

ESWA

INVISIBLE ELECTRIC HEATING

**COMBINED CEILING AND
FLOOR HEATING SYSTEMS**

INFORMATION

RedBro Ltd
Unit E 13,
Calmount Industrial Park
Ballymount
Dublin 12.

CONDITIONS RELATING TO ESWA HEATING

1. Estimate is subject to:
Adjustment on final layout drawings.
Adjustment for currency fluctuations.
2. The installer should be trained by ESWA.
3. Minimum insulation standards as per attached 'Insulation recommend by ESWA'.
4. Price is valid for 60 days.
5. The installer should connect ESWA thermostats and weather control units to the ESWA heating terminal points and connect to electricity mains. After erection of ceiling face, he will test each thermostat the resistance between the heating element feeds and the building fabric, the result should be given to the house holder.
6. Ceiling and floors must be allowed to dry out naturally without the use of the heating system.
7. Design temperatures – Background 15⁰C (using floor heating)
With Top – Up to 20⁰C (using ceiling heating)

MINIMUM INSULATION FOR ESWA HEATING

ENERGY SAVING

“U” VALUE SPECIFICATION

<u>CEILING</u>	0.25W/M ² K	150mm Fibre Glass (or equivalent). Use drylined or artex finish plasterboard. Plaster skim ceiling can be used and Foilbacked Plasterboard cannot be used in ceilings with ESWA Heating.
<u>WALLS</u>	0.45	65mm Fibre glass or 30mm high density polyurethane or equivalent extruded polystyrene or (for quickest heat density polyurethane plasterboard sandwich inside exterior walls).
<u>FLOORS</u>	0.35	50mm high density polyurethane or (equivalent extruded polystyrene) and turned up at the edges to height of concrete screed. (with or without floor heating).
<u>WINDOWS</u>	Wood Metal	2.8 Double Glazed 3.2 Double Glazed (same for glazed doors) (ALL DRAUGHT PROOF)

(ESWA design heat loss calculations allow for one air change per hour)

CHIMNEYS Dampers should be fitted during construction of fireplaces.

VENTILATION When full draught proofing it is an advantage to have a small adjustable ventilator fitted in one window frame per room (additional advantage for security purposes).

Polyurethane (Irish made) by Kingspan of Castleblayney.

FLOOR COVERING WITH ESWA FLOOR HEATING

Most kinds of floor covering may be used on heated floors.

Suppliers of floor covering should be told that heating cables have been installed in the floor to ensure that the correct materials are chosen. It is clearly important to use floor coverings and adhesives which are compatible. Adhesives must be capable of withstanding a temperature of 40 degrees centigrade.

Possible floor coverings are for example:

Natural Stone
Ceramic Tiles
Terrazzo
Linoleum
Vinyl Felt
Vinyl Plastic Covering
Plastic Tiles
Laminated Parquet Flooring
Carpeting

Ordinary wool carpeting, with or without a felt underlay can be used on floors with cable heating.

Do not use special types of carpets with rubber underlay or foam backed carpet.

Parquet flooring can also be used as floor covering on a heated floor. The laminated thin-type parquet flooring should be used, laid directly on top of an underlay of thin corkboard, wool cardboard or paper felt laid out on the screed. The parquet flooring is glued together tongue-and-groove, thus forming one 'floating' surface with allowance for expansion and shrinkage under the skirting boards.

Do not fit ordinary floor boards on batons. Lay the floor boards directly on wool cardboard or paper felt or thin high-density plastic like Ethafoam. The boards, which will be tongued and grooved can be held down by skirting board leaving a gap at the edge covered by the skirting board – to allow for expansion.

Nothing should be nailed to concrete screed.

No fixings should be made into a heated floor other than where allowed for in ESWA design.

The whole point is that the whole floor should float as one with the movement which naturally occurs in timber with changes of temperature and humidity allowed to take place evenly across the floor with its effect being hidden under the skirting board. There should always therefore be a movement expansion margin all round the edge between the floorboards and walls. If the boards are nailed or otherwise prevented from having natural movement they will warp, buckle and / or split. This also applies to parquet.

When heating cables are embedded in concrete, they must not be switched on for the first 8 – 10 weeks. This allows the concrete to harden and dry naturally. After this period it is wise to use the underfloor heating to continue the drying out process before the floor covering is laid. The installation is switched on at reduced power for a few hours each day for a week and after that it can remain switched on continuously. The heating cables must not be switched on while the floor covering is being glued, as the glue will dry so quickly that it will be difficult to work with it.