Prior To Commencement

The building should be weather tight prior to commencement. The roof should be covered and all external doors and windows in place. Alternatively all openings are to be made weather proof with clear polythene. Remove all dust and debris from the floor surface and leave free from contamination.

Insulation

Usually the screed will be installed on top of some form of insulation. This is often Celotex, Kingspan or expanded polystyrene. Ensure that all high/low points are removed from the sub-base and that insulation boards are laid flat. The boards must be laid so that they are stable when walked on and should be tightly butt jointed with staggered joints. Where there are service pipes running across the floor, such as gas pipes, the insulation should be grooved on the underside to allow the pipes to sit within the insulation, rather than leaving the boards resting on top of the pipes.

Edge Strip

Once the insulation is installed, any vertical surface coming into contact with the screed, such as walls, stairs or pipes, should have a foam insulation edge strip stuck to it. This is to allow for any minor expansion once the screed is dry. There are various types of strip, but they are typically 8mm-10mm thick and come in rolls.

Tanking Membrane

The tanking membrane consists of reasonably heavy (500 gauge) polythene, which is placed on top of the insulation. The tanking membrane is not there to act as a damp proof membrane, but rather to stop the screed from escaping when it is poured. Care should be taken to make sure that all the joints are overlapped by at least 100mm and that all abutments are 100% water tight and fully taped. The polythene should be taken at least to the height of the edge strip up the face of any walls, pipes etc. and taped fully along the top edge. Ensure that all air pockets and voids are removed. Lay the polythene membrane ensuring that it is free from punctures and creases and ensure enough slack is given where the floor meets the wall and into the corners to allow the screed to form a sharp right angle. Exposed edges such as door openings or level changes should be provided with temporary formwork. Please note that when installing liquid screed, it is imperative that the preparation is carried out to the highest standard.

The pipes or cables for under floor heating should always be installed on top of the tanking membrane, not beneath it. he screws or staples used to hold the pipe or cable down will pierce the polythene seal the holes themselves, and do not cause any leaks.
Regardless of which system is used to hold down the cables or pipes, it should be installed so that there are no unfixed lengths of pipe or cable greater than 300mm long. If left unfixed, all under floor heating elements will float to the surface of the screed. Warm water systems should be filled prior to the application of our screeds to reduce the risk of pipes floating when the screed is poured. When setting out the floor areas consideration must be given to the minimum recommended thicknesses for a liquid screed as listed below.

- Un-bonded on slip-sheet/polythene laid direct to substrate 30-35mm
- Floating on insulation (Domestic) 40-50mm
- Floating on insulation (Commercial) 45-50mm
- Cover over top of conduits/underfloor heating pipes 30mm

Please make an allowance for tolerances and any isolated high spots in the substrate. These will dictate the minimum thickness of the screed and therefore impact upon the overall depth and material usage.

Setting The Levels

We will work from a place called a datum point. Typically, this will be from the stairs, but can also be from other areas such as a doorway or threshold.
We will then set out leveling gauges called 'tripods' and, using a laser, will set them to the correct depth to make sure that the finished screed surface is level throughout the building.

Installing Screed

The screed will then be pumped in and poured to the depths set by the tripods. Once this is done, the tripods are removed. To make sure that it is smooth, without any tide marks or air bubbles, we will then agitate the screed using a dappling bar. The installation is then complete.

Drying The Screed

The screed should now be left untouched until it is solid, which usually takes 48 hours. During this time, all the windows and doors should be kept shut and nobody should walk on the screed. Once the screed has become solid, the windows should then be opened to allow evaporation to take place helping the final drying stages. For more information on drying contact a member of our tecnical team on 0800 197 8802

Sub Floor Preparation

1:Scrape off any debris or mortar splashes from the sub-floor and brush the sub-floor leaving a flat clean surface on which to place the insulation.

Laying the insulation

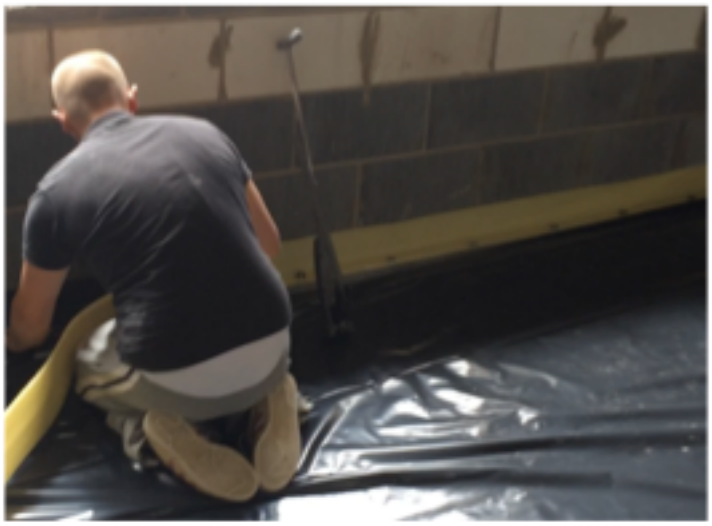
2:Place the insulation in 2 layers where service pipes are to be installed. Place the first layer between any service pipes on the sub-floor, ensuring it is laid flat.

Filling Voids

3:Fill any voids around the pipes, with dried sand and level off, then place the 2nd layer of insulation over the 1st layer ensuring it remains flat with no rocking

Laying the membrane

4:Lay 500 gauge plastic over the top of the insulation ensuring it is pulled tight with no creases and lap joints at a minimum of 100mm. Leave aprroximately 100mm of the membrane to ruin up the wall so the perimeter edging strip can be laid on top.

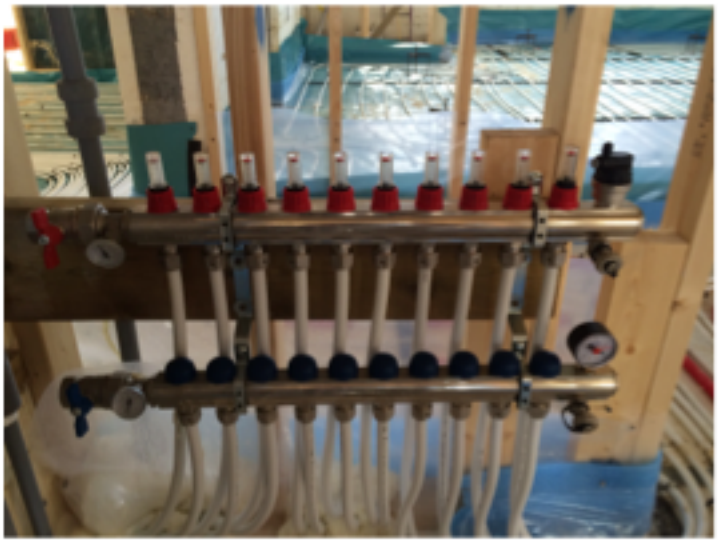


Perimeter

4:Install the edging strip around all walls, taking care to ensure it is neatly placed into all corners at 90 degrees. Tack the edging strip to the walls using a staple gun as required to hold it in position.

Laying the underfloor heating

5:Install the under floor heating pipes, ensuring they are appropriately fixed at every 400mm along the length of the pipes more frequently on bends.



Pressurising the system

6:Fill the under floor heating pipes with water and check for any signs of leaking. Perform a pressure test to ensure the pipes hold water under pressure.

Control Joints.

As liquid screed has minimal drying shrinkage, control joints are not usually needed at less than 40m lengths.
In the case of long narrow sections, where the aspect ratio of the floor is greater than about 1:6, a joint or joints are recommended to reduce the ratio.
Control joints will also be needed between any areas of heated floor and unheated floor.
They should also be used at doors and similar restrictions in plan dimension.
All structural joints in the sub-base should be carried through the screed or reflected cracking may occur.

Quality Control

Only approved contractors can lay anhydrite liquid screed. UK Screeds Ltd are approved installers when we arrive on site and set up the pump, check and setup levels with multiple, evenly placed tripods and agree a datum level with you. We will then measure the floor to ensure that the materials we have ordered are sufficient to fill the designated areas which are to be screeded. Once the mixer truck arrives with the screed we will commence pumping the liquid screed. The screed is then dappled in two directions to level the surface and then left
to dry.

Trafficking

Liquid screed can usually accept light site traffic after about 24 - 48 hours. It is sometimes possible to traffic the morning after the previous installation.
Full site traffic should be avoided for at least 2-3 days. Where heavier site traffic is expected, it is advisable to temporarily protect these areas with plywood sheets, which should be removed in good time to permit adequate drying.

Curing

It is essential that the material is allowed to cure undisturbed for the first 24-48 hour period. The floor area should be closed to all traffic.
Traditional curing procedures using impermeable membranes are not necessary but rapid loss of moisture should be avoided during the first 24-48 hours.
Where windows and/or doors are not installed, a temporary provision must be made using appropriate materials.
Direct sunlight must be avoided during the first 24-48 hour curing period. Windows and glass doors with a southern aspect should be covered temporarily for this period. After the first 24-48 hours of curing doors and windows may be opened.

Drying

It is important to note that drying times relate to ambient humidity, temperature and number of air changes.
In general, liquid screed installed as an un-bonded system dries at a rate of 1mm per day for the first 40mm of depth and 0.5mm per day for any depth over and above this. This is provided a temperature of 20 degrees celcius is maintained and 65% relative humidity.
Where drying temperatures are high and humidity is low, drying time will be less. Unlike conventional cement / sand screeds, dehumidifiers may be used to accelerate drying. These should only be used 2 to 5 days after placing.
Where under floor heating is installed this can be used to decrease drying times but should only be used after the first 7 days. The heating system temperature should be built up gradually at a rate of 5 degrees celsius per day.
Prior to the installation of a floor covering, liquid screed must have dried to an approved level. For moisture sensitive coverings the code of practice value is stated as 75% relative humidity, which equates to 0.5% moisture content by mass. Below this value impermeable floor finishes may be applied.

During the Drying Out Period (after 24 - 48 hours)

Avoid water ingress to completed screeds and arrange to dry out accidental ingress as soon as possible. The screed may suffer a minor loss of strength if it becomes wet however, this strength will generally be regained when it dries out. Open windows on all sides of the building in order to achieve good cross ventilation and air changes thus accelerating the drying out process. A typical 40mm thick screed can be expected to dry to 0.5% moisture content in 40 days under ideal conditions. This can however be greatly affected by actual conditions.

Forced Drying

Unlike cement based screeds, calcium sulphate screeds can be forced dried, by commissioning the underfloor heating system (if applicable) or by utilising a dehumidifier.
Commissioning Underfloor Heating:
After 7 days of installation of the liquid screed, the commissioning process starts with a water temperature (UFH manifold) of 25°C, which is maintained for three days. The water temperature is then raised to the maximum value (max. 55°C) and kept at this level for at least 4 days. Allow for plenty of ventilation by opening windows on each side of the building. Please note: it is essential that the building receives sufficient air changes in order to achieve low air humidity (65% RH). Continue with above procedures for approximately 4 weeks or until a moisture content of 0.5% (tiling/vinyl) or 1% (carpet) is achieved. Please refer to a moisture testing expert or flooring installation company for further details.

Using a Dehumidifier

After 7 days of the installation of the liquid screeds, introduce heat and utilise a dehumidifier with enough capacity for the m3 area of the building. Use several dehumidifiers if required. Keep windows and doors closed in order for the dehumidifier to work efficiently. Continue with above procedures until a moisture content of 0.5% (tiling/vinyl) or 1% (carpet) is achieved. Moisture testing by Hair Hygrometer can be arranged upon request at an additional charge.

Laitance Removal and Priming

Once the anhydrite liquid screed has been laid, the thin layer of laitance left as any surface water evaporates should be removed by sanding the floor approximately 7-10 days after application. This will not only help the drying out process, but will also provide a stable surface on which to tile onto. A calcium sulphate compatible primer should be applied to the floor once the floor has completely dried to the recommended moisture levels at which point a floor covering can be applied. It is also important that any adhesive used is anhydrite / calcium sulphate compatible. Please check with your chosen suppliers to ensure that this is the case.

The performance and finish achieved by UK Screeds Ltd is dependent on the conditions in which it is installed and for a period thereafter. It is essential the following site conditions are provided During screed pour and 24 hours thereafter:
The entire area where the screed is to be installed must be frost-free and not subject to temperatures of less than 5°C or more than 30°C. The surface of the screed must be protected from severe draughts and direct sunlight. The temperature of the area where screed is placed should not fall below 5°C.

For further information or guidance please call a member of our technical team on 0800 197 8802 who will be happy to help!