

Waterproofing
Showers and Bathrooms
Installation Guide

FIRED EARTH

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Waterproofing Showers and Bathrooms Guide

The purpose of this guide is to provide guidance on how a shower area or wet room can be successfully waterproofed and tiled with the products available within the Fired Earth range.

Domestic showers are becoming increasingly powerful in terms of the intensity and volume of water. Where as in a conventional gravity fed shower, normal tile fixing with dispersion-based adhesives and cement-based grout has been adequate in the past, modern showers can lead to tile failure as a result of the ingress of water into the structure.

In addition, the types of substrates used can be highly moisture sensitive e.g. plasterboard. The tiles may be unglazed, highly crackled or mosaics which will all greatly increase the risk of water or moisture penetration. Moisture sensitive substrates and absorbent tiles or joints place further demands on the installation. It is therefore imperative that shower areas and wet rooms are correctly installed and waterproofed.

It is important to remember that the design and installation of a shower area or wet room is a highly complex process, with the requirement for skilled and careful installation paramount if the successful waterproofing and tiling of the area is to be achieved. It is important that all instructions on packaging, adhesives, grouts and sealants should be read very carefully and fully understood before work commences.

Finally a word of caution: The information contained in this guide is for guidance only and should be used in conjunction with installation instructions provided with specific products. Fired Earth suggests that a professional and experienced plumber, tiler and builder (if required) are employed in the design and installation of a shower area or wet room.

How to use this guide

Section 1.

The first section of the guide provides details of the products available from Fired Earth which can be used to waterproof a shower or wet room area.

Section 2.

The second section gives guidance on the differing options available when planning a shower or wet room area. Guidance is given as to the types of shower and wet room areas which can be created.

Section 3.

The third section details the installation process of the products to create a waterproof shower or wet room area for the differing options available.

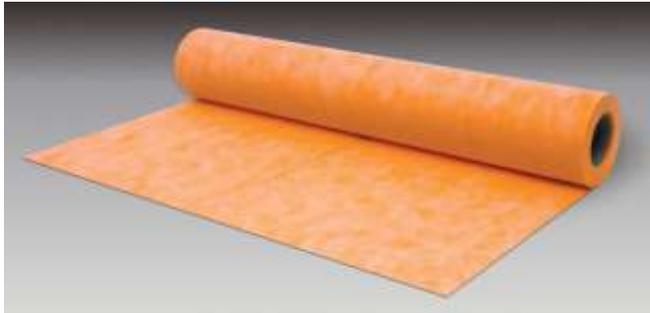
Section 4.

The fourth section details the installation process when installing under floor heating mats in unison with waterproofing products in a wet room.

Section 1.

Products used for Waterproofing.

Fired Earth Shower Liner.



Fired Earth shower liner is a waterproof membrane made of soft polyethylene, which has been covered on both sides with a fleece webbing to anchor the membrane in to a suitable tile adhesive.

It has been developed as a waterproofing membrane to be used in combination with all our wall tiles. Once adhered to the shower wall or wet room floor former, tiling can commence immediately without the delays experienced with liquid applied systems.

Shower liner can be used in conjunction with Norcros White or Grey Flexible Adhesive on the following secure substrates:

- Plaster (gypsum) skimmed walls.
- Plasterboard.
- Plywood.
- Existing tiles provided they are securely fixed to the substrate.
- Smooth rendered walls.
- 'Wet deck' floor formers.

(See the floor and wall tiling guides for more information on substrates.)

Fired Earth Shower Liner Tape.



Fired Earth Shower Liner tape is a 150mm wide band of waterproofing membrane which, when used in conjunction with Fired Earth Waterproof Adhesive, will provide a waterproof seal between separate sheets of shower liner or fleximat.

Fired Earth Waterproofing Adhesive.



Fired Earth Waterproofing Adhesive is a two part product, consisting of a powder adhesive and a liquid additive, which when mixed and installed in conjunction with shower liner tape will produce a watertight seal to joints and abutments between shower liner and fleximat.

Fired Earth Shower Liner Sealing Compound.



Fired Earth Shower Liner Sealing Compound is a waterproof adhesive used to adhere and seal the edges of shower liner and fleximat to surrounding substrates. Supplied in a tube and applied with a mastic gun it is ideal for sealing abutments between shower liner installed on a wall and a shower tray to which it abuts.

Fired Earth Fleximat



Fired Earth Fleximat is manufactured from polyethylene, moulded in to a grid structure of square cavities with a special anchoring fleece laminated to its underside. The fleece webbing, with the use of suitable tile adhesive, will anchor the membrane to the floor substrate. Fleximat has been developed as a decoupling membrane and, when used in conjunction with Shower Liner Tape, as a waterproofing membrane. Once correctly installed, fleximat can be tiled immediately with suitable tiles which must be larger than 5 x 5cm in size.

Fleximat can also be used in non wet room situations to provide an 'uncoupling membrane' between the floor substrate and the floor tiles. This is advisable when installing floor tiles on to floor boards, timber decked floors, floors incorporating under floor heating or as a means of bridging stress cracks in cement screeds to prevent them being transferred to the tiles.

Fleximat can be used on the following floor substrates:

- Sand and cement screed or concrete which must have had time to dry.
- Timber – 22mm plywood, securely fixed to joists at 150mm centres and with no deflection.
- Sound and secure timber floor boards, with no deflection.
- Timber floating floors, with no deflection.
- Substrates incorporating built in under floor heating.
- Substrates with an electric under floor heating mat.

Section 2.

What type of Shower or Wet Room area?

Once the decision has been made that a waterproof shower area is to be installed, the type of design then has to be chosen. A waterproof shower area can be designed in one of three ways.

A:

A shower tray installed, with waterproofing membrane to the walls:

The shower tray is installed; the walls are waterproofed and then finished with the chosen tiles. The installation is completed with a glass screen and/or door to the open sides of the shower tray.

OR

B:

A wet room shower, incorporating a 'wet deck' floor former and waste outlet:

The preformed floor former is installed to create a slope to a drain. Waterproofing is installed on to the floor former and the walls to create a watertight seal. The floor and walls are then finished with the chosen tiles. This is probably the simplest way to construct a wet room.

OR

C:

A wet room shower area where a fall is created in the floor, by the installer, to a waste outlet. Waterproofing is installed on to the floor and walls to create a watertight seal. The floor and walls are then finished with the chosen tiles.

Once the design has been chosen, reference should be made to the relevant section in the guide.

Section 3.

A: Waterproofing shower cubicle walls to a shower tray.

On completion of the installation of the shower tray the walls of the shower cubicle can be waterproofed using Fired Earth shower liner, shower liner tape, waterproof adhesive and shower liner sealing compound.

Installing Fired Earth Shower Liner



1. Prime the substrate with Norcros Substrate Primer, following the instructions on the bottle.
2. Mix Norcros White or Grey Flexible Adhesive Powder with clean water as per the instructions on the packaging.
3. Using a 3mm x 3mm notched trowel apply the adhesive to the substrate being waterproofed. Ensure that the adhesive remains 'open' while fitting the shower liner.
4. Roll out and press the shower liner into the adhesive using a flat trowel. Work the liner into the adhesive by applying pressure to the membrane in smooth, diagonal sweeps. Air bubbles must be worked out from under the membrane. Trim the membrane to fit as required.
5. Each sheet of shower liner should overlap the next by a minimum of 5cm; alternatively shower liner tape can be adhered over the join between each sheet using Fired Earth waterproof adhesive
6. Where it is necessary to seal around corners and edges etc. shower liner or shower liner tape can be cut and fitted ensuring a minimum 5cm overlap is achieved, again waterproof adhesive should be used in these areas.
7. At the point where the shower liner meets the shower tray, the shower liner must be sealed to the tray. The shower liner can be bonded to the tray with Fired Earth shower liner sealing compound.
8. Seal around any pipe work or plumbing etc which passes through the shower liner with shower liner sealing compound.
9. Where a waterproof seal is required between the shower liner up to metal, ceramic, chrome, resin etc, the seal should be formed by sealing the two parts together with shower liner sealing compound.
10. Once all of the surfaces to be tiled are covered correctly with the shower liner the shower walls are waterproof and tiling can begin. If tiles over 10mm in depth are being installed leave the membrane to dry over night.

B: Wet Room using a Wet Deck Floor former.

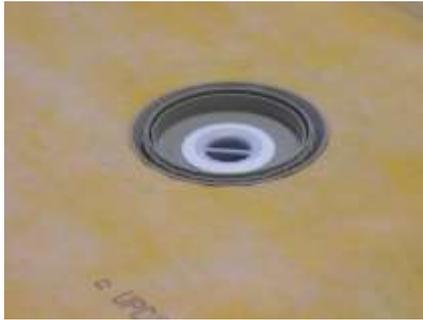
1. Ensure that the Wet Deck Roto or Wet Deck Linear floor former is installed as the installation instructions have directed. (See installation Instructions supplied with product)
2. Lightly sand the surface then prime the wet deck and substrate with Norcros Substrate Primer, following the instructions on the packaging.
3. Remove the clamping ring from the waste base plate of the wet deck floor former. (See installation Instructions supplied with product).
4. Measure enough Fired Earth Shower Liner to cover the wet deck area and a minimum of 5 cm all around so as to lap on to the surrounding floor area.
5. Mix Norcros White or Grey Flexible Adhesive Powder with clean water as per the instructions on the packaging.
6. Using a 3mm x 3mm notched trowel apply the adhesive to the wet deck floor former. Ensure that the adhesive remains 'open' while fitting the shower liner.
7. Press the shower liner into the adhesive using a flat trowel. Work the liner into the adhesive by applying pressure to the membrane in smooth, diagonal sweeps. Air bubbles must be worked out from under the membrane.



8. Dress the shower liner into the base plate by cutting around the outer ring using a knife. Note the Wet Dec Linear floor former has a different drain to that shown below, so the waterproofing will be slightly different. (See product installation instructions).



9. Glue the membrane clamping ring in place so as to trap the shower liner in place.



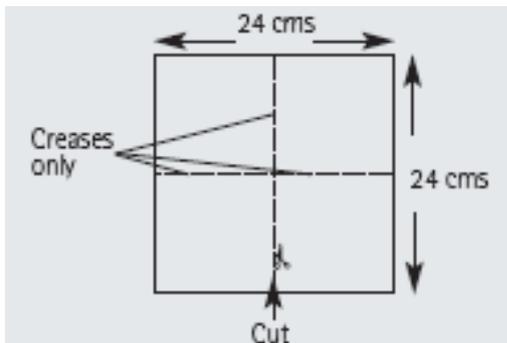
10. Each sheet of shower liner must overlap the next by a minimum of 5cm, alternatively Fired Earth Shower Liner Tape can be adhered over the join between each sheet using Fired Earth Waterproof Adhesive.
11. Seal all corners, abutments and edges with shower liner tape cut and fitted to shape ensuring a minimum 5cm overlap is achieved.
12. If tiles over 10mm in depth are being fitted leave the membrane to dry over night.
13. Fit the height adjustable gulley frame and tile ring to allow for the thickness of the tile, adhesive and any under floor heating. (See product installation instructions).
14. The transition between the shower liner on the wet deck floor former and the Fired Earth Fleximat on the surrounding floor substrate can be waterproofed at its junction by either lapping the fleximat over the top of the shower liner by a minimum of 5cm or using the shower liner tape and waterproofing adhesive over the join between the two products. (Note: If installing Fired Earth underfloor heating mats, then please refer to section 4).
15. Waterproof the walls surrounding the wet deck in the same way as described in A – Waterproofing walls to a shower tray. Seal the join between walls and floor with shower liner tape and waterproof adhesive.



Internal and External Corners.

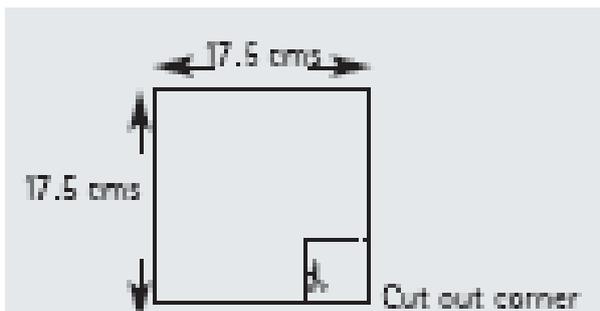
Internal Corners:

1. Cut out a square piece of Fired Earth Shower Liner measuring 24 x 24cm.
2. Fold the square in half and then into quarter and press the edges firmly to produce a crease in the fabric. The smaller squares should now be 12 x 12cm in size.
3. Cut down the length of one of the creases to the centre only.
4. Fit as shown in picture.



External Corners:

1. Cut an 'internal corner patch' as described above.
2. Cut a second patch 17.5 x 17.5 cm. Then in one corner, mark and cut out a square section measuring 5 x 5cm



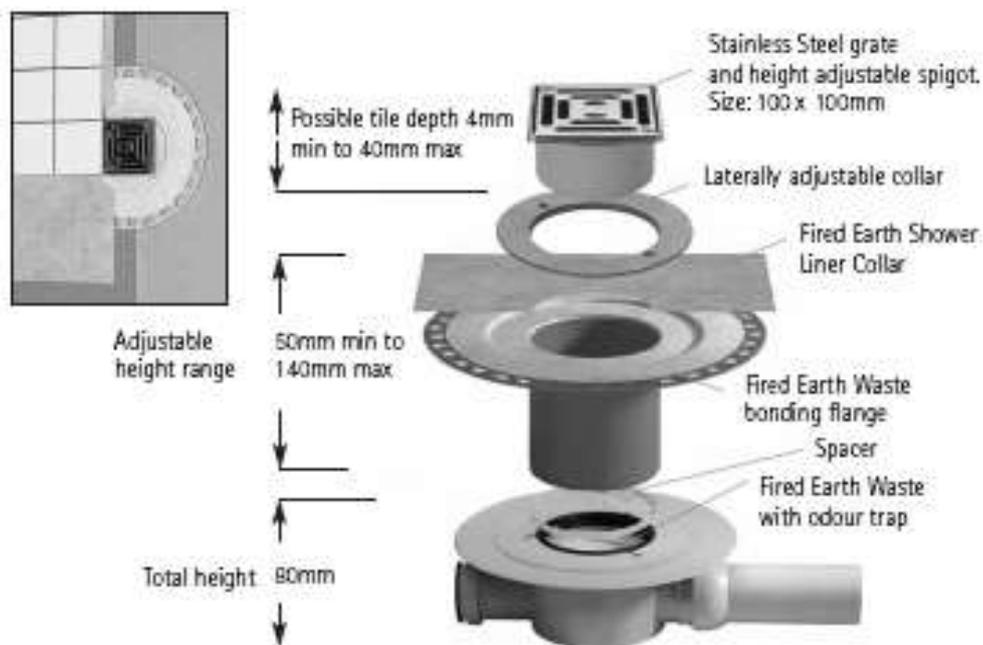
1. Fit the 'internal corner patch' first, wrapping it around the external corner.
2. Then fit the second 'L shaped patch' on the floor around the corner. Ensure that any laps are a minimum of 5cm to provide a waterproof seal

C: Wet Room with a Floor Waste.

The installation of Fired Earth Fleximat, combined with a Fired Earth Floor waste can provide a watertight and drained floor area. This, in addition to the walls being lined with Fired Earth Shower Liner will provide a watertight wet room area.

A Fired Earth Floor Waste is suitable to be installed in to either a screeded floor (during construction) or a suspended timber floor with an adequate fall. Whatever the construction of the floor, **it is important to ensure that the 'fall' within the shower area is sufficient to allow water to drain towards the Fired Earth Floor Waste effectively** and that the waste pipe can be installed within the floor.

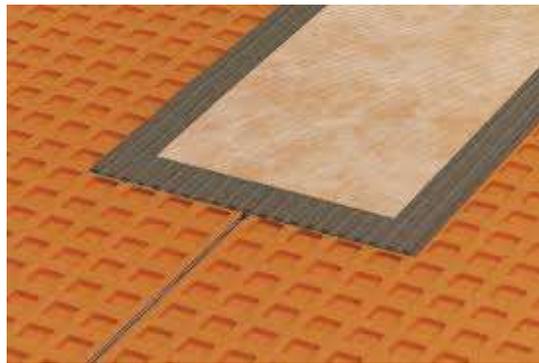
Fired Earth Floor Waste



Full installation details are supplied with the product for installing both the product and creating a watertight seal around the floor waste.



1. Prime the substrate with Norcros Substrate Primer, following the instructions on the packaging.
2. Mix Norcros White or Grey Flexible Adhesive Powder with clean water as per the instructions on the packaging.
3. Using a 3mm x 3mm notched trowel apply the adhesive to the floor substrate being waterproofed. Ensure that the adhesive remains 'open' while fitting the Fired Earth Fleximat.
4. Roll out, lightly stretch and press the fleximat into the adhesive using a flat trowel. Ensure that the anchoring fleece is on the underside. Work the fleximat into the adhesive by applying pressure to the membrane in smooth, diagonal sweeps. Air bubbles must be worked out from under the membrane.
5. Each sheet of fleximat must be butted against the next to enable the joint to be sealed with Fired Earth Shower Liner Tape.
6. Apply Fired Earth Waterproof Adhesive over the joint between each sheet to allow shower liner tape to be firmly adhered and to provide a waterproof seal. A minimum lap of 5cm is required to provide a waterproof seal.



7. Shower liner tape must also be installed so that it overlaps the perimeter walls and fixtures. There should be no voids remaining which could allow the ingress of moisture. Where the walls are also being waterproofed, the shower liner tape can be used to form a seamless water proof barrier between floor and wall.



8. If the membrane is breached for any reason e.g. holes drilled for fittings etc, then the hole must be filled with Shower Liner Sealing Compound during installation to ensure that the area remains waterproof.

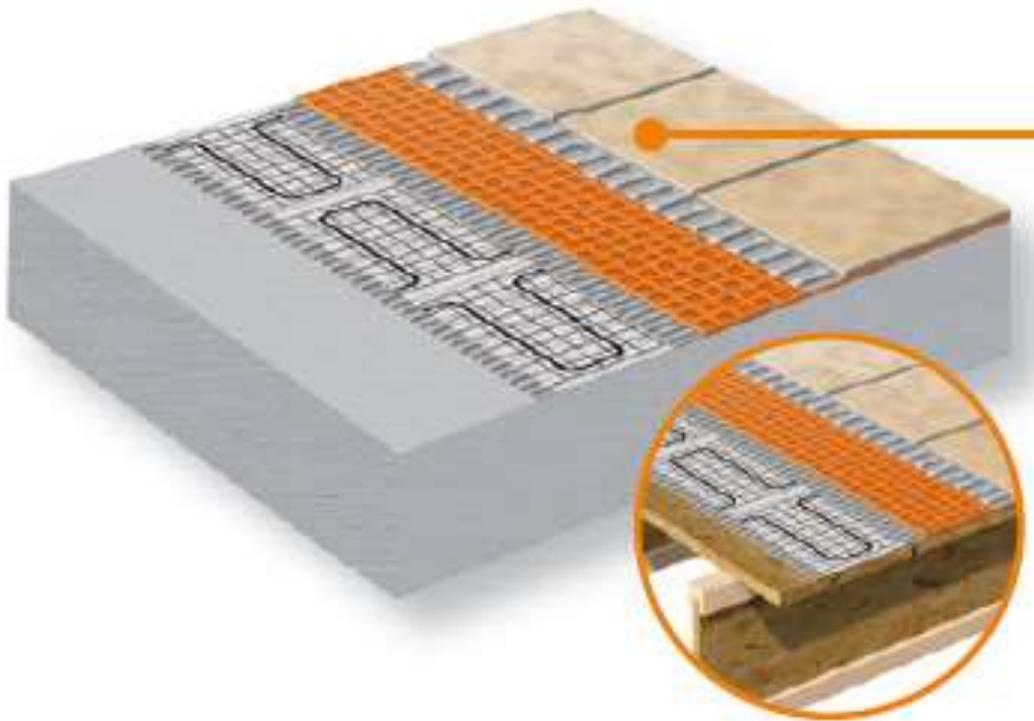
Section 4.

Underfloor Heating & Waterproofing in a Wet Room.

Fired Earth under floor mats can be used in a wet room floor as a means of heating the floor area.

Applying the heating mat on the main floor area:

The electric mat should be applied directly to the flooring substrate, prior to the Fired Earth Fleximat being installed. This allows the fleximat to effectively isolate the tile covering from the heated substrate, thus preventing stresses from damaging the tiled surface. The fleximat will not inhibit heat transfer or reduce the efficiency of the heating system.



- Fix the under floor heating mat to the substrate.
- Apply levelling compound over the top of the heating mat to protect the wires and fully attach the electric matting to the substrate.
- Once the levelling compound is dry, fit the fleximat using Norcros Flexible Adhesive to secure in place. (As per fleximat installation details).
- Install the floor tiles with the appropriate Norcros Flexible Adhesive.
- Full installation and operating details are supplied with the under floor heating mat.

Applying the heating mat on the main floor area and the wet deck floor former:

The heating mat can be installed on to the wet deck floor former, as well as the main floor area; this will continue the heating effect across the whole floor area and in to the wet deck area.

The wet deck area should be waterproofed using the Fired Earth Shower Liner as detailed in section **3 B**.

- Fix the shower Liner to the wet deck floor former, extending on to the main floor area by at least 5cm. (As detailed in section 3 B)
- Fix the heating mat on top of the shower Liner on the wet deck floor former and across the main floor area. Keep the heating mat clear of the waste outlet by at least 200mm. **(This is to ensure that the gradient is not compromised by the tile on the floor former).**
- Apply levelling compound over the top of the heating mat to protect the wires on the main floor area only. Applying levelling compound to the wet deck floor former must be avoided.
- Once the levelling compound is dry, fit the fleximat to the main floor area using Norcros Flexible Adhesive to fix in place. Ensure that the fleximat laps on to the previously laid shower liner by a minimum of 5cm.
- Install the floor tiles with the appropriate Norcros Flexible Adhesive.

Please refer to the Fired Earth Underfloor Heating guide for further information on the Warmup products.

General advice.

Tiling of cubicle walls:

If the design includes the installation of a shower screen then extra care should be taken to ensure that the finished tiled surface is true and plumb. The cubicle walls must be at right angles in order for the screens to be fitted properly and the tiling must be smooth, without lipping between tiles.

The grout needs to be flush with the tile surfaces, in order to minimise the risk of water escaping.

Sealing around the edges:

Wherever one plane of tiling meets another, or another material, there is a risk that cement based grouts will crack and allow moisture to penetrate the tiling. Therefore a suitable silicon sealant must be used which will allow for minimal movement by remaining pliable. All fixtures and fittings must also be sealed using the same technique to prevent similar problems. Once the work has been completed the shower should not be used until the silicon is fully cured.