloured and therefore offer consistency and quality, together with a range of colours which will not need painting.

Care should be taken when applying a wet dash finish, as much masking up of non-render areas and building fabric i.e. windows and doors etc. is needed when applying these systems. This finish has become more popular in the UK, since national house building companies have begun using it on their developments.

Ashlar / Rustication Detailing & Marking

When ashlar / rustication detailing is required it is recommended that a minimum depth to the back of the ashlar / rustication cut should be no less than 12 – 15mm for sheltered, moderate and severe exposure zones, to ensure that a minimum weathering performance is maintained. To achieve this depth will require the finished thickness of the main render to be increased to approximately 20 - 25mm, subject to depth of cut and weather performance location. For very severe exposure zones, increase the render depth by a minimum of 5mm subject to the depth of cut being created.

Ashlar marking replicates the effect of ashlar blockwork. This is created in the surface of the render finish using a long 4-6mm diameter stainless steel or sherardized nail bent to shape like a brick striking tool. The effect created is not a cut but just a half round 2 -3 mm indent press into it the moist render surface.

It is a good idea to have a clean water vessel with some washing up liquid in it and wet the nail to help the nail flow over the render surface (similar to using a mastic stick over a mastic/silicone sealant) to create clean lines. Clean and wipe the nail regularly.

General notes

The render thicknesses referred to in this information relate to standard application requirements. When the structure is close to the coast or in a highly exposed location, the finishing techniques do not differ, but the render thickness will be increased. Always check that you have the correct specification or if unsure check with the Sika Technical Department.

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

- The importance of creating a good depth of render – permeability
- Wind driven rain index
- Efflorescence on walls
- What causes holes in my mineral render finish?
- Hot weather working – General advice
- Cold weather working – General advice
- 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 website gbr.sika.com.

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