

## Site Preparation & Finished Screed Conditioning

### Site Conditions

The performance and finish achieved by the Thermoscreed is dependent on the conditions in which it is installed and for the immediate 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 the screed is placed should not fall below 5°C.

During the drying out period (after 24 hours):

- Avoid water ingress to completed screeds and arrange to dry out excess moisture or 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.
- The use of forced drying methods, unlike with cement based screeds, can be employed with Thermoscreed. This can be achieved by either the commissioning the underfloor heating system (if applicable) or by utilising a dehumidifier(s).

Commissioning Underfloor Heating:

- After 7 days from installation of the Thermoscreed the commissioning of the UFH system process can start 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 that it is essential** that the building receives sufficient air changes in order to achieve low air humidity (< 65% RH).
- Continue with above procedures until a moisture content of 0.5% (tiling/vinyl) or 1% (carpet) is achieved. Please refer to moisture testing for further details.

#### Utilising a dehumidifier:

- After 7 days of the installation of the Thermoscreed introduce heat and utilise a dehumidifier with enough capacity for the m<sup>3</sup> 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. Please refer to moisture testing for further details.

#### Moisture Testing by CM Tester (CM)

- The CM tester works according to the carbide method, using the destruction of calcium carbide in water. During this reaction acetylene gas is formed which causes an increase in pressure in the vessel. From the measured pressure and the test portion of the material to be tested, the water content of the sample is read from a table or directly from the manometer.
- A representative sample has to be taken from the dry Thermoscreed floor.
- This should cover the whole thickness of the floor material. For parquet finish floor, the sample is taken from the lower to middle area of the screed.
- Before filling the vessel, the material has to be crushed and slightly milled. The larger pieces of mineral aggregates should be removed. By shaking the vessel well with inclusion of steel balls, the desired final crushing will be achieved. Use 100g of crushed screed (depending on type of CM tester).
- With calcium sulphate based screeds, after 10 minutes, there may be a further increase of pressure. Disregard this, as it indicates chemically bound water. The requirements are for a maximum of 1% water by weight for moisture permeable floorings (e.g. carpets) and 0.5% water by weight for impermeable floorings (e.g. vinyl, ceramic and stone). An electronic CM device is helpful to locate the highest moisture content location of the floor. The reading can then be confirmed by testing to the carbide method. .

#### Moisture Testing by Hair Hygrometer (RH)

- The British Standard for testing a base to receive a resilient floor covering is to use a hair hygrometer to the method defined in BS8203: 2001. This provides a non-destructive test method and will give results for Relative Humidity near to 75% (which is generally the required limit for floor finishes) Above this level of moisture the hair hygrometer may not always provide a meaningful reading. For correct results, the BS8023 method must be strictly adhered to, including the use of a correctly sized and insulated box sealed to the floor, a sufficiently long test for equilibrium to be reached and the use (where appropriate) of an impervious sheet around the instrument.

#### Disclaimer

- No responsibility can be taken by the Michael Cronin Readymix for any defects or deficiencies in the completed work arising from any failure to comply with recommended practice in the installation of the Thermoscreed product or resulting from any failure to comply with the manufacturer's instructions or other instructions issued in respect of other elements of the system being installed.

#### Surface DPM (Moisture Suppressing Membrane)

- In general, surface applied DPM systems do not stop the passage of moisture, they actually allow the passage of moisture from the Thermoscreed to the floor finishes, but at a greatly reduced and controlled rate. It will always be best practice and economical to dry the Thermoscreed rather than use a surface DPM. However, because of time constraints or site conditions the Thermoscreed can be covered with a surface DPM, providing certain criteria are met.
- Care must be taken regarding the amount of moisture trapped in the screed, as this will have an effect on the strength gain. Applying a moisture suppressing Surface DPM will effectively cap the strength of the screed, thus it should not be applied until the screed has gained sufficient strength in order to install floor finishes.
- Without forced drying methods of the screed (as discussed earlier), we recommend the Thermoscreed to be at least 4 weeks cured before applying a surface DPM. Moisture content must be < 1.5% CM or 87% RH, tested as described earlier.
- When forced dried using underfloor heating, observe recommendations. When the maximum temperature value has reached (max. 55°C), it should be held at this level for at least 24 hours, before allowed to cool to normal room temperature.
- Any possible laitance or contamination should be removed using grinding or sanding techniques. Moisture content must be < 1.5% CM or 87% RH, tested as described earlier.

#### Disclaimer

- Michael Cronin readymix cannot guarantee the performance of another manufacturer's DPM, suitability should be sought from the DPM manufacturer that the product is suitable for calcium sulphate based screeds with regards to overall performance and vapour transmission rates.

#### Priming / Sealing

- If a cement based adhesive or smoothing compound is required, the surface of the Thermoscreed must first be sealed using an appropriate acrylic primer/sealer as directed. A minimum of 2 no. coats is essential.