



[www.firedearth.com](http://www.firedearth.com)

## FIRED EARTH

Fired Earth, Twyford Mill, Oxford Road, Adderbury, OX17 3SX  
Tel: 01295 812088 Fax: 01295 810832 [www.firedearth.com](http://www.firedearth.com)

© AGA Consumer Products Limited trading as Fired Earth. March 2010



Part of the  
**AGA RANGEMaster**  
Group



## Floor Tiling Installation Guide

# FIRED EARTH

## Contents

Substrates	4
Planning	6
Fixing	7
Cutting	8
Sealing	9
Grouting	10
Terracotta and Lubelska Brick Tiles	11
Geometric Tiles	13
Encaustic Tiles	13
Slate Tiles	14
Natural Stone and Stone Mosaics	16
Roman Mosaics	18
Un-Glazed and Glazed Porcelain Tiles	20
Glass Tiles	21
External Floor Tiling	21
Product Selector 1 (Adhesives, Grouts and Additives)	22
Product Selector 2 (Sealing, Finishing and Maintenance)	26
Glossary	28

# Floor Tiling Installation Guide

The purpose of this booklet is to outline the basic principles of installing Fired Earth floor tiles. For more detailed technical information, refer to British Standard BS 5385 Wall and Floor Tiling.

### Important Notes:

Prior to installation please ensure the tiles purchased are suitable for the application and thoroughly inspected. Ensure your tiler is aware of the expected finish of the tiles and there are sufficient tiles for the area. The tiles must be well shuffled by drawing tiles from all the boxes. Dry lay an area in suitable light as a final check before installation.

**No complaints regarding the appearance of the product will be accepted by the company once the tiles have been installed.** For further information or if any doubt exists, please telephone our Technical Department on 01295 814271 for advice prior to commencing any tiling.

We have tested our range of adhesives, grouts and sealants to ensure compatibility with all our tiles (see our Product Selector on page 20-25). Before use, read the instructions on the packaging of Adhesives, Grouts and Sealants very carefully. Keep everything meticulously clean and orderly as work progresses.

# Substrates

---

Careful consideration must be given to the floor surface to confirm that the surface is sound, level, clean, dry, free of dust, grease and any loose material.

Your tiler must confirm the suitability of the subfloor before tiling.

## Sand and cement screeds

When tiling onto a new screed, a minimum period of one week for each 25mm of new screed should elapse to allow the screed to be suitably dry. Further time may be necessary, depending on weather and site conditions. We do not recommend tiling onto anhydrite or fast setting screeds without careful consideration - please contact our Technical Department on 01295 814271 for further advice.

A new screed may shrink as it dries, and this may result in cracks across the screed. If tiles are fixed before it is dry and cracking does occur it is likely that the cracks will appear across the tiles as well. Ensure that the screed is suitably dry and stable before any tiling is started.

Any movement or day joints in the screed must be carried through into the tiled surface with the use of an expansion joint.

## Bumps and hollows in screeded floors

Minor irregularities can be overcome with up to 5mm of Fired Earth Universal

Levelling Compound or Fired Earth Thick Bed Adhesive. If the floor is very uneven, with undulations of more than 5mm, Fired Earth Universal Levelling Compound should be used in conjunction with clean granite chippings.

## Suspended timber floors/Floating insulated floors

Suspended timber floors/floating insulated floors (polystyrene with water resistant chip board over) should be rigid, non-flexing and stable enough to bear the additional load. In order to minimise the damaging effect of lateral movement in the floor surface, it is recommended that the floor is prepared using Fired Earth Fleximat. Our Sales Team will be happy to provide our separate information sheet.

If the suspended timber floor is subject to vertical movement, the floor must be stiffened. Remove flexing by fixing a minimum 18mm, WBP plywood over the existing timber, screwed down at 150mm centres.

If the floating insulated floor is subject to vertical movement the floor must be braced by screwing and gluing WPB plywood to its surface, or removing some of the boards so 'bearers' can be fitted below to provide further support. Seal all the surfaces of the plywood boards with Fired Earth Universal Bonding Agent.

## Other types of floors

Fired Earth would recommend that all existing floor covering and residue adhesives are removed before tiling. However, it is possible to tile over existing tiles provided the surface is completely sound, secure and thoroughly cleaned to remove all contaminants such as oil, wax and grease, using an appropriate cleaner.

Cork and woodblock floors must be removed and any bitumen left on the subfloor should be scraped away and all loose material removed.

Vinyl tiles must be primed with Fired Earth Universal Bonding Agent.

## Damp

Prior to fixing tiles, damp of any nature should be rectified. Consult a specialist if any doubt exists.

## Finished floor level

The finished level of an existing floor will be raised by the maximum thickness of the tile plus approximately 3-4mm adhesive bed. Any resultant discrepancy with the levels of adjoining rooms can be minimised with the use of threshold/reducer strips.

## Underfloor heating

Fired Earth floor tiles can be used over most underfloor heating systems. The heating should be correctly commissioned prior to tiling and switched off during tiling. Once tiled the underfloor heating should be turned on and the temperature increased to 5° per day to the maximum temperature then reduced by 5° per day to

the required working temperature.

Fired Earth Fleximat can be used as an anti-fracture membrane over Fired Earth Underfloor Heating. Our Sales Team will be happy to provide our separate information sheet.

Always use flexible adhesive and grout and provide an expansion gap around all perimeters and abutments. As a general guide, do not tile continuously over areas with a length of over 6 metres and fit an expansion gap to prevent stress building up in the floor. Always fit expansion joints in doorways of adjoining tiled rooms.

## 'Wet' floors

Please refer to our Waterproofing Showers and Bathrooms Installation Guide for further advice.

## Walls

When tiling onto walls with floor tiles, consideration must be given to the weight of the tile and suitability of the substrate.

Our Sales Team will be happy to confirm the weight of any of our tiles.

In general, the following weights apply to the list of substrates, provided they are fixed correctly and sound and stable;

- Plaster – 20 kg/m<sup>2</sup>
- Plasterboard – 32 kg/m<sup>2</sup>
- Timber – 30 kg/m<sup>2</sup>
- Brick/block/render/Tile backer Board – 40 kg/m<sup>2</sup>

Please include in your calculations a 3kg allowance for adhesive and grout.

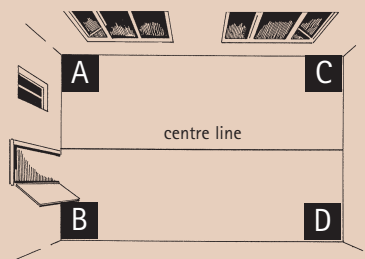
# Planning

Take the time to study the room and plan your work. Tiling usually commences in the corner furthest from the door. If there is more than one door, it will be necessary to decide which is the primary entrance.

Consider how cuts will look against fixed furniture etc. and through doorways. Adjustments may be required to achieve the best results.

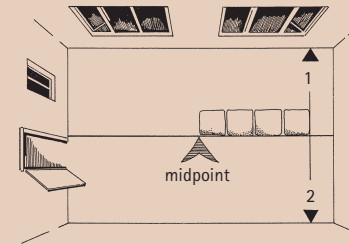
Please note: Where tiles have variable depths e.g. Reclaimed Terracotta the thickest tile including the adhesive should be taken as the approximate floor height increase.

**Step 1.** Mark the centre line of the room from the wall of the primary entrance to the far end. You will need to measure and mark the midpoints of walls A to B and C to D. Join these two points with a taught chalk line and mark.

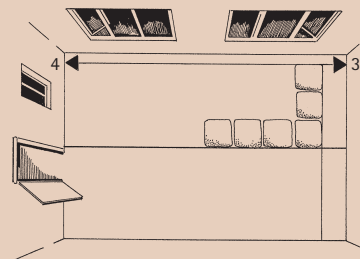


**Step 2.** Mark the midpoint of the room by measuring the centre of the line. From this point, lay down tiles (without fixing them) alongside the centre line, allowing for joints,

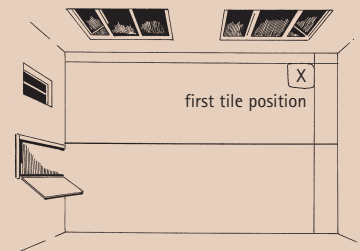
to see where the last whole tile will end. Mark (with string or chalk) a line 1 to 2 at a right angle alongside this last whole tile.



**Step 3.** Locate starting point 'X' by laying down tiles along the new line 1 to 2 in the same way as before, to see where the last whole tile will end. Now mark your side line 3 to 4 at a right angle alongside this last whole tile.



**Step 4.** When tiling commences you should start at point 'X', so check that the lines you have marked make a perfect right angle and the side line runs parallel to the centre line.



# Grout joints

The width of grout joints will vary between 3–12mm. Large joints will be necessary on rustic tiles such as terracotta and slate. Please refer to the Fired Earth price list for recommended grout joints.

Roman Mosaic tiles should be butt jointed (no allowance made for a grout joint) except when used in a shower where a narrow but impervious grout joint will be necessary.

When fitting random sized tiles an area should be 'dry laid' first to establish the optimum joint width. Joint sizes may vary from 2mm-10mm across the floor depending on the mixture of tile sizes used and the pattern.

Mosaic tiles – Ensure that the sheets of mosaic tiles are spaced so that once grouted, no individual sheets can be distinguished.

# Fixing

Before commencing tiling please ensure you are familiar with the important notes on page 3.

Damp tiles should be stored on end in a well ventilated area to dry thoroughly before fixing. This may in particular apply to Natural Stone, Lubelska Brick, Reclaimed Terracotta and Encaustic tiles.

It is important to establish which way the tiles are to be laid before any tiling is started. Make sure the person fitting the tiles knows what the tiles should look like. 'Shuffle' the batch to ensure that any colour and tonal variations are well mixed. Minor chips and blemishes should be expected and are best used for cuts or well mixed into the floor.

Some of our tiles vary considerably in

depth. Where this is applicable, it is important to grade the tiles before installation.

Be certain that the tiles are suitable for the application.

Terracotta, Lubelska Bricks and Slate floor tiles can be irregular or bowed and may require a greater depth of adhesive in order to 'iron out' potential irregularities in the finished surface. Fired Earth Thickbed Adhesive is perfect for this purpose as it can be used up to 25mm in depth.

Using a suitable notched trowel, spread the adhesive to an area of 1 square metre. A 4mm trowel is normally appropriate unless fixing using a thickbed adhesive which would require a large format trowel. 'Butter' the back of the tile with 2mm of adhesive

and place the tile in the starting position as described in the Planning Steps 1 to 4.

When laying thin, machine made glazed, porcelain or quarry tiles to an even surface it may be possible to fix the tiles directly onto a thin bed of adhesive, without having to 'butter' the back of the tile.

Stone or glass tiles are normally fixed with white adhesive to prevent the colour of the adhesive 'bleeding' through. Push the tile home firmly with a slight twisting movement. Place the next tile adjacent to the first, allowing for the grout joint, and so on over the prepared area.

All the tiles should be soundly bedded in the adhesive without any space for air underneath. Be careful not to allow any

## Cutting

---

Due to the thickness and make-up of the majority of Fired Earth floor tiles, it is recommended that either a diamond cutter or an angle grinder is used to cut the tiles. Water cooled diamond cutters are available from tool hire shops.

Please wear suitable protective eyewear and protective clothing when cutting tiles.

Porcelain tiles require high quality diamond blades for cutting.

Drilling holes can be a difficult task without the correct equipment. Fired Earth

adhesive onto the surface of the tiles. Any surplus should be wiped away with a clean damp sponge. Keep the joints between the tiles free of adhesive and wipe away any excess. Once a square metre area has been tiled, another similar area can be prepared and so on until you have completed the floor with whole tiles. Ensure the adhesive is dry then the remaining perimeter area can now be prepared and cut tiles laid. If you prefer cuts can be fitted as the work progresses.

Check the floor level as work progresses with a spirit level and a straight edge. Fixing tiles into sand and cement should be avoided because of the time required for the tiles to dry out and the associated problem of efflorescence.

recommend the use of the ARMEG® range of porcelain drill bits and core drills.

When cutting or drilling the tile, the surface may become wet and dirty. Wipe the tile clean immediately after cutting. Using a water cooled diamond cutter will achieve the most accurate cut.

When using an angle grinder, mark the tile where you wish to cut it, run the cutting disc along the marked surface cutting the tile to at least two thirds of its depth, then the tile can be snapped. Rough edges and chips should be smoothed and finished

with a sanding block or in severe cases, by rubbing the tile edge with a broken piece of another tile.

Roman Mosaic - Metal reinforcing bars are used in the manufacture of border designs and may cause excessive wear on cutting

## Sealing

---

### Pre-cleaning

Some of our tiles will require pre-cleaning before installation please refer to the Product Selector 2 on pages 24-25.

### Sealing

It is important for the correct products to be used when pre-cleaning, sealing, finishing and maintaining your tiles. The products we have selected have been specifically chosen to enhance, protect and maintain your tiles.

Please be aware that any deviation from our recommendations could affect the appearance, capabilities and longevity of your tiling. Please refer to product selector 2 on pages 24-25 for more details of our recommended ancillaries.

Before sealing commences, ensure you have read the specific instructions for your chosen tile detailed in the pages that follow which outline the processes for each product group within our range. Should you have any queries please contact our Technical Department on 01295 814271 who will be happy to answer any questions you may have.

equipment. Care should be taken to ensure that the pattern is correctly matched, particularly in the case of the basketweave design. Small pieces of mosaic can become detached during cutting and should be glued back into place using an epoxy or similar glue.

Some sealants will enhance the colour of our tiles and others will maintain the natural appearance; it is important you are sure the sealant you have purchased will achieve your desired results. If in doubt, seal a single tile to confirm.

All tiles must be clean and dry before sealing otherwise you may seal in dirt or moisture which will impair the final appearance. The process of sealing should be kept meticulously clean and all materials including brushes and cloths etc should be new and unused.

The drying times recommended in the following pages may be altered by the actual site conditions (heat, humidity, ventilation etc). Please refer to the manufacturers' guidelines on drying times for each product.

Fired Earth recommends that traffic across a newly sealed floor is kept to a minimum for the first week as sealants can take a few days to fully oxidise and may not be fully effective during this time.

## Grouting

---

Grouting is the process of filling the joints between the tiles to complete the floor surface. The grout joint protects the edges of the tiles and adds strength to the floor. Grout should be pushed well down into the joints between the tiles so that no air pockets exist and the joints are fully filled. A timber dowel of an appropriate diameter can be used to compact the grout within the joints.

Before grouting can begin it is important that the adhesive used has fully cured, this usually takes between 12-24 hours for Fired Earth Floor Adhesive and 3-5 hours for Fired Earth Fast-set Adhesive. The depth of adhesive, ambient room temperature, sub-floor and porosity of the tile will all affect the drying time. The joints to be grouted should be clean, dry and free of loose debris and excess adhesive.

Adding Fired Earth Flexibond to the grout will increase the flexibility and durability of the grout. Fired Earth Flexibond should always be added to the grout when tiling onto timber floors prepared with WBP plywood, Fired Earth Fleximat, underfloor heating, glass tiles and wet room floors. The addition of Fired Earth Flexibond into the grout will make removal of surplus grout more difficult, so it is important to clean as you grout.

It is advisable to grout and clean a small test area prior to grouting the whole floor.

This will give you the opportunity to check that all grout can be removed without staining the tiles and that you are happy with your chosen grout colour.

There are two main ways of grouting a floor.

**Pointing** is the careful application of grout between the tiles avoiding contaminating the surface of the tile by using a damp sponge to wipe off any excess.

**Slurry grouting** is the method of grouting involving a wet mix of grout being spread over the whole of the tile surface as well as into the grout joints. The slurry is pressed into the grout joints and surface pits of the tile with a grout float or squeegee. Any surplus grout should be wiped off the tiles before it starts to dry with a clean damp sponge. Keep the sponge clean during this process by washing regularly using clean, warm water. Slurry grouting is not recommended for Terracotta, Encaustic or porcelain tiles.

Fired Earth grout is available in a selection of colours. We do not recommend the use of strong pigmented grouts which are more likely to stain the tiles.

As soon as the grouting process has finished and the grout has completely dried, the tiles should be thoroughly cleaned to remove any stains or fine dust particles before proceeding with further coats of sealant or finishes.

## Terracotta and Lubelska Brick Tiles

---

Terracotta tiles are manufactured from natural clays which vary in colour and texture. Differences in colour can also occur in the firing process. Any colour variation will be accentuated by the sealants which are chosen to enhance the natural colour and beauty of the tiles.

Terracotta tiles are generally more porous than most floor tiles so it is important to take care to seal the tiles fully. Lubelska tiles in particular can vary enormously in porosity.

### Sealing

**NB Pre-sealed Terracotta tiles are pre-sealed and require no sealing. Please refer to page 12 for information on finishing.**

Fired Earth recommends sealing Terracotta tiles with Lithofin TC Classic Primer. Lithofin TC Classic Primer is a linseed oil based product containing a special selection of dissolved resin components. We recommend that a number of sample tiles are tested for porosity, which will give an indication of the amount of sealer the tiles will require. The tiles will readily absorb the first coat of sealant and as a rough guide you should expect to use up to 75% of the sealant on the first coat.

- Shake the bottle well before and during use.

- Check the tiles are completely dry, clean and stain free (any dirt or marks left on the surface of the tiles will not be removeable after sealing).
- Using a suitable applicator, generously saturate the tiles with Lithofin TC Classic Primer, working it into the surface. The tiles will appear matt again within 10 minutes. If the tile regains a matt appearance too quickly use the Lithofin TC Classic Primer a little more liberally. After 10 minutes check there is no surplus sealant remaining on the surface of the tiles.

### Grouting

Before the finishing process can begin, please grout the tiles referring to the information on page 10 of this guide.

If grout residue has been left to dry on the surface of the tiles, use Lithofin KF Cement Residue Remover diluted 1-10 to remove. If this is unsuccessful, please contact our Technical Department for further advice. Check that the tiles are completely dry before proceeding with the finishing process.

### Further Sealing

Apply the second coat of sealant as above. Take particular care during the application of the second coat of Lithofin TC Classic

Primer as your tiles are now partially sealed and will not absorb as readily as during the first coat.

## Finishing

The next step is to apply Lithofin TC Classic Wax. This process will provide a hard-wearing surface to the tiles.

- Apply thinly Lithofin TC Classic Wax with a rag or lint-free cloth across the whole floor.
- Allow to dry (Lithofin TC Classic Wax should dry after approximately 30 minutes depending on the ambient room temperature).
- Buff the wax (a buffing machine may be used to assist with large areas)

Once you have completed the above process, you can either re-wax; or for a low maintenance option you can apply Lithofin TC Ever-Sheen.

For re-waxing, apply up to three further coats following the instructions as above. Lithofin TC Classic Wax should be applied and buffed once a week for the first 4-6 weeks in order to build up a hard wearing surface. After this time the floor can be re-waxed as and when the floor begins to look dull.

As an alternative maintenance schedule, Lithofin TC Ever-Sheen can be used. This specialist solvent free wax emulsion product contains care and sheen producing

additives which preserve the wax over a long period, promotes patina formation and develops a silky sheen. The product is applied 12 hours or more after applying one wax coat. Wash the product over the floor and do not walk over the floor until it is completely dry. A higher level of sheen can be obtained by polishing if desired.

## Cleaning and Maintenance

Sweep or vacuum the floor regularly to remove all dirt. Our recommended cleaning products have been formulated to both clean and be gentle on the sealants. General household cleaners may be too aggressive and are likely to damage the sealants and finishes applied.

### Terracotta finished with Lithofin Classic Wax

Lithofin Easycare should be used for day to day cleaning. For most domestic floors it will be necessary to apply additional coats of wax from time to time. The frequency will be dictated by the wear the floor receives. If a build-up of wax becomes visible, reduce the frequency of waxing. Likewise, if the tiles are marking or look dull and dry, increase the frequency.

### Terracotta finished with TC Classic Wax and TC Ever-Sheen

Lithofin Easycare should be used for day to day cleaning. If the floor has dulled or begins to mark, re-apply diluted Lithofin TC Ever-Sheen over the floor with a mop.

On really worn surfaces, apply Lithofin TC Ever-Sheen undiluted. After drying, the floor can be polished to increase the level of sheen if desired.

## Geometric Tiles

---

### Sealing

Geometric tiles should be sealed with Lithofin KF Stain Stop before grouting (see page 10). If after grouting you have grout residue on the surface of the tiles, use Lithofin KF Cement Residue Remover before proceeding any further. Once you are happy with the appearance of the tiles, apply a second coat of Lithofin KF Stain Stop.

No further sealant or finishes are required for this tile.

## Encaustic Tiles

---

The top layer of our encaustic tiles is of a very delicate nature and each tile should be handled with care, we would recommend the use of our installation service for this range. If you decide to install this product yourself or use a contractor; please bear in mind that the tiles must be kept meticulously clean through the whole process. Any staining to the surface of the tile before sealing will be difficult to remove.

### Cleaning and Maintenance

Sweep or vacuum the floor regularly to remove all dirt. Our recommended cleaning products have been formulated to both clean and be gentle on the sealants. General household cleaners may be too aggressive and are likely to damage the sealants and finishes applied.

Lithofin Easy-Care should be used as a day to day cleaner.

### After installation, prior to grouting (sealing)

Remove any dust on the surface of the tile with a soft brush. Apply one plentiful coat of Fila Fob onto the clean surface using a brush or fleece roller. Leave the surface to dry completely for 24 hours. Fila Fob will oil and water proof the surface of the tile prior to grouting.

### After grouting

Clean the tile. This is an essential operation in order to remove any grout residues and

building dirt. Dilute Fila PS87 1:5 in clean water. Spread the solution on the floor and leave for 5-10mins, clean the floor using a long handled brush or cloth, we would recommend rinsing the brush or cloth frequently in the solution, rinse with clean water and remove the water with a liquid vacuum cleaner or cloth. Leave the tile to dry.

### **Finishing Encaustic tiles**

This treatment ensures the best protection for the floor against oil and water stains and makes routine maintenance easier.

When the surface is completely dry, ensure the tile is clean before applying, with a brush or fleece roller, a plentiful and continuous coat of Fila Fob. Leave to dry for 12 hours and then apply a coat diluted 1:1 in clean water of your preferred Liquid wax finish.

Fila Satin for a semi polished effect or Fila Matt for a natural finish. Wait until the floor is dry and apply a second coat and after 1 hour apply a third coat in the same dilution.

## **Slate Tiles**

---

As with all natural products, slate tiles require a certain degree of care. All slate tiles are porous, therefore it is important to seal the slate correctly to reduce the natural absorption and maintain the desired appearance. If the recommended care

### **Maintenance**

Routine maintenance should be carried out on a regular basis to remove dirt and scuff marks. Dilute Fila Cleaner 1:200 in clean water. Wet a cloth with this solution and go over the floor until cleaned as required. It is not necessary to rinse. To restore shine, periodically dilute 2-3 caps of your preferred liquid wax finish in 4-5l of clean water. Spread the solution over the floor with a cloth, brush or suitable applicator and leave to dry.

### **Encaustics in bathrooms**

Follow the above recommendations up to and including the point on cleaning the floor with PS87. Do not follow the Finishing process detailed above instead apply 1 coat of Fila Classic with a fleece roller or brush. For maintenance in a bathroom – follow the recommendations detailed earlier.

system is used the surface will be easier to maintain.

A certain amount of delamination should be expected from slate tiles during and following installation. During installation any loose flakes should be broken off.

Where delamination occurs after installation, the affected area should be re-sealed. Slate tiles should not be installed in areas subject to direct and intense heat, as this may cause extensive delamination.

### **Preparation**

Before sealing commences, we recommend that the slate is cleaned with Lithofin MN Builders Clean to remove general dirt and quarry dust from the riven areas and pores. After use, rinse the surface completely and allow to dry for 24 hours.

### **Sealing**

There are two options for sealing slate dependant on the final colour you require:

### **Maintaining the natural colour**

After fixing the tiles, ensure the adhesive has fully cured before proceeding with the sealant process.

- Shake the Lithofin MN Stain Stop well, or MN Stain Stop ECO (a water based and nearly odourless alternative to MN Stain Stop). Apply one coat with a suitable applicator to the face and edges of the tile (to ensure no bleeding from the grout). Remove any excess that has not been readily absorbed within 10 minutes of application. After 45 minutes the floor can be walked on but should be left to dry and protected from water for 24 hours.
- Grout the floor referring to the information on page 10 of this guide.

- Once the grout has dried, ensure any grout residue has been removed from the surface of the tiles using Lithofin MN Builders Clean. If used, allow to dry for 24 hours before applying a further thin coat of Lithofin MN Stain Stop or MN Stain Stop ECO to protect the grout. Remove any excess that has not been readily absorbed within 10 minutes of application. After 45 minutes the floor can be walked on but should be left to dry and protected from water for 24 hours.

### **Enhancing the natural colour**

After fixing the tiles, ensure the adhesive has fully cured before proceeding with the sealant process.

- Shake the Lithofin MN Colour Intensifier well and apply one coat with a suitable applicator to the surface of the tiles. Remove any excess that has not been readily absorbed within 10 minutes of application. Leave to dry for 12 hours before applying the sealant.
- Shake the Lithofin MN Stain Stop well, (MN Stain Stop ECO is not suitable for this application due to its water based characteristic) and apply one coat with a suitable applicator to the face and edges of the tile (to ensure no bleeding from the grout). Remove any excess that has not been readily absorbed within 10 minutes of application. After 45 minutes the floor can be walked on but should be left to dry and protected from water for 24 hours.

- Grout the floor referring to the information on page 10 of this guide.
- Once the grout has dried, ensure any grout residue has been removed from the surface of the tiles using Lithofin MN Builders Clean. If used allow to dry for 24 hours before applying a further thin coat of Lithofin MN Stain Stop to protect the grout. Remove any excess that has not been readily absorbed within 10 minutes of application. After 45 minutes the floor can be walked on but should be left to dry and protected from water for 24 hours.

### Finishing

If you require a lustre finish the following process should be followed. Please note this process is not suitable for external or wet

areas and surface colour may slightly deepen when using this product.

- Shake the Lithofin Multi-Seal well and apply 2-3 coats with a suitable applicator.
- Leave to dry for a minimum of 4 hours, the finish will not be fully dry and hard for 48 hours.

### Cleaning and Maintenance

Sweep or vacuum the floor regularly to remove all dirt. Our recommended cleaning products have been formulated to both clean and be gentle on the sealants. General household cleaners may be too aggressive and are likely to damage the sealants and finishes applied.

Lithofin Easy Care should be used as a day to day cleaner.

## Natural Stone and Stone Mosaics

As with all natural products, stone tiles require a certain degree of care. All stone tiles are porous, therefore it is important to seal the stone correctly to reduce the natural absorption and maintain the desired appearance. If the recommended care system is used the surface will be easier to maintain.

The filler used in our honed and filled stone may require attention from time to time. Simply fill any holes that appear with either limestone grout or a 2 part resin based filler which is available for purchase from Fired Earth. Please ask a member of our Sales team for more information.

### Preparation

Before sealing commences, we recommend that the stone is cleaned with Lithofin MN Power Clean to remove general dirt and quarry dust from the surface and pores. After use, rinse the surface completely and allow to dry for 24 hours.

### Sealing

There are two options for sealing stone dependant on the final colour you require:

### Maintaining the natural colour

After fixing the tiles, ensure the adhesive has fully cured before proceeding with the sealant process.

- Shake the Lithofin MN Stain Stop well, or MN Stain Stop ECO (a water based and nearly odourless alternative to MN Stain Stop). Apply one coat with a suitable applicator to the face and edges of the tile (to ensure no bleeding from the grout). Remove any excess that has not been readily absorbed within 10 minutes of application. After 45 minutes the floor can be walked on but should be left to dry and protected from water for 24 hours.
- Grout the floor referring to the information on page 10 of this guide
- Once the grout has dried, ensure any grout residue has been removed from the surface of the tiles using Lithofin MN Power Clean. If used allow to dry for 24 hours before applying a further thin coat of Lithofin MN Stain Stop/ECO to protect the grout. Remove any excess that has not been readily absorbed within 10 minutes of application. After 45 minutes the floor can be walked on but should be left to dry and protected from water for 24 hours.

### Enhancing the natural colour

After fixing the tiles, ensure the adhesive has fully cured before proceeding with the sealant process.

- Shake the Lithofin MN Colour Intensifier well and apply one coat with a suitable applicator to the surface of the tiles. Remove any excess that has not been

readily absorbed within 10 minutes of application. Leave to dry for 12 hours, before applying the sealant.

- Shake the Lithofin MN Stain Stop well, (MN Stain Stop ECO is not suitable for this application due to its water based characteristics). Apply one coat with a suitable applicator to the face and edges of the tile (to ensure no bleeding from the grout). Remove any excess that has not been readily absorbed within 10 minutes of application. After 45 minutes the floor can be walked on but should be left to dry and protected from water for 24 hours.
- Grout the floor referring to the information on page 10 of this guide.
- Once the grout has dried, ensure any grout residue has been removed from the surface of the tiles using Lithofin MN Power Clean. If used allow to dry for 24 hours before applying a further thin coat of Lithofin MN Stain Stop to protect the grout. Remove any excess that has not been readily absorbed within 10 minutes of application. After 45 minutes the floor can be walked on but should be left to dry and protected from water for 24 hours.

### Finishing

If you require a lustre finish the following process should be followed. Please note this process is not suitable for external or wet areas and surface colour may slightly

deepen when using this product.

- Apply one coat of MN Cobble Wax with a suitable applicator.
- Leave to dry for a minimum of 12 hours.
- Buff the wax (a buffing machine may be used to assist with large areas).

### **Cleaning and Maintenance**

Sweep or vacuum the floor regularly to

## **Roman Mosaics**

---

As with all natural products, stone tiles require a certain degree of care. All stone tiles are porous, therefore it is important to seal the stone correctly to reduce the natural absorption and maintain the desired appearance.

If the recommended care system is used the surface will be easier to maintain.

### **Preparation**

Before sealing commences, we recommend that the stone is cleaned with Lithofin MN Power Clean to remove general dirt and quarry dust from the surface and pores. After use, rinse the surface completely and allow to dry for 24 hours.

### **Sealing**

There are two options for sealing stone dependant on the final colour you require:

### **Maintaining the natural colour**

After fixing the tiles, ensure the adhesive

remove all dirt. Our recommended cleaning products have been formulated to both clean and be gentle on the sealants. General household cleaners may be too aggressive and are likely to damage the sealants and finishes applied.

Lithofin Easy Care should be used as a day to day cleaner.

has fully cured before proceeding with the sealant process.

- Shake the Lithofin MN Stain Stop well, and apply one coat with a suitable applicator to the face and edges of the tile (to ensure no bleeding from the grout). Remove any excess that has not been readily absorbed within 10 minutes of application. After 45 minutes the floor can be walked on but should be left to dry and protected from water for 24 hours.
- Grout the floor referring to the information on page 10 of this guide.
- Once the grout has dried, ensure any grout residue has been removed from the surface of the tiles using Lithofin MN Power Clean. If used allow to dry for 24 hours before applying a further thin coat of Lithofin MN Stain Stop to protect the grout. Remove any excess that has not

been readily absorbed within 10 minutes of application. After 45 minutes the floor can be walked on but should be left to dry and protected from water for 24 hours.

### **Enhancing the natural colour**

After fixing the tiles, ensure the adhesive has fully cured before proceeding with the sealant process.

- Shake the Lithofin MN Colour Intensifier well, and apply one coat with a suitable applicator to the surface of the tiles. Remove any excess that has not been readily absorbed within 10 minutes of application. Leave to dry for 12 hours, before applying the sealant.
- Shake the Lithofin MN Stain Stop well, and apply one coat with a suitable applicator to the face and edges of the tile (to ensure no bleeding from the grout). Remove any excess that has not been readily absorbed within 10 minutes of application. After 45 minutes the floor can be walked on but should be left to dry and protected from water for 24 hours.
- Grout the floor referring to the information on page 10 of this guide.

- Once the grout has dried, ensure any grout residue has been removed from the surface of the tiles using Lithofin MN Power Clean. If used allow to dry for 24 hours before applying a further thin coat of Lithofin MN Stain Stop to protect the grout. Remove any excess that has not been readily absorbed within 10 minutes of application. After 45 minutes the floor can be walked on but should be left to dry and protected from water for 24 hours.

### **Finishing**

No finishing product is required for these tiles. Lithofin MN Cobble Wax is not suitable.

### **Cleaning and Maintenance**

Sweep or vacuum the floor regularly to remove all dirt. Our recommended cleaning products have been formulated to both clean and be gentle on the sealants. General household cleaners may be too aggressive and are likely to damage the sealants and finishes applied.

Lithofin Easy Care should be used as a day to day cleaner.

## Un-Glazed Porcelain Tiles

---

Despite these tiles being very dense, robust and hard wearing it is a sensible precaution to seal these tiles particularly in kitchens, bathrooms and high traffic areas.

### Preparation

After the tiles have been installed, but prior to sealing or grouting, we recommend the tiles are cleaned with Lithofin KF Cement Residue Remover and left to dry for 24 hours.

- Grout the floor referring to the information on page 10 of this guide. Slurry grouting is not recommended for porcelain tiles.

Once the grout has dried, ensure any grout residue has been removed from the surface of the tiles using Lithofin KF Cement

Residue Remover. Allow to dry.

### Sealing

- Shake the Lithofin FZ Protective Impregnator well before applying to the tiles using a suitable applicator. The tiles will be fully protected after 12 hours.

### Cleaning and Maintenance

Sweep or vacuum the floor regularly to remove all dirt. Our recommended cleaning products have been formulated to both clean and be gentle on the sealants. General household cleaners may be too aggressive and are likely to damage the sealants and finishes applied.

Lithofin FZ Conditioning Cleaner should be used as a day to day cleaner.

## Glazed Porcelain Tiles

---

No sealing products are required for these tiles. However we recommend that once installed the grout joints are protected using Lithofin KF Grout Protector.

- Shake the Lithofin KF Grout Protector well before applying one coat to the grout joints only. The application may need to be repeated several times to fully protect the grout.
- After approximately 20 minutes, carefully remove all surface residues with a cloth.

### Cleaning and Maintenance

Sweep or vacuum the floor regularly to remove all dirt. Our recommended cleaning products have been formulated to both clean and be gentle on the sealants. General household cleaners may be too aggressive and are likely to damage the sealants and finishes applied.

Lithofin FZ Conditioning Cleaner should be used as a day to day cleaner.

## Glass Tiles

---

No sealing products are required for these tiles. Grout the floor referring to the information on page 10 of this guide. We recommend that once installed the grout joints are protected using Lithofin KF Grout Protector.

- Shake the Lithofin KF Grout Protector well before applying one coat to the grout joints only. The application may need to be repeated several times to fully protect the grout.
- After approximately 20 minutes, carefully remove all surface residues with a cloth.

### Cleaning and Maintenance

Sweep or vacuum the floor regularly to remove all dirt. Our recommended cleaning products have been formulated to both clean and be gentle on the sealants. General household cleaners may be too aggressive and are likely to damage the sealants and finishes applied.

Lithofin Easy Care should be used as a day to day cleaner.

## External Floor Tiling

---

Many of our tiles are suitable for external use. As we sell our tiles all over the world, atmospheric/climate conditions must be taken into consideration.

For more information on specific tiles please speak to our Sales Team or our Technical Department.

Substrate	Sand and Cement Screed Concrete/Brickwork	Timber Floorboards (sound and secure)	Timber Floorboards overlaid with WBP Plywood (min depth 18mm)	Timber Floating Floors	Quarry, Clay, Glazed Tiles	Vinyl Tiles, Flooring Grade Asphalt (internal use only)	Underfloor Heating
Watch Points	New concrete should be allowed to dry for at least 6 weeks, cement sand screeds 3 weeks and cement sand rendering 2 weeks	Must be screwed down to joists and noggings and be free from deflection	Countersink screws to 150mm centres	If deflection exists in floor, overlay with plywood prior to using Fleximat or install 'bearers' between joists	Existing tiles must be well fixed; any hollow spots should be made good and filled	Hollow or loosely fixed vinyl tiles should be removed along with their adhesive residue, prime vinyl with universal Bonding Agent	Fit in accordance with manufacturers instructions. Specification may vary according to substrate
Preparation	If dusty or porous seal with Fired Earth Universal Bonding Agent	Seal with Fired Earth Universal Bonding Agent, overlay with Fleximat (see instructions)	Seal with Fired Earth Universal Bonding Agent	Seal with Fired Earth Universal Bonding Agent, overlay with Fleximat (see instructions)	All surfaces must be degreased and thoroughly cleaned to remove old polish residues etc	All surfaces must be degreased and thoroughly cleaned to remove old polish residues etc.	Fit in accordance with manufacturers instructions. Specification may vary according to substrate
<b>ALL TERRACOTTA TILES AND ROMANA</b>							Tiles need to be dry before installation
Adhesive	Fired Earth Fastset Floor Adhesive or Fired Earth Thickbed Adhesive with Romana and Reclaimed Terracotta tiles						
Grout	Sandstone			Sandstone			
Additive	Not required	Fired Earth Flexibond in both adhesive and grout			Not required		Fired Earth Flexibond in both adhesive and grout
<b>ENCAUSTIC - Tiles need to be dry before installation</b>							
Adhesive	Fired Earth White Floor Adhesive			Fired Earth White Floor Adhesive			
Grout	All Fired Earth grouts are suitable			All Fired Earth grouts are suitable			
Additive	Not required	Fired Earth Flexibond in both adhesive and grout			Not required		Fired Earth Flexibond in both adhesive and grout
<b>SLATE TILES - Tiles need to be dry before installation</b>					<b>(Use Thickbed Adhesive with all 40 x 60cm and 60 x 60cm Tiles)</b>		
Adhesive	Fired Earth Fastset Floor Adhesive	Fired Earth Flexible Fastset Floor Adhesive			Fired Earth Flexible Fastset Adhesive	Fired Earth Flexible Fastset Adhesive	Fired Earth Flexible Fastset Adhesive
Grout	All Fired Earth grouts are suitable						
Additive	Not required	Fired Earth Flexibond			Not required		Fired Earth Flexibond

**Notes:**

Use this table in conjunction with Fired Earth Installation guides. Read the instructions on the packaging of Adhesives, Grouts and Sealants very carefully.

Substrate	Sand and Cement Screed Concrete/Brickwork	Timber Floorboards (sound and secure)	Timber Floorboards overlaid with WBP Plywood (min depth 18mm)	Timber Floating Floors	Quarry, Clay, Glazed Tiles	Vinyl Tiles, Flooring Grade Asphalt (internal use only)	Underfloor Heating
Watch Points	New concrete should be allowed to dry for at least 6 weeks, cement sand screeds 3 weeks and cement sand rendering 2 weeks	Must be screwed down to joists and noggings and be free from deflection	Countersink screws to 150mm centres	If deflection exists in floor, overlay with plywood prior to using Fired Earth Fleximat or install 'bearers' between joists	Existing tiles must be well fixed; any hollow spots should be made good and filled	Hollow or loosely fixed vinyl tiles should be removed along with their adhesive residue, prime vinyl with Fired Earth Universal Bonding Agent	Fit in accordance with manufacturers instructions. Specification may vary according to substrate
Preparation	If dusty or porous seal with Fired Earth Universal Bonding Agent	Seal with Fired Earth Universal Bonding Agent, overlay with Fired Earth Fleximat (see instructions)	Seal with Fired Earth Universal Bonding Agent	Seal with Universal Bonding Agent, overlay with Fleximat (see instructions)	All surfaces must be degreased and thoroughly cleaned to remove old polish residues etc	All surfaces must be degreased and thoroughly cleaned to remove old polish residues etc	Fit in accordance with manufacturers instructions. Specification may vary according to substrate
<b>NATURAL STONE TILES AND MOSAICS - Tiles need to be dry before installation</b>					<b>(Use Thickbed Adhesive with all large format tiles)</b>		
Adhesive	Fired Earth White Fastset Floor Adhesive	Fired Earth White Fastset Floor Adhesive with Fired Earth Flexibond added			Fired Earth White Fastset Floor Adhesive	Fired Earth White Fastset Floor Adhesive with Fired Earth Flexibond added	
Grout	All Fired Earth grouts are suitable			All Fired Earth grouts are suitable			
Additive	Not required	Fired Earth Flexibond in grout			Not required	Fired Earth Flexibond in grout	
<b>GLAZED, PORCELAIN AND GEOMETRIC TILES</b>					<b>(Thickbed Adhesive can be used for all tiles 40 x 60cm and 60 x 60cm and above)</b>		
Adhesive	Fired Earth Flexible Fastset Adhesive			Fired Earth Flexible Fastset Adhesive			
Grout	Grey/Sandstone/Limestone			Grey/Sandstone/Limestone			
Additive	Not required	Fired Earth Flexibond (grout only)			Not required	Fired Earth Flexibond (grout only)	
<b>GLASS TILES</b>					<b>(Use Thickbed Adhesive with all 40 x 60cm and 60 x 60cm Tiles)</b>		
Adhesive	Fired Earth White Fastset Floor Adhesive with Flexibond added			Fired Earth White Fastset Floor Adhesive with Flexibond added			
Grout	White/Grey/Limestone			White/Grey/Limestone			
Additive	Fired Earth Flexibond in grout			Fired Earth Flexibond in grout			

**Notes:**

Use this table in conjunction with Fired Earth Installation guides. Read the instructions on the packaging of Adhesives, Grouts and Sealants very carefully.

Product	Preparatory Product	Impregnator/ Sealant	Finishing Product	Day to Day Cleaner	Occasional Intensive Cleaner	Comments
Stone	MN Power Clean	MN Colour Intensifier (if desired) and MN Stain Stop/ECO	MN Cobble Wax (if desired) - excluding Roman Mosaic	Easy Care	Wexa	If a sheen is required, finish with MN Cobble Wax. This finish is not suitable for Roman Mosaic tiles, external or wet areas. If colour intensifier is required apply MN Colour prior to MN Stain Stop. MN Stain Stop ECO is not suitable for use with MN Colour.
Slate	MN Builder's Clean	MN Colour Intensifier (if desired) and MN Stain Stop/ECO	Multi Seal (if desired)	Easy Care	Wexa	If a sheen is required, finish with Multi Seal. This finish is not suitable for wet or external areas. If colour intensifier is required apply MN Colour prior to MN Stain Stop. MN Stain Stop ECO is not suitable for use with MN Colour.
Terracotta	KF Cement Residue Remover (if required)	TC Classic Primer	TC Classic Wax (and TC Eversheen if desired)	Easy Care	Wexa	Apply TC Eversheen over TC Classic Wax for easy maintenance. Initial sheen will dull over time.
Pre-sealed Terracotta	Not required	Not required	TC Classic Wax (and TC Eversheen if desired)	Easy Care	Wexa	Apply TC Eversheen over TC Classic Wax for easy maintenance. Initial sheen will dull over time.
Unglazed Porcelain	KF Cement Residue Remover	FZ Protective Impregnator	Not required	FZ Conditioning Cleaner	FZ Intensive Cleaner	Unglazed porcelain tiles - Travertino, Neutrals, Terrano, Graphito, Forma, Sahara, Siena, Arboreto and Moderna.
Glazed Porcelain	Not required	Not required	KF Grout Protector	FZ Conditioning Cleaner	FZ Intensive Cleaner	Glazed porcelain tiles - Sardinia, Verona, Umbria and Strata.
Encaustic	Not required	Filafob	Fila Satin (satin effect) or Fila Matt (matt finish) Fila Classic for bathrooms	Fila Cleaner	Fila PS87	
Geometrics	Not required	KF Stain Stop	Not required	Easy Care	Wexa	
Glass	Not required	Not required	KF Grout Protector	Easy Care	Not required	
Wall Tiles	Not required	KF Stain Stop	KF Grout Protector	Easy Care	Not required	Seal crackle glazed wall tiles only.

**Notes:** Use this table in conjunction with Fired Earth Installation guides. Read the instructions on the packaging of Adhesives, Grouts and Sealants very carefully.

# Glossary

---

**Adhesion** – The ability to stick

**Angle Grinder** – Electrical tile cutting tool

**Anhydrite Screeds** – Calcium based screed, seek advice

**Appliances** – Fridge, dishwasher etc.

**Asphalt** – Black, bituminous base

**Bedding** – Depth of material to seat tiles

**Bitumen** – Black in colour, often used as a glue to stick vinyl tiles

**Bowed** – Convex or concave shaped tiles

**Buffed** – Abrasion of a waxed surface

**Butter** – Applying a thin bed of adhesive to the back of the tile.

**Butt Jointed** – Fixing tiles together tightly with no allowance for a grout joint

**Chalk Line** – Tool used to provide straight line for setting out tiles

**Chipboard** – A composition of fibrous timber

**Coatings** – Material applied to a surface

**Compacting** – Pressing material firmly into position

**Curing** – Improvement in strength, hardness, durability and other properties of a material

**Damp Proof Membrane (DPM)** – A layer of impervious material installed to prevent rising damp

**Day Joints** – A 'joint' in the screed as a result of a break in pouring the screed

**Delamination** – Loss of some or all of a

naturally occurring layer of slate

**Diamond Cutter** – Electrical cutting tool

**Expansion Joints** – A space allowed in a floor to allow for movement

**Fired Earth Flexibond** – A liquid used as an additive in adhesive or grout to increase flexibility and bond strength

**Fired Earth Fleximat** – An orange plastic sheet used to prepare timber floors for tiling

**Floating or Insulated Floor** – A thermally efficient floor which is not physically attached to its base

**Filled Stone** – Where any naturally occurring holes have been filled with resin based filler

**Finishing** – Process of applying final coat of sealer

**Grout Float** – Tool used to apply grout

**Grout Joints** – Channel formed between tiles to be filled with grout material

**Honed Stone** – Mechanical process used to smooth the surface of natural stone

**Movement Joint** – An area which allows for movement caused by change in temperature/humidity etc.

**Notched Trowel** – Tool designed to apply a specified depth of adhesive

**Oxidise** – Hardening reaction following exposure to the air

**pre-sealed** – Pre-treated with sealer at the factory

**Pointing** – Careful application of grout between tiles using a tool to finish off the joint

**Sand and Cement Screed** – A mixture laid to form an accurate flat base

**Sealing** – Process of applying liquids to reduce porosity

**Slurry** – A thick creamy liquid

**Spoil** – Excessive or surplus sealer

**Squeegee** – Rubber edged tool to aid removal of excess grout

**Straight Edge** – Tool used to ensure tiles are 'straight' and 'flat'.

**Subfloor** – The surface on to which the tiles are to be laid

**Thermal Movement** – Movement induced by temperature change

**Fired Earth Universal Bonding Agent** – Primer for surfaces prior to applying tile adhesive.

**Fired Earth Universal Levelling Compound** – Material used to remove unacceptable variations of level in a subfloor, or bed underfloor heating

**Uncalibrated** – Tiles will vary in depth

**Wax Polish** – Protective finish

**WBP Plywood** – Minimum 18mm deep, suitable grade for floor tiling

Fired Earth is a trading name of AGA Consumer Products Limited.  
Registered in England and Wales under Registered Number 3872754.  
Registered Office Address: AGA Rangemaster Group plc, Juno Drive, Leamington Spa, Warwickshire, CV31 3RG

## Ancillary Products

A full range of high quality fixing and sealing products, researched and developed to meet Fired Earth standards, are available for both professional and DIY use.

Read the instructions on the packaging of Adhesives, Grouts and Sealants very carefully.

## Website - [www.firedearth.com](http://www.firedearth.com)

All our installation guides are available to download from our website: Wall Tiling, Underfloor Heating, Wood Flooring and Waterproofing Showers and Bathrooms.

## Useful Numbers

UK Sales	0845 366 0400
Export Sales	+44 (0)1295 814316
Installations	01295 814310
Technical	01295 814271
Home Deliveries	01295 814313
Customer Care	01295 814396

## Disclaimer

The specifications and technical information given in this publication are intended for guidance and although they are to the best of our knowledge correct, they are given without warranty.

We cannot accept any responsibility for reliance placed upon the advice contained herein since practical expertise and site conditions are outside of our control. Neither do we accept liability for the performance of the product arising from such use. This does not affect your statutory rights.