

THERMAL REFLECTIONS LTD

INSTALLATION INSTRUCTIONS

IN-SCREED UNDERFLOOR HEATING SYSTEM

SUB FLOOR MATERIAL: **CONCRETE**

NOTE 1 THIS PRODUCT IS ONLY TO BE USED FOR FLOOR HEATING

NOTE 2 THE HEATING CABLE SHOULD ONLY BE INSTALLED BY A QUALIFIED TECHNICIAN

NOTE 3 CAREFULLY READ THROUGH ALL THE INSTRUCTIONS BEFORE STARTING THE INSTALLATION

- 1 Ensure that the equipment supplied corresponds with the delivery note.
- 2 Measure the resistance value (phase to neutral) of the cable. Also measure the insulation of the cable using an Insulation / Continuity test instrument, minimum 10Mohms. The insulation and resistance values ($\pm 10\%$) must be measured before and after embedding. This is to confirm that no damage has occurred during the installation.
- 3 The high bond self-adhesive tape is used to fix the cable to the floor. **It is essential to first apply a primer to a concrete surface.** This serves two purposes:
 - a) to provide a bond for the tape and;
 - b) to ensure that the screed which covers the HEATING CABLE bonds satisfactorily to the concrete.
- 4 The depth of the screed should be a minimum of 50mm of cementitious screed.
IT IS MOST IMPORTANT THAT WHEN LAYING A 50mm SCREED THAT THE SCREED IS WELL TAMPED DOWN TO EXCLUDE AIR POCKETS AROUND THE CABLE.

- 5 The HEATING CABLE is manufactured with a built in return, i.e. only one end (cold cable) is connected. The cold cable may be shortened but **DO NOT CUT** the HEATING CABLE.
- 6 The HEATING CABLE is manufactured in specific lengths. The length supplied corresponds to the floor area, which is to be heated. Therefore, roll out the cable, starting at the connection box end. It may help to mark out the cable layout on the floor before starting. To achieve an even heat distribution the cable must be laid correctly. Please take time to ensure that this part of the job is satisfactory. A simple calculation will give the cable spacing in mm:
$$\frac{\text{Area of room (m}^2\text{)} \times 1000}{\text{Length of cable (m)}}$$
- 7 The point where the “cold cable” joins the HEATING CABLE must be embedded in the screed. This joint must not be allowed to be under tension, either during, or after installation.
- 8 One section of cable must not lie over another section, be crossed, or touch another section.
- 9 The HEATING CABLE must not cross expansion joints in concrete.
- 10 If the cable is to be laid on an insulation board, use either a foil or plaster faced board. Do not lay the cables on a soft insulation that may allow the cable to sink down into it. Do not permit the cable to drop between gaps in the insulation. Butt the insulation sheets tightly together and seal the joints with tape.
- 11 Control of the room temperature takes place using a thermostat whose sensor is placed in the screed in-between two cable runs, minimum of 500mm from a wall. The sensor should be placed inside the black plastic pipe, (included) for protection.
- 12 Please see separate Operating & Installation instructions for the thermostat. These instructions are packed in with the thermostat and sensor cable.
- 13 The maximum switching capacity of the Aube digital thermostat is 15A. Where the total system requirement exceeds this current, a suitable power contactor should be used with the system.
- 14 The system must not be used for at least one month after installation. This is to ensure that the screed is cured to full strength and has dried naturally.
- 15 After one month drying, run the system at a low temperature setting. Increase the temperature gradually over a few days.

If any problems are experienced during installation please contact our office for assistance on 01472 346795

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