Dual core slab heating cable installation guide

FLOOR HEATING

Materials required

1. Netting clips and C-Clip Pliers
2. Tape Measure
3. Insulation Tester 500Volt
4. Flexible conduit (supplied)
5. Wire or tape (fix flexible conduit to mesh)

Step 1.

Inspect the site to ensure that the concrete reinforcing mesh has been laid out and supported as per the builder's plan and your own floor plan. Any deviation or modification with regard to the slab heater layout should be taken into account at this time.

Step 2.

Mark the walls and built in joinery on the plastic membrane before laying out the cable.

Step 3.

The **slab** heater should be tested with a 500V insulation tester, for insulation and continuity, prior to cable laying. The heater should have an infinity insulation value.

Step 4.

Determine the starting point on the plan.

Step 5

Lay the cable in accordance with the required **spacing**. See below how to calculate spacing.

It is recommended that the cable be clipped to the mesh at 400-500mm intervals.

Step 6.

The conduit should be slid over the cold tails when they are in position then wire or tape securely to the mesh.

Cable spacing instructions

Cable spacing is determined by the available floor area and slab heater length and can vary from 100mm to 200mm. A simple formula is used to calculate the correct spacing of the elements to cover the area involved.

Cable spacing formula

$$\frac{\text{heated floor area m}^2 \text{ X } 1000}{\text{element length (m)}}$$

Note: Heated floor area delete the distance cables start from walls. eg: 100mm each end.

Example: Room size = 5.2m X 6.2m
= 32.24m²

Select 6kW heating element 200m

$$\frac{SP = A \times 1000}{L}$$

$$\frac{4.8 \times 5.8 \times 1000}{200}$$

= 150mm spacing

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Dead end

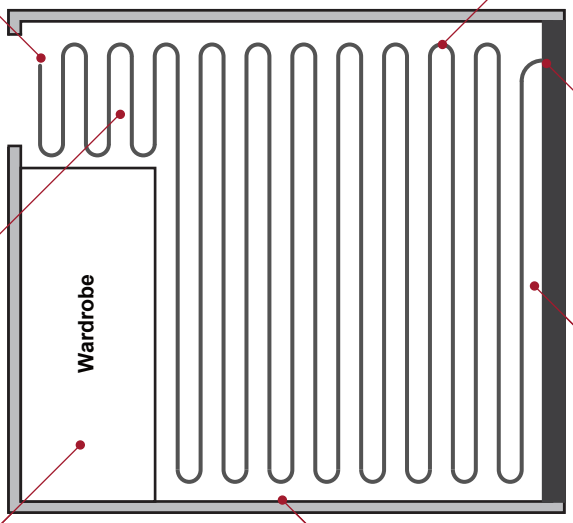
Cable to finish in concrete.

Adjacent cable runs

Adjacent cable runs should never be closer than 50mm.

Partition walls

Cables must not be installed under or within 75mm of built in joinery, kitchen fittings, baths, showers, vanities, or through expansion joints.



Cable bends

The radius of bends should not be too severe and a minimum be 6 times the cable diameter.

Cold tail

Cold tail to turn up to junction box or thermosat.

Outside walls

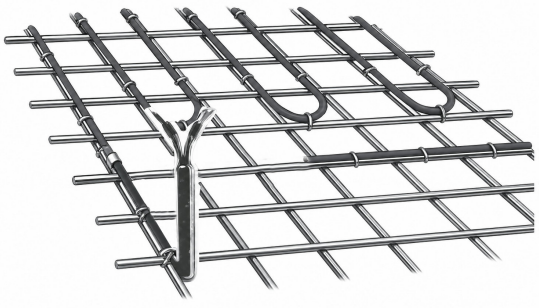
The cable should be installed 100mm from outside walls

Partition walls

Cables must not be installed under or within 75mm of partition walls

Attention

- Do NOT cut the heating cable, it cannot be shortened or lenthened.
- The heating cable runs should not touch or cross, or be closer than 50mm, and must not be in direct contact with any insulation material.
- Cables must not be installed through any expansion joints or construction joints (unless special design considerations for the cable have been made).
- All electrical work must be performed by an authorised electrician.



(Above) If the mesh grid size is not compatible with the required spacing, an approximation of the cable runs is required - as near as possible to the calculated spacing.

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Concreting Procedure

1. Before concreting commences the slab heater(s) should be tested again with a 500V insulation tester and an infinity reading obtained.

2. It is essential that an insulation tester be used to continually monitor the element during the concreting. If required an insulation tester with an audible alarm is available.

3. Should a fault be indicated at any time during the concrete pour then the pour should be temporarily halted, the fault located and cleared of concrete, and a small area of approximately 600mm x 300mm boxed off deep enough to expose the cable and allow the concreting operation to continue. The repair can be made later.

4. If possible, runways and working platforms should be arranged, and supported clear of the mesh surface. This is to reduce the amount of foot traffic on the cable and prevent the wheeling and direct tipping of wheelbarrows, which would damage the cable.

5. The use of pumped concrete can reduce the possibility of damage to the cables.

6. Rubber boots should be worn to avoid the possibility of damage by steel tipped boots.

7. It is essential that **the heating cable is covered by a minimum of 25mm of concrete** and positioned not lower than midway in the slab, also that the cold tail/heating element joint is completely buried in the concrete.

8. It is essential to ensure that the concrete is cured naturally to avoid shrinking, and cracks developing at a later date.

9. After concreting is completed the slab heaters should again be tested.