TEKCEM

Underfloor Heating Commissioning Protocol

THIN SECTION FIBRE REINFORCED SCREEDS

SCREEDS COVERED BY THE BELOW INCLUDE: TEKCEM 375 FIBRE AND TEKCEM 550 FIBRE

Complying to BS EN 1264-4:2009; BS 8203:2001+A1:2009; BS 8204-1:2003+A1:2009

Prior to the installation of any final floor finishes and in accordance with the British standards as listed above, its is recommended that floor constructions containing UFH pipework should be commissioned by having a full heating cycle completed.

The primary function of completing the heating cycle prior to floor finish application is to allow the screed to thermally expand and contract which will relieve any stresses that may be contained within the screed to be released. The process requires that the UFH system be operated from a low set point and increased gradually until reaching the maximum design water flow temperature as advised by the UFH manufacture. Once achieved the screed should be maintained for a prolonged period and then finally turned off and allowed to cool naturally.

At this point any stresses within the screed should be released – any cracks that appear should be repaired at this point using a suitable repair method such as Tekcem SRS or Tekcem Screedfix.

The requirement as detailed within BS EN 1264-4, clause 4.4, is that cementitious screeds must wait until at least 21 days after being laid before heat can be applied – However the rapid drying profile of the Tekcem Fibre screed range allows early engagement of the commissioning cycle. The thickness of the screed will define how early the floor heating cion commence.

BELOW IS A TYPICAL GUIDE TO EARLIEST SWITCH ON TIME AFTER APPLICATION
(based on good internal temperature (15°c-20°c) and drying conditions <65%RH)

15-20mm – 4 days*
20-30mm – 5 days*
30-40mm – 7 days*
40-60mm – 10 days*

*The RH of the floor should be <75%RH before the UFH system commissioning begins.

FOR LOW PROFILE SYSTEMS – SCREED DEPTH LESS THAN 30MM

The initial water flow temperature of the system should not be above 25°c or greater than 15°c above the measured screed surface temperature (whichever is the lower). This initial temperature should be maintained for a period of 1-day before any increase to the primary water temperature – this it to ensure the screed is not thermally shocked, which could risk cracking.

After the 1 day warm up period the primary water flow temperature should be increased by a maximum of 5°c per day up to the maximum design temperature as detailed by the UFH manufacture. The maximum water temperate should not exceed 55°c.

Once the maximum temperature is achieved it should be maintained for a period of 1 day. After this period has been completed the UFH system should be switched off and the screed allowed to cool naturally. At this point any repairs requiring to be undertaken can be completed. The process of commissioning should be recorded.

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FOR SCREEDS OVER 30MM DEEP

The initial water flow temperature of the system should not be above 25°c or greater than 15°c above the measured screed surface temperature (whichever is the lower). This initial temperature should be maintained for a period of 2 days before any increase to the primary water temperature – this it to ensure the screed is not thermally shocked, which could risk cracking.

After the 2 days warm up period the primary water flow temperature should be increased by a maximum of 5°c per day up to the maximum design temperature as detailed by the UFH manufacture. The maximum water temperate should not exceed 55°c.

Once the maximum temperature is achieved it should be maintained for a period of 2 days. After this period has been completed the UFH system should be switched off and the screed allowed to cool naturally. At this point any repairs requiring to be undertaken can be completed. The process of commissioning should be recorded.

For most floor finished as detailed with the BS8203 (Resilient floor finishes) the minimum Relative Humidity value of the floor to enable installation to commence is 75%RH or below.

Relative Humidity testing of the floor should not be done when the floor is being heated as this will not provide an accurate reading. Testing should be at least 48hours after the heating has been switched off and the floor is cool.

BELOW IS AN EXAMPLE OF A TYPICAL HEAT UP CYCLE WITH A DESIGN WATER PRIMARY FLOW TEMPERATURE OF 40°C AND SCREED DEPTH UNDER 30MM DEEP

Day 1 – Initial Switch on – 25°c

Day 2 – Increase to 30°c

Day 3 – Increase to 35°c

Day 4 – Increase to 40°c

Day 5 – Switch off and allow to cool naturally.

BELOW IS AN EXAMPLE OF A TYPICAL HEAT UP CYCLE WITH A DESIGN WATER PRIMARY FLOW TEMPERATURE OF 40°C AND SCREED DEPTH OVER 30MM DEEP

Day 1 – Initial Switch on – 25°c

Day 2 – Maintain at 25°c

Day 3 – Increase to 30°c

Day 4 – Increase to 35°c

Day 5 – Increase to 40°c

Day 6 – Maintain at 40°c

Day 7 – Switch off and allow to cool naturally.

Note: It is the responsibility of the following trades to confirm the acceptability of Moisture Content in the screed.