How to use UltraFloor Smoothing Underlayments on Calcium Sulphate Screeds

Flowable calcium sulphate screeds, also known as anhydrite, hemi hydrite and gypsum screeds have many advantages over traditional sand / cement screeds.

Calcium sulphate screeds can be laid more thinly than sand / cement resulting in lighter weight loadings, are often formulated using industrial by-products, helping you reach environmental goals and because they can be pumped, calcium sulphate screeds are much quicker to install.

Before a flooring installation takes place it is important that calcium sulphate screeds be identified as they have different application requirements to other screeds. Visually, calcium sulphate screeds do not differ from traditional screeds, therefore it is always a good idea to enquire about the subfloor, particularly if it contains underfloor heating.

Unlike sand / cement and cementitious products, which can still have extremely impressive tensile and compressive strengths whilst retaining a high level of moisture, calcium sulphate screeds need to reach a specific level of dryness in order for them to perform correctly underneath floor coverings. It is essential to know the moisture reading of a calcium sulphate floor before applying any smoothing underlayment.

MOISTURE TESTING BEFORE THE APPLICATION OF SMOOTHING UNDERLAYMENTS

The approved method for testing moisture is to use a surface hygrometer. This insulated box is fixed to an unheated floor, typically for 4 days, after which time any moisture in the air will have been trapped in the box and reached equilibrium. The air in the box can then be tested using either an analogue or digital hygrometer and if the reading is less than 75%RH (relative humidity), the screed is dry enough to proceed with the installation.

Other indicative tests can be used to help identity if moisture is present or if the screed is close to dry. One such test is to tape a piece of plastic to the floor for 48 hours. Moisture condensing on the underside of the plastic, or a darkening of the screed, indicates moisture levels are still significant. The recommended drying times for calcium sulphate screeds, as quoted by most manufacturers, are usually based on drying conditions at 20°C, low air humidity and an open surface with no materials overlaid. However, these conditions do not always represent a typical site scenario so they should not be relied upon.

How to use UltraFloor Smoothing Underlayments on Calcium Sulphate Screeds

UNDERFLOOR HEATING WITHIN THE SCREED

It is also important to remember that underfloor heating must be fully commissioned before continuing with a flooring installation. A simple air pressure test is not sufficient enough to achieve this and a full cycle through the heating range should be completed instead. This is necessary for a number of reasons including:

1. To ensure there aren't any leaks in the system
2. To see if there are weaknesses in the screed by identifying any likely points of cracking and spalling (typically due to poor installation of the screed with heating)
3. To assist drying of the screed

If underfloor heating is present, expansion strips should be used between the different heating zones to enable the screed to move independently, around any perimeters and at upstands and door thresholds. In all cases, the expansion strips must not be covered over and should be carried through to the upper floor finish using a silicone sealant, or similar, to achieve a continuous floor.

When underfloor heating has been installed we advise that a polymer modified smoothing underlayment is used. It is also beneficial to use a fast setting product to help minimise the migration of moisture between the screed and smoothing underlayment during curing.

PREPARATION

Once the above criteria has been completed and fully met, it is advisable to mechanically abrade all screeds using a rotary disc to remove any laitance and weak upper surface, usually caused as a result of fibres floating to the surface during wet installation. Some screeds have specific requirements to complete this process so advice should always be sought from the manufacturer.

It is imperative that all laitance is completely removed and any dust and debris has been vacuumed to leave a stable, open textured, dust free surface. Failure to do so will result in costly failure when the smoothing underlayment is applied.

CHOOSING A SMOOTHING UNDERLAYMENT

UltraFloor have developed a number of smoothing underlayments that are perfectly suited for use on calcium sulphate screeds. These include:

- Level IT Bond
- Level IT Two
- Level IT SuperFlex 30
- Level IT Renovate
- Level IT Smooth

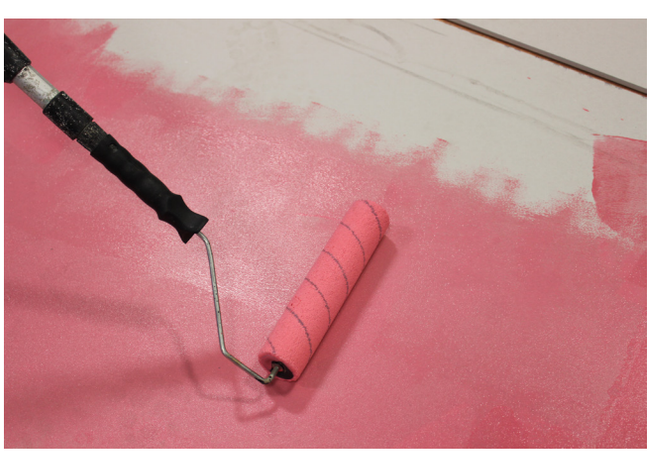
How to use UltraFloor Smoothing Underlayments on Calcium Sulphate Screeds

Detailed product information and the technical capabilities for each of these products can be found by visiting ultrafloor.co.uk.

PRIMING

It is essential to prime when using UltraFloor's smoothing underlayments as the risk of an adverse chemical reaction (Ettringite attack) with calcium sulphate screeds will be reduced when levelling is carried out.

It is always good practice to prime your substrate as it ensures finer dust particles are bonded and sealed. Priming also creates an effective barrier and assists in consolidating the prepared surface, making it more stable as well as ensuring your chosen smoothing underlayment is fully bonded to the screed. For optimum results, we recommend using UltraFloor Prime IT Multi-surface Primer.



For more information on how best to approach calcium sulphate screeds or for further technical information on any of the products mentioned, please contact UltraFloor's team of experts by emailing ultrafloor@instarmac.co.uk, calling 01827 254402 or visiting ultrafloor.co.uk.