

FIRED EARTH

Wall Tiling Installation Guide

April 2011

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Important Notes

The purpose of this booklet is to outline the basic principles of installing Fired Earth wall tiles.

For more detailed technical information, refer to British Standard BS 5385 Wall and Floor Tiling.

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.

For further information or if any doubt exists, please telephone our Technical Department for advice prior to commencing any tiling.

Fired Earth have tested our range of adhesives, grout and sealants to ensure compatibility with all of our tiles (see our Product Selector on pages 23 to 27).

We recommend that you treat a spare tile with the appropriate sealer and/or finisher prior to installation to ensure you have achieved your desired appearance.

Read the instructions on the packaging of Adhesives, Grouts and Sealants very carefully. Keep everything meticulously clean and orderly as work progresses.

No complaints regarding the appearance of the product will be accepted by the company once the tiles have been installed.

Internal Substrates

Surface preparation:

Tiles can be fixed to most walls. The surface must be properly prepared, suitably level, sound, clean, dry, and free of dust, grease or any loose material. All surfaces must be completely secure without any obvious deflection and capable of carrying the additional load.

Special care must be taken when tiling areas which may become damp or wet. See our Waterproofing Showers and Bathrooms Installation guide.

When tiling onto walls with floor tiles consideration must be given to weight, as floor tiles are often heavier than wall tiles. Our sales teams will be happy to confirm the weight of the tiles so you can confirm suitability. Please include 3kg per m² in your calculation to allow for the weight of the adhesive and grout.

Plaster (Gypsum) skimmed walls - (Maximum weight loading 20kg/m²):

New plaster should be a minimum of four weeks old and dry prior to tiling. All plaster surfaces should be primed with undiluted Fired Earth Primer before using Fired Earth adhesive. If the plaster is dusty, porous or hard and shiny it must be thoroughly dry brushed with a stiff bristled brush before being primed with Fired Earth Primer diluted 1:4 with water. The Primer must be completely dry prior to an additional coat of undiluted Fired Earth Primer. All surfaces must be completely dry prior to tiling.

Plasterboard - (Maximum weight loading 32kg/m²):

Plasterboard can be tiled over provided it is firmly braced and fixed. No deflection should be evident in any of the boards. Plasterboard must be primed with Fired Earth Primer. The primer must be completely dry prior to tiling.

Timber - (Maximum weight loading 30kg/m²):

Timber should be WBP plywood. Other types of timber such as MDF, chipboard etc. may be used but only in dry areas. All timber must be dry, firmly braced and fixed. No deflection should be evident in any of the boards. Seal the reverse, front, and edges with neat Fired Earth Primer. It is important to prime the reverse and the edges of the boards, particularly in a wet area to avoid the boards swelling and warping due to water ingress. The primer must be completely dry prior to tiling. Chipboard is the only timber product that must not be sealed; please refer to manufacturer's guidelines and suitability for tiling.

Existing tiles - (Weight dependent on substrate type and existing tile weight):

Tiles often provide a good base for tiling provided they are flat and in good condition. Make sure they are entirely clean, degreased and are firmly fixed to the wall. Any damaged or loose areas should be made good. Check that the surface to which the existing tiles are fixed will take the weight of the additional layer of tiles you are adding. Brush apply a slurry bonding coat consisting of 2 parts cement-based adhesive to 1 part Fired Earth Primer and allow to dry before fixing commences. This surface preparation will provide a key for the tile adhesive to bond to.

Rendered walls - (Maximum weight loading 40kg/m² +):

Tiles can be fixed directly onto sand and cement renders this is an ideal base particularly for very thick handmade tiles and natural materials such as slate and stone etc. New render must be at least 14 days old (21 days in total immersion areas), or until suitably dry, prior to tiling. Dusty surfaces must be thoroughly dry brushed. Porous renders must be primed with Fired Earth Primer diluted 1:4 with water. The primer must be completely dry prior to tiling.

Unrendered walls - (Maximum weight loading 40kg/m² +):

Most bricks and blocks can be tiled directly onto provided they are sufficiently flat to receive the tiled finish. Lightweight and medium dense block-work must be primed with Fired Earth Primer diluted 1:4 with water. In areas which will be subjected to wetting, a render coat must be applied to lightweight and medium dense block-work. The primer must be completely dry prior to tiling.

Papered and painted walls:

Fired Earth does not recommend tiling onto papered and painted surfaces. These should be completely removed and the substrate primed with Fired Earth Primer. The primer must be completely dry prior to tiling.

Tile Backer Board - (Max weight loading 40kg/m² +):

Ensure the board is correctly installed according to manufacturer's specifications prior to tiling.

Bumps, hollows, irregularities, uneven surfaces etc.:

Defects likely to affect the standard of finished tiling should be rectified prior to tiling. Any hollows should be filled with a suitable filler and then allowed to dry. Old adhesive must be removed. In severe cases, the wall finish may require total replacement. Walls should not deviate by +/- 3mm along a 2 metre straight edge.

Hearths and fireplaces:

Care should be exercised when tiling into hearths or fire surrounds. Ensure that the tiles are kept a minimum of 300mm away from direct contact with the flames or the main heat source. Not all tiles are suitable for use in this area. Check with our Sales Team as to which tiles are.

Showers:

Extra care must be exercised when tiling domestic showers. Read and follow our recommendations in our Waterproofing Showers and Bathrooms Installation guide. Fired Earth sell Shower Liner for walls and Fired Earth Fleximat for floors, which can be used successfully to prevent problems with water ingress. If you require any additional information on projects of this type please contact our Technical Department.

Showers should not be used for at least 14 days after the tiling has been completed.

Planning

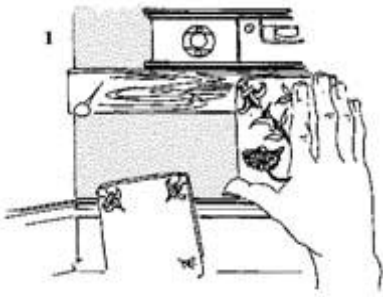
Allow time to study the room and to plan your work. There will always be alternatives and equally successful ways to tile the same area.

Whenever possible, all furniture, basins etc. should be removed prior to tiling, in order to obtain the best possible finish.

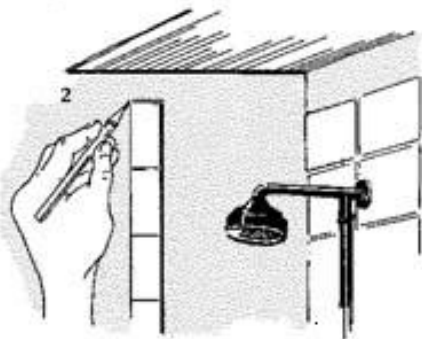
As a general guide, consider the natural focal point of the area to be tiled, and plan the tile layout and the starting point with this in mind.

You will require a measuring stick and some timber battens. The measuring stick can be made easily using a straight edged timber batten measuring approximately 1000 x 30 x 25 mm. Mark the width of a tile plus a grout joint along the length of the stick. For example, for a tile of 150mm and assuming a joint width of 3mm, mark off equal distances of 153mm. Our recommended grout joint widths are published in our price list.

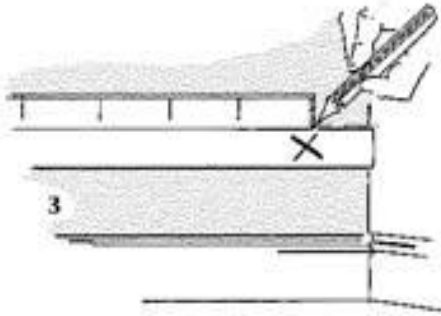
Step 1: Fix your straight length of timber batten to the wall you are going to tile. The batten should run the full length of the wall and be positioned with the top edge one tile width plus one grout joint width above the floor or work surface. Use a spirit level to check that the batten is absolutely horizontal. This batten will provide a level from which to start the tiling and will ensure that the tiling lines are straight, even though the floor or work surface may be uneven.



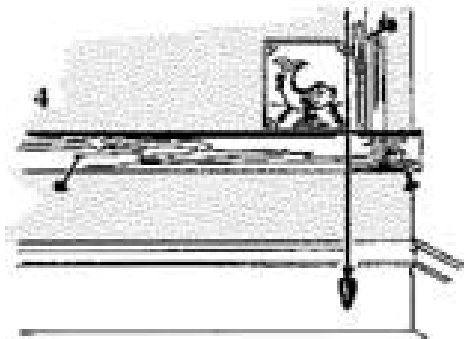
Step 2: Hold the measuring stick vertically against the wall and check that you will not be left with a difficult row of very small cut tiles at the top. If necessary reposition the timber batten further down the wall to even out the cut tiles at the top and bottom.



Step 3: Measure and mark the midpoint of the wall. From this point use the measuring stick horizontally to determine where the last whole tile will finish. Mark this point 'X' on the batten.



Step 4: Drop a plumb line from the top of the wall to coincide with point 'X'. Mark the position of the plumb line onto the wall and using the measuring stick as a ruler, draw in this line. Fix another timber batten alongside this line and check with a spirit level that it is absolutely vertical. This corner framed by the two battens will give the position of the first tile.



Fixing

Before commencing tiling please ensure you are familiar with the important notes on page 4.

Fired Earth does not recommend the sealing of tiles before fixing.

All Fired Earth Wall Tile adhesives are cement based, flexible and designed for fixing our full range of tile. They are water resistant and suitable for both internal and external applications.

Preparation

Refer to substrate guidelines on pages 5 and 6

Mixing

Carefully follow the mixing recommendations supplied on the reverse of the product.

Application

Using a suitable notched trowel spread the appropriate adhesive (see Product Selector on pages 23 to 27) onto the fixing surface. Spread only enough adhesive that remains workable, we would recommend an area of approximately 1 square metre. The adhesive should completely cover the back area. A minimum of 2mm should be applied up to a maximum of 6mm. When installing dados, trims and slips please ensure any void at the back is filled with adhesive to prevent air pockets forming which may lead to a weakness in the installation.

Place the first tile in the corner formed by the timber battens (see Planning on pages 7-8) and push the tile home firmly with a slight twisting action. Place the next tile adjacent to the first, allowing for a grout joint, and so on sideways and upwards over the prepared area.

Ensure your tiles are installed flat and level taking into consideration the variable depth and rustic handmade nature of our tiles.

Once you have completed the wall using whole tiles and the adhesive has set, remove the timber battens and tile the perimeter with cut tiles (see Cutting on pages 11-12).

Fixing Glass Tiles and Mosaics:

Due to the transparent characteristics of some of our glass tiles, it is imperative that the following instructions are followed:

The substrate should be uniform in colour and pale or neutral. A dark substrate and/or poor adhesive coverage will affect the overall finish of the tiling when using transparent glass.

Using a 4mm (3/16) notched trowel, spread the appropriate adhesive (see Product Selector on pages 23 to 27) onto the substrate. Ensure that good contact is achieved by using firm pressure and ensure a uniform coat is applied.

Using the flat side of the trowel flatten the adhesive to produce a uniform, ridge-free adhesive bed. This will avoid unsightly adhesive ridges, voids and colour variation.

The tiles can now be pressed firmly into the adhesive. Paper and cellophane faced mosaics should be tiled with this side facing outwards. The tiles or sheets should be placed so that all

joints match. With mosaics it is important that individual sheets can not be distinguished. Check that the tiles are evenly and uniformly bedded and covered by the adhesive. Use a wooden beating block to carefully tap across the entirety of each sheet, thereby achieving a flat and uniform surface whilst ensuring the mosaics are firmly and fully embedded into the adhesive.

With paper faced mosaics the adhesive should be allowed to partially set but before they have become fully bonded, the paper must be removed. Setting time will vary according to wetness of the mix, ambient temperature, type of substrate etc. The average is 30 to 60 minutes.

The paper is secured with water soluble glue and can be removed by wetting. Moisten the paper with a damp sponge, do not use a spray bottle as the water does not penetrate as thoroughly making the paper removal more difficult. Dampen a few times prior to peeling it off. If removal is difficult, dampen further and leave for another 5 to 10 minutes before trying again.

The glue residue must be removed from the surface of the tile prior to grouting by using a small nylon scrubbing brush and water, then wipe clean with a damp sponge. Any residue adhesive may darken the intended colour of the mosaic.

Any adjustments can now be carried out. Check and if necessary: eliminate any sheet lines, adjust any crooked pieces, remove any damaged pieces, or any unacceptable colour variation, check the background for colour uniformity etc.

The adhesive must cure adequately (24-48 hours) or set before any further work is undertaken.

Iridescent Glass Mosaics Prose (Flirt, Summer Affair, Soulmate, Encounter, Transfix, Sixth Sense) – This particular style of Iridescent Glass has been specifically designed with very tight grout joints and for this reason to familiarize yourself with the product and installation we would recommend dry laying a few of the sheets prior to full installation. You may encounter resistance in interlocking the sheets due to these tight grout joints. We would recommend softly forcing the sheets together. If there is still difficulty in fitting the sheets together we would recommend slightly dampening the paper with a damp sponge, this will enable some movement in the tile enabling you to interlock the sticks of glass. Finally lightly tap with a beating block and hammer to ensure complete interlocking tile.

With cellophane faced mosaics, the sheets should be correctly aligned as they are being fitted. The cellophane is clear so the tiles can be checked as they are installed.

Damaged or unacceptable mosaic pieces can be cut out of the sheet with a sharp knife and replaced.

The adhesive **MUST** be allowed to cure prior to peeling off the cellophane film, no water is required. If the film is peeled off before the adhesive has set correctly, the bond will be severely weakened which can cause tiling failure.

The glue residue must be removed from the surface of the tile prior to grouting by using a small nylon scrubbing brush and water, then wipe clean with a damp sponge. Alternatively white spirit can be used sparingly over limited areas and then rinsed with warm soapy water. Care should be taken to avoid contact with tile other than glass mosaic as it may damage the surface.

The mosaic pieces cannot be adjusted once the adhesive has set.

Painted Glass Tiles

Some of our Glass tiles are painted on the back of the tile (Liquid Glass and Glass Elements). For the optimum fixing of these tiles we would recommend that a slurry bonding coat consisting of 2 parts adhesive to 1 part Fired Earth Primer is applied to the back of the tile and allowed to dry. The tile can then be installed as per the instructions above.

Cutting

The following is offered as a general guide to the cutting equipment to be used with different wall tile types, followed by notes on special types of cutting.

We would recommend that appropriate safety goggles or glasses are used when cutting tiles.

Water cooled diamond cutters:

Due to the nature of our tiles it is often necessary to use a suitable diamond cutter if a professional finish and minimum wastage is to be achieved. These can be hired from a tool hire company. The quality of the machine and blade will vary enormously. Check with the supplier that the equipment you are hiring is suitable for the product being installed.

All crackle glazed tiles must be sealed with Lithofin KF Stain-Stop prior to cutting. After cutting with a diamond saw, wash the tiles immediately with clean water to avoid staining.

The following cutting alternatives are available:

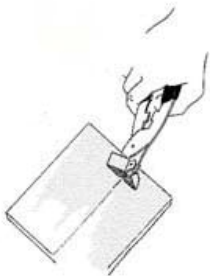
Hand held cutter:

Some machine made tiles can be cut with a hand held cutter.

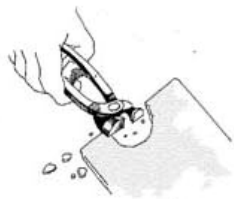
Step 1: Mark the tile surface where it is to be cut, and firmly score down this line with the Tungsten Carbide wheel.



Step 2: Use the jaws of the cutter to make a clean break.



Step 3: Curves and other more complex shapes can be cut out with a pair of tile pincers or a hacksaw fitted with a multi-directional Tungsten Carbide blade.



Glass tiles:

Glass tiles with painted backs must be cut differently.

These tiles should be cut from the back.

Stick masking tape or similar where the cut will be, make an appropriate mark, and cut through the masking tape and the back of the tile, this will minimise any roughness to the edge of the tile and its backing. The surface edge of the tile may require light sanding with a rubbing block or similar to remove any obvious roughness.

Mitres:

This refers to the cutting of an angle across the edge or face of the tile in order to provide a precise corner finish. The hire of a diamond cutter is advisable. Note: not all tiles are suitable for mitreing.



Drilling holes for fittings:

Modern porcelain tiles are becoming increasingly hard and dense. Fired Earth recommends the use of the ARMEG® range of porcelain drill bits and core drills.

Glass tiles:

Measure carefully and mark the hole position on both the front and back of the tile. Always drill the hole 2-3mm wider than required to avoid fixtures putting pressure on the glass tile.

Securely clamp down the tile.

Using a diamond core drill bit designed for glass and a variable speed portable hand drill; begin drilling from the back of the tile whilst continuously cooling the surface with water.

Do not apply excess pressure, but allow the drill to gradually drill the hole.

Drill no more than 5mm deep before flipping the tile over.

Continue drilling from the front, attempting to drill the glass from one side only will cause the tile to crack.

Once the drill is through gently run the drill around the hole edge to smooth the edge.

When using wall plugs drill the hole bigger than the plug to ensure the plug can be pushed through the tile. It is important that the plug is not in contact with the glass and is firmly secured in the substrate of the wall. This will prevent the glass tile splitting when the plug expands.

Grouting

It is important to have a grout joint between tiles to allow for movement in the structure.

All Fired Earth Grout is suitable for internal and external applications and in fully immersed situations such as pools. It is water resistant but not impervious to the passage of water. In situations where the background needs to be protected against water ingress the use of a suitable tanking membrane should be considered.

All Fired Earth grouts are flexible therefore no additive is required when tiling glass tiles or areas subject to movement e.g. timber.

The range is suitable for joints of between 1-5mm for Fired Earth Wall Grouts and 2-20mm for Fired Earth Wall and Floor Grouts. Please note the Fired Earth Mould Resistant Grout and the Wall Grout are only suitable for tiles up to a maximum depth of 10mm. Fired Earth Wall and Floor Grout should be used for tiles of greater depth.

Our range of Grout is available in a selection of colours. Please ensure you have the correct colour for your tile project.

Preparation:

Prior to grouting the adhesive bed should be dry and the grout joints clean, dry and free from adhesive residues, dirt, dust and other loose debris. Various factors including: adhesive type, substrate, tile type, temperature etc will affect the drying time of the adhesive. Porous tiles should be sealed before grouting (see page 16).

Grouts may lodge in the crackled surface of some tiles, which will highlight the crackle effect - ideal if an 'antique look' is required. If not, the tiles should be sealed with 1- 2 coats of KF Stain-Stop, prior to grouting.

Grouts can contain strong colour pigments and this should be taken into consideration when selecting the colour. Lighter coloured tiles can be affected by dark coloured grouts bleeding into the tiles resulting in dark patches around tile edge or possibly over tile face if slurry grouted which may permanently stain the tile. If you are using a mixture of dark and light tiles we would recommend using limestone or cream. Always test a small area of tiles prior to grouting the entire area.

Mixing:

Carefully follow the mixing recommendations supplied on the reverse of the product.

Application:

Using a soft rubber squeegee or float apply with diagonal sweeping movements to the grout joints taking care to fully compress the grout into the full depth of the grout joints 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.

Work in manageable areas and clean off any residues when the grout has begun to firm up in the joints, but before it sets on the tile face. Cleaning with a damp but not overly wet fine textured foam sponge will provide the best results. Do not over wash the grout as this may cause a white bloom (efflorescence) and discolour the grout. Ensure your grouting is completed in one continuous sequence, particularly with mosaics, to avoid colour variation. Changing the cleaning water as it becomes contaminated will also aid cleaning. When the grout has set, any remaining grout can be removed from the surface with a clean, damp

cloth. Finish by polishing with a soft, clean, dry cloth.

Due to the impervious nature of glass the grout will take longer to set than with more porous materials.

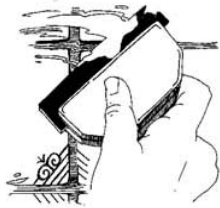
Should efflorescence form, these salts can be removed once the grout has fully dried and cured by frequent washing with clean water or suitable efflorescence cleaner.

The surface of some tiles can be easily scratched so the application and cleaning of the grout must be carried out carefully.

Ensure that any tools used for grouting are completely clean and free of any hardened grout etc.

All perimeter joints must be finished with a good quality silicone sealer and not with grout. This will allow for expansion and contraction in the tiles during normal heating and cooling cycles. Please note a neutral cure silicone is recommended for all natural stone.

To protect the grout from staining seal with KF Grout Protector. This can be applied once the grout is completely dry.



Sealing

Crackle Glazed Tiles:

Apply 1-2 coats of KF Stain Stop prior to grouting and again once grouting is complete. Wipe any surplus KF Stain Stop off the tiles before it dries with a soft cloth.

Maintain your tiles with Lithofin Easy Care as a day to day cleaner. If there are problems with ingrained dirt or other contaminations to the grouted or tiled area, please contact our Technical Department for the correct product advice.

Natural Stone Tiles:

Fired Earth would recommend all Natural stone tiles are sealed. Most natural stones may need cleaning prior to their first coat of sealant. Most stones can be cleaned with MN Power Clean, diluted with water and rinsed after application. This will remove general greases and release quarry dusting from the surface of the tiles.

When the tiles are completely dry, they can be sealed and grouted.

Prior to grouting seal with MN Stain Stop or MN Eco (these products will not alter the surface appearance). Ensure that faces and edges are sealed and all excess removed. We would recommend allowing 12-24 hours for curing prior to grouting. Once the wall is completely dry we would recommend a further thin coat of MN Stain Stop or MN Eco to protect the grout.

If a colour enhancer is required we would recommend MN Colour intensifier prior to the first coat of MN Stain Stop. Please note MN Colour is unsuitable for use with MN Eco.

Clean and maintain your tiles with Lithofin Easy Care.

Glass and Slate mosaics:

Prior to grouting seal with MN Stain Stop (this product will not alter the surface appearance). Ensure that faces and edges are sealed and all excess removed. We would recommend allowing 12-24 hours for curing prior to grouting. Once the wall is completely dry we would recommend a further thin coat of MN Stain Stop to protect the grout.

Clean and maintain your tiles with Lithofin Easy Care.

Glass tiles:

We would recommend sealing the grout joints with KF Grout Protector. This will render the grout joints oil and water resistant.

Maintain your tiles with Lithofin Easy Care.

Glazed Tiles:

Glazed wall tiles require no special maintenance due to their closed surface structure. We would recommend that the grout joints are protected with Lithofin KF Grout Protector. This will render the grout joints oil and water resistant.

Maintain your tiles with Lithofin Easy Care.

Finishing

Wherever one plane of tiling meets another or another material, or where a waterproof sealer is required, silicone sealer must be used. Please note a neutral cure silicone is recommended for natural stone.

Commissioning

Major heat sources e.g. an Aga should not be turned back on (or up to normal working temperature) for at least 24 hours.

Notes and Details

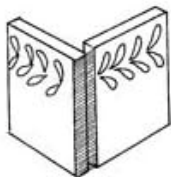
External corners and exposed tile edges:

Where two tiled surfaces meet at right angles to form an external corner, finishing will be required to dress or hide the exposed edges of the corner tiles.

Some of our tile ranges have glazed edges and the simplest solution is to overlap and carefully grout as shown.

In the case of glass, rough edges can be overcome by building up the grout so as to cover the exposed edge.

When using thicker, rustic and handmade tiles with partially or unglazed edges, a corner grouted in this way may leave unglazed edges exposed. In this case it may be necessary to mitre (see Cutting pages 11-12)



Alternatively trims are available which complement many of our tile ranges.

Dados, rails & slips:

These tiles should not be fixed in alignment with the rows of tiles above and below. They are intended to give emphasis to the horizontal axis and should be staggered or brick bonded relative to the surrounding tiles. When tiling into internal and external angles and also when forming a right angle, these tiles will need to be carefully mitred (see cutting pages 11-12).



Tile Trims:

A comprehensive range of tile trims suitable for use as finishing pieces, especially where a tile does not have a fully glazed edge, and edge protectors for external corners of tiled walls. These are available in two styles, round or square and three finishes - white, polished aluminium and brushed aluminium. Also available, in brushed or polished finishes are decorative trims which can be used to split a wall of tiles in two or three.

Installation Guide:

1. Select tile trim according to tile thickness. Any tile up to 8mm thick would require an 8mm trim, 8-10mm tiles would require a 10mm trim and any tile above 10mm up to 12.5mm would require a 12.5mm trim.
2. Trowel tile adhesive over the area that forms the perimeter of the tiled covering. If the trim is being used at outer wall corners, finish tiling on one wall first: then apply tile adhesive to the corner area of the second wall.
3. Press the perforated anchoring leg of the trim into the tile adhesive and align.
4. Trowel additional adhesive over the perforated anchoring leg to ensure full coverage and fill the cavity with tile adhesive.
5. Solidly embed adjacent tiles and adjust so they are flush with the profiles upper edge.
6. The tile is set to the lateral joint spacer, which ensures a uniform joint of 1.5mm.
7. Work on sensitive surfaces with materials and tools that do not cause scratches or damage.
8. **It is important to remove adhesive and grout residue from visible surfaces as these are alkali and therefore may cause corrosion.**
9. In addition, ensure that the profile is solidly embedded in the setting material and that all cavities are filled to prevent the collection of lime scale.

Random decorated tiles:

As a general guide, we suggest that the decorated tiles are used in a minimum ratio of 1:10, and a maximum ratio of 1:6 to the plain tiles.

Product Notes

Chips and blemishes:

In particular, handmade tiles will display various chips and blemishes which should either be placed in less conspicuous areas or be used for cut tiles.

Colour variation:

To ensure tonal variations are well mixed, tiles should be shuffled by drawing from all boxes prior to installation.

Crazing (or tiny cracks):

These occur in many glazed tiles prior to, during or after installation. This is a normal characteristic and will not affect the longevity or durability of the tile. Crazed tiles should be sealed with KF Stain Stop prior to cutting and again prior to grouting.

Decorated Panels:

Grout joints must be included in panels which may affect the accuracy of the picture.

External tiling:

Should you wish to tile externally please contact our Technical Department for tile suitability.

Floor tiles:

When fixing suitable floor tiles onto walls please refer to our Floor Tiling Installation Guide.

Pinholes:

These are tiny imperfections in the glaze of the tile. These tiles are unsuitable for use in wet areas.

Size variation:

Our handmade tiles will be subject to size variation. This variation can be accommodated by using a wider grout joint.

Glossary

Adhesion –	The ability to stick
Adhesive Spreader –	Tool used to apply measured depth of adhesive
Bedding –	Depth of material to seat tiles
Butter –	Applying a thin bed of adhesive to the back of the tile
Chipboard –	A composition of fibrous wood material
Coatings –	Material applied to a surface
Compacting –	Pressing material firmly into position
Crazing –	Tiny hairline fractures in a glaze
Curing –	Improvement in strength, hardness, durability and other properties of a material
Damp Proof	
Membrane (DPM) –	Material to prevent ingress of damp
Diamond Cutter –	Electrical tile cutting tool
Expansion Joints –	A space allowed for movement
Efflorescence -	The formation of soluble salts on the surface of tiles or grout
Fired Earth Primer –	A liquid used as a primer or sealer
Grout Float –	Tool used to apply grout
Grout Joints –	Channel formed between tiles to be filled with grout material
MDF –	Medium density fibre board
Mitre –	Cutting two angles to form a joint
Pinholes –	Tiny imperfections in a glaze
Primed –	Providing a treatment to aid adhesion
Sealing –	Applying a liquid to prevent ingress of moisture
Shadowing –	Light refraction where two panes of glass abut; or where water has seeped behind clear glass tiles that is visible through the tiles
Silicone Sealer –	An elastic material to seal joints
Slurry Coating –	A system used to prepare a surface for the application of a floor adhesive
Squeegee –	Rubber edged tool to aid application and removal of excess grout
Stud Partition –	Non load bearing wall built of timber construction
Substrate –	The surface onto which the tiles are to be laid
Tile Backer Board –	Mortar faced glass reinforced board.
Wet Locations –	Showers, steam rooms, etc.
WPB Plywood –	High quality water-resistant board

Fired Earth Tile Essential 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

All our installation guides are available to download from our website: Floor 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
Lithofin Technical	01962 732126

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.

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

Substrate Preparation Guide

Substrate	Gypsum Plaster	Plasterboard	Timber - WBP / Marine Grade Plywood	Existing Tiles	Render / Unrendered	Papered and Painted Surfaces	Tile Backer Board	
Weight Loading	Maximum weight 20kg per m ² *	Maximum weight 32kg per m ² *	Maximum weight 30kg per m ² *	See notes on page 5 **	Weight 40kg per m ² +	See notes on page 6 **	Weight 40kg per m ² +	
Watch Points	New plaster must be allowed to dry for at least 4 weeks	Ensure rigid and non-flexing	Ensure rigid and non-flexing	Ensure tiles are firmly bonded.	New render must be allowed to dry for at least 2 weeks. New brickwork or blockwork must be at least 6 weeks old before a render coat is applied or tiles are fixed	Must be mechanically removed.	Must be securely fixed according to manufacturer's instructions	
Preparation dry areas	Surface must be clean and dry. On new plaster, thoroughly dry brush with a stiff bristled brush before priming with FE Primer diluted 1:4 with water. The Primer must be completely dry prior to an additional coat of undiluted FE Primer.	Surface must be thoroughly clean and dry. Prime with undiluted Fired Earth Primer	Surface must be thoroughly clean and dry. Prime the underside, edges and face of the board with neat FE Primer	Surface must be thoroughly clean, dry and de-greased. Apply slurry bonding coat as below	Surface must be thoroughly clean and dry. Prime porous/dusty surfaces with FE Primer diluted 1:4 with clean water	Prime exposed underlying substrate with undiluted FE Primer	Surface must be clean and dry	
Preparation for wet areas	Follow instructions above and follow with FE Shower liner fitted in accordance with our Waterproofing Guide							n/a
Primer (PRIMER1L)	Diluted 1:4, 1 litre covers approximately 60m ² , used neat 1 litre covers approximately 12m ²	Undiluted 1 litre covers 12m ²	Mix 2 parts FE cement based adhesive with 1 part primer and apply to the tiles using a soft bristled brush and allow to dry. 1 litre covers approximately 3m ²	Diluted 1:4 1 Litre covers 60m ²	Undiluted 1 litre covers approximately 12m ²		n/a	

* Please pay particular attention to the weight loading of your substrate if you intend using floor tiles for wall tiling.

** It is important to identify to underlying substrate and check the relevant weight loading before tiling

Tile Essentials Product Selector – Glazed Wall Tiles

Product Range	Preparation	Tile Size	Adhesive		Sealant	Grout		Approximate Coverage	Maintenance
			Most suitable adhesive	Approximate Coverage		Most suitable grout	Approximate Coverage		
AGA Panel	Prepare substrate as per guide	7.5 x 15	Fired Earth Standard Set White Adhesive	2.75kg per m ²	KF Stain Stop	Fired Earth Wall and Floor Grout	1.3kg per m ²	Clean with a soft cloth and Lithofin Easycare	
Alpine		30 x 60					0.4kg per m ²		
Anatolia		20 x 20	All Fired Earth Grouts are suitable		0.5kg per m ²				
		20 x 10			0.7kg per m ²				
		10 x 10			0.9kg per m ²				
Andalucia		20 x 20	Fired Earth Standard Set White or Grey Adhesive		0.5kg per m ²				
		10 x 20			0.7kg per m ²				
		10 x 10			1.0kg per m ²				
Architecture			10 x 20		Fired Earth Standard Set White or Grey Adhesive	n/a	We recommend white, cream or limestone grout with these tiles		0.8kg per m ²
			10 x 30						0.8kg per m ²
			15 x 15						0.8kg per m ²
Bon Bon			7.5 x 15		Fired Earth Standard Set White Adhesive	n/a	All Fired Earth Grouts are suitable		1.0kg per m ²
			7.5 x 15						0.7kg per m ²
			11 x 11						1.2kg per m ²
Chantilly incl Vivid			10.5 x 10.5		Fired Earth Standard Set White Adhesive	2.75kg per m ²	Fired Earth Wall and Floor Grout		1.6kg per m ²
Cotignac		13 x 13	1.4kg per m ²						
Early English Delft		15.2 x 15.2	1.0kg per m ²						
Emma Bridgewater		7.5 x 15	Fired Earth Standard Set White or Grey Adhesive	KF Stain Stop	All Fired Earth Grouts are suitable	1.5kg per m ²			
		10 x 10				1.0kg per m ²			
		7.5 x 15				0.9kg per m ²			
Fenlands		10 x 10	Fired Earth Standard Set White Adhesive	KF Stain Stop	All Fired Earth Grouts are suitable	0.5kg per m ²			
Garden City		14 x 28				0.7kg per m ²			
Granada		7 x 28				0.9kg per m ²			
Ironbridge		15.2 x 15.2	Fired Earth Standard Set White or Grey Adhesive	N/A	Fired Earth Wall and Floor Grout	1.3kg per m ²			
		7.6 x 15.2				2.0kg per m ²			
		21.5 x 51.5				0.7kg per m ²			
Ladrillo		Bahia	Fired Earth Standard Set White or Grey Adhesive	N/A	Fired Earth Wall and Floor Grout	1.0kg per m ²			
		11.75x11.75				0.7kg per m ²			
Marrakech		17x17				0.7kg per m ²			

All coverages stated are approximate and should be considered as a guideline only.

Tile Essentials Product Selector – Glazed Wall Tiles continued

Product Range	Preparation	Tile Size	Adhesive		Sealant	Grout		Maintenance
			Most suitable adhesive	Approximate Coverage		Most suitable grout	Approximate Coverage	
Metallica		15 x 7.5	Fired Earth Standard Set White or Grey Adhesive		KF Stain Stop		0.7kg per m ²	
		7.5 x 7.5					1.0kg per m ²	
Metropolitan		15 x 7.5	Fired Earth Standard Set White or Grey Adhesive		n/a		0.7kg per m ²	
		7.5 x 7.5					1.0kg per m ²	
Midas		10 x 10			n/a		1.2kg per m ²	
Moustier		11 x 11			KF Stain Stop		1.2kg per m ²	
National Trust		15 x 15	Fired Earth Standard Set White Adhesive		n/a	All Fired Earth grouts are suitable	0.8kg per m ²	
Natural History & Chinoiserie Panels		10.3 x 10.3	Fired Earth Standard Set White or Grey Adhesive		KF Stain Stop		1.1kg per m ²	
		20 x 20					0.9kg per m ²	
New England	Prepare substrate as per guide	10 x 20	Fired Earth Standard Set White or Grey Adhesive				1.1kg per m ²	Clean with a soft cloth and Lithofin Easycare
		Brick Mosaics					2.9kg per m ²	
Retro Metro		Square Mosaics	Fired Earth Standard Set White or Grey Adhesive				4.8kg per m ²	
		7.5 x 15					0.8kg per m ²	
Renaissance		10 x 30	Fired Earth Standard Set White or Grey Adhesive		n/a	Fired Earth Wall and Floor Grout	0.7kg per m ²	
		15 x 15					1.0kg per m ²	
Soho Garden		7.5 x 15	Fired Earth Standard Set White or Grey Adhesive			All Fired Earth grouts are suitable	1.4kg per m ²	
		13 x 13					1.2kg per m ²	
Stonelustre		6.5 x 6.5	Fired Earth Standard Set White or Grey Adhesive				1.8kg per m ²	
		6.5 x 13					1.4kg per m ²	
Valencia		13 x 13	Fired Earth Standard Set White or Grey Adhesive		KF Stain Stop	Fired Earth Wall and Floor Grout	1.3kg per m ²	
		7.5 x 15					1.3kg per m ²	
		10 x 30					1.6kg per m ²	
							1.1kg per m ²	

All coverages stated are approximate and should be considered as a guideline only.

Tile Essentials Product Selector – Stone and Slate Wall Tiles

Product Range	Tile Size	D.I.Y Installer		Professional Installer		Grout	Grout Coverage
		Up to 30 x 30cm	Over 30 x 30cm	Up to 30 x 30cm	Over 30 x 30cm		
STONE							
Architectural Stone	7.5 x 7.5	FE Standard Set White Adhesive	N/A	FE Fast-set White Adhesive	N/A	We recommend light or dark grey Fired Earth Wall and Floor grout with these tiles	1.9kg per m ²
	7.5 x 15						1.5kg per m ²
	15 x 15						1kg per m ²
	15 x 60						0.6kg per m ²
	30 x 30 finger mosaics						3kg per m ²
	30 x 30 square mosaics						2.1kg per m ²
	Off-set mosaics						2.9kg per m ²
	Hexagon Mos						1kg per m ²
	2.3x4.8 Mos						1kg per m ²
	4.8x9.8 Mos						0.7kg per m ²
East Hampton	7.3x15	FE Standard Set White Adhesive	n/a	FE Fast-set White Adhesive	n/a	We recommend white with these tiles	0.8kg per m ²
	10x10						0.7kg per m ²
	9.9x30.5						0.8kg per m ²
	30.5x30.5						0.7kg per m ²
	30.5x61						0.4kg per m ²
Modernist	4.8x1.5 mosaic	FE Thick-bed White Adhesive	N/A	FE Fast-set White Adhesive	N/A	Limestone or cream	1kg per m ²
Roman Mosaics	10 x 10	FE Standard Set White Adhesive	N/A	FE Fast-set White Adhesive	N/A	We recommend limestone or cream Fired Earth Wall and Floor grout with these tiles	1.8kg per m ²
	20 x 20						0.9kg per m ²
	10 x 40						1.2kg per m ²
Timera	9.8 x 9.8	FE Standard Set White Adhesive	N/A	FE Fast-set White Adhesive	N/A	We recommend limestone or cream Fired Earth Wall and Floor grout with these tiles	1kg per m ²
	7.5 x 15						1kg per m ²
	15 x 15						0.9kg per m ²
Venetian Stone Mosaics	2.3cm mosaic sheets	FE Standard Set White Adhesive	N/A	FE Fast-set White Adhesive	N/A	We recommend limestone or cream Fired Earth Wall and Floor grout with these tiles	4.1kg per m ²
	10 x 10						1.8kg per m ²
	4.8cm mosaic sheets						2.2kg per m ²

Tile Essentials Product Selector – Stone and Slate Wall Tiles Continued

Product Range	Tile Size	D.I.Y Installer		Professional Installer		Grout	Grout Coverage
		Up to 30 x 30cm	Over 30 x 30cm	Up to 30 x 30cm	Over 30 x 30cm		
SLATE							
Urban slate	6 x 60	FE Standard set white or grey adhesive	N/A	FE Fast-set white or grey adhesive	N/A	We recommend light or dark grey Fired Earth Wall and Floor grout with these tiles	1.7kg per m ²
	8 x 100						1.3kg per m ²
	10 x 10						2.7kg per m ²
	12 x 60						1kg per m ²
	20 x 40						0.7kg per m ²
	20 x 80						0.6kg per m ²
Slate Mosaics	30 x 30	FE Standard set white or grey adhesive	N/A	FE Fast-set white or grey adhesive	N/A	We recommend light or dark grey Fired Earth Wall and Floor grout with these tiles	2.5kg per m ²
PORCELAIN							
All ranges	All sizes - only suitable for wall tiling if 12.5mm thick or less	FE Standard set white or grey adhesive	FE Standard set white or grey adhesive	FE Fast-set white or grey adhesive	FE Fast-set white or grey adhesive	Please refer to the floor tiling guide	Please refer to the floor tiling guide

Tile Essentials Product Selector – Glass Wall Tiles and Floor Tiles

Product Range	Preparation	Tile Size	Adhesive		Sealant	Grout		Maintenance										
			Most suitable adhesive	Approximate Coverage		Most suitable grout	Approximate Coverage											
GLASS																		
Iridescent Glass Mosaics	Prepare substrate as per guide	Square Mosaics	Fired Earth Standard Set White Adhesive	2.75kg per m ²	Seal grout joints with KF Grout Protector	All Fired Earth Grouts are suitable, check that grout does not scratch the glass tiles	2.95kg per m ²	Clean with a soft cloth and Lithofin Easycare										
		Fusion Mosaics					2kg per m ²											
Rectangle Mosaics	2.33kg per m ²																	
Prose/Stick Mosaics	2kg per m ²																	
Lattice Mosaics	2kg per m ²																	
Square Mosaics	2.95kg per m ²																	
Square Mosaics	2.8kg per m ²																	
Rectangle Mosaics	2.1kg per m ²																	
Liquid Glass	Prepare substrate as per guide. Brush apply slurry bonding coat consisting of 2 parts adhesive to 1 part Primer to back of tile and allow to dry.	11 x 11					Fired Earth Standard Set White Adhesive		2.75kg per m ²	Seal grout joints with KF Grout Protector	All Fired Earth Grouts are suitable, check that grout does not scratch the glass tiles	1.1kg per m ²	Clean with a soft cloth and Lithofin Easycare					
		7.5 x 15										1.2kg per m ²						
10 x 30	0.8kg per m ²																	
Square Mosaics	3.3kg per m ²																	
Rectangle Mosaics	2.6kg per m ²																	
Glass Elements	Prepare substrate as per guide	11 x 11	Fired Earth Standard Set White Adhesive	2.75kg per m ²	Seal grout joints with KF Grout Protector	All Fired Earth Grouts are suitable, check that grout does not scratch the glass tiles		1.1kg per m ²				Clean with a soft cloth and Lithofin Easycare						
		Mosaic sheets						4.0kg per m ²										
Malacassa Squares and Trapezium	Prepare substrate as per guide	Mosaic sheets						Fired Earth Standard Set White Adhesive						2.75kg per m ²	Seal grout joints with KF Grout Protector	All Fired Earth Grouts are suitable, check that grout does not scratch the glass tiles	4.0 kg per m2	Clean with a soft cloth and Lithofin Easycare
Malacassa Bricks																	2.5kg per m ²	

FLOOR TILES - ONLY SUITABLE FOR WALL TILING IF 12.5MM OR LESS

All ranges	Prepare substrate as per guide paying particular attention to the maximum tile weight	n/a	Fired Earth Flexible Standard Set Adhesive White or Grey. White adhesive is recommended when a light colour grout is to be used	3.3kg per m ²	Please refer to the floor tiling guide	Please refer to the floor tiling guide	Please refer to the floor tiling guide
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Sealants and Finishes

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) Excludes Roman Mosaics	Easy Care	Wexa	If a sheen is required, finish with MN Cobble Wax. This finish is not suitable for Roman Mosaics, external or wet areas. If colour intensifier is required apply MN Colour prior to MN Stain Stop. MN 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 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
Marrakech Glazed Terracotta	Not required	Not required	Not required	Easy Care	Not required	
Unglazed Porcelain	KF Cement Residue Remover (if required)	FZ Protective Impregnator	Not required	FZ Conditioning Cleaner	FZ Intensive Cleaner	Unglazed porcelain tiles - Travertino, Moderna, Neutrals, Terrano, Stena, Arboreto, Ardesa, Vita and Forma
Glazed Porcelain	Not required	Not required	KF Grout Protector	FZ Conditioning Cleaner	FZ Intensive Cleaner	Glazed Porcelain Tiles - Abbey, Sardinia, Umbria, Mono, Cotto and Giotto
Encaustic	Not required	Fila Fob	Fila Satin (Satin effect) or Fila Matt (Matt finish)	Fila Cleaner	Fila PS87	
Geometric	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	
Modernist Mosaics	Not required	MN Stain Stop	Not required	Easy Care	Wexa	This product is not suitable for sealing with MN ECO.