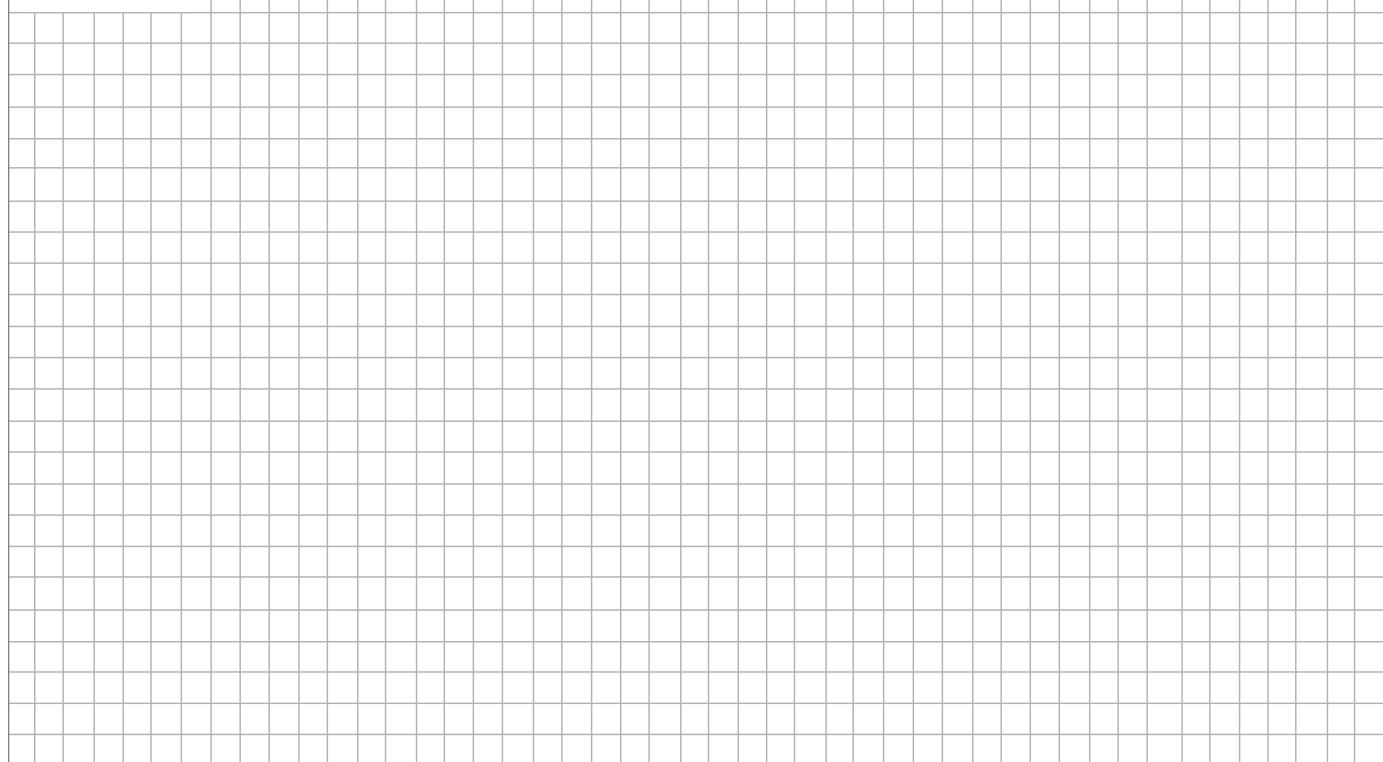
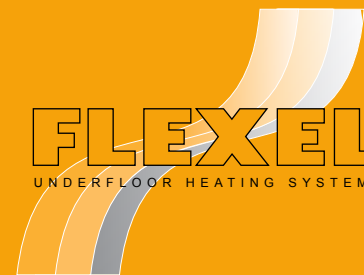


Floor Plan:



Plan Your Installation

- The position of the thermostat should take account of the ease of access to the power supply.
- Remember to note down the dimensions of any items of furniture which cover up the floor surface, such as wardrobes, cupboards, kitchen base units etc. as heating element should not be placed under these. Allow for a perimeter border around the room of at least 50mm from each wall or item of furniture, to determine the heating area of the room.
- Element edges should be butted together, do not overlap the ECOFILM^{SET} elements.
- It is recommended that when planning your room the elements run in line with the longest room dimension, this keeps elements and electrical connections to a minimum making installation easier and quicker.
- It is recommended that you plan to use the widest ECOFILM^{SET} element wherever possible (1000mm) as this minimises electrical connections. Widths of 500mm and 300mm should be used to maximise floor coverage when it is not possible to use the larger size.



Product Code	Description	Price ex. VAT (£)
EL06	ECOMAX-LITE thermal insulation (800mm x 1250mm)	5.50
AD150	Heavy duty adhesive tape (50mm x 50m roll)	6.40
PVB12	Polyester Vapor Barrier (1m x 12m)*	28.00
PVB25	Polyester Vapor Barrier (1m x 25m)**	47.00
TH132AF	Digital programmable thermostat	68.00
EB100	Manual analogue thermostat	50.00

* 1m x 12m of PVB has a floor coverage of 10m²
 ** 1m x 25m of PVB has a floor coverage of 20m²

Authorised Distributor:

Version 1.1 - April 2009 - Priced

ECOFILM^{SET} is part of the Flexel Underfloor Heating Systems product range by Flexel International Ltd, Queensway Ind Est, Glenrothes, Fife, KY7 5QE, Scotland. Also available: ECOFLOOR & ECOFLEX.

www.flexel.co.uk

Tel: 01592 757313 Fax: 01592 754535 Email: sales@flexel.co.uk

Electrical Requirements

- ECOFILM^{SET} Underfloor Heating Elements are very simple to install by following the comprehensive instruction booklet included with each element kit. The final electrical connections should be made by a qualified electrician in accordance with the current wiring regulations.
- All installations require a 30mA RCD (residual current device) for safe operation.
- The thermostat has a max load of 15Amp / 3450W at 230Vac.
- All elements require connection to the thermostat via a standard junction box.

300mm wide ECOFILM^{SET} element

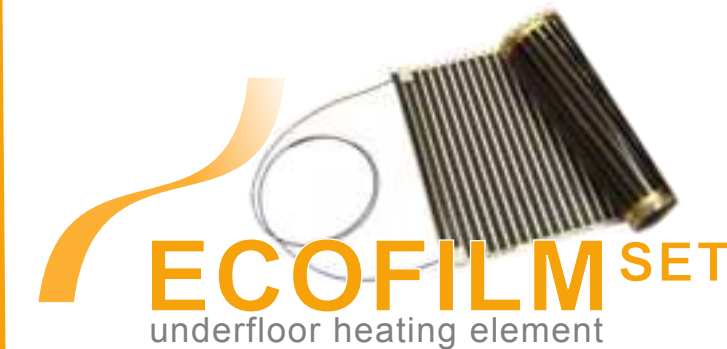
Length (m)	Element Reference	Output (W)	Price ex. VAT (£)
2.00	ES13-320	70	29.56
2.50	ES13-325	88	32.56
3.00	ES13-330	105	35.56
3.50	ES13-335	123	38.56
4.00	ES13-340	140	41.56
4.50	ES13-345	158	44.56
5.00	ES13-350	176	47.56
5.50	ES13-355	193	50.56
6.00	ES13-360	211	53.56
6.50	ES13-365	228	56.56
7.00	ES13-370	246	59.56
7.50	ES13-375	263	62.56
8.00	ES13-380	281	65.56
8.50	ES13-385	298	68.56
9.00	ES13-390	316	71.56
9.50	ES13-395	333	74.56
10.00	ES13-3100	351	77.56

500mm wide ECOFILM^{SET} element

Length (m)	Element Reference	Output (W)	Price ex. VAT (£)
2.00	ES13-520	122	37.56
2.50	ES13-525	153	42.56
3.00	ES13-530	183	47.56
3.50	ES13-535	214	52.56
4.00	ES13-540	244	57.56
4.50	ES13-545	275	62.56
5.00	ES13-550	306	67.56
5.50	ES13-555	336	72.56
6.00	ES13-560	367	77.56
6.50	ES13-565	397	82.56
7.00	ES13-570	428	87.56
7.50	ES13-575	458	92.56
8.00	ES13-580	489	97.56
8.50	ES13-585	519	102.56
9.00	ES13-590	550	107.56
9.50	ES13-595	580	112.56
10.00	ES13-5100	611	117.56

1000mm wide ECOFILM^{SET} element

Length (m)	Element Reference	Output (W)	Price ex. VAT (£)
2.00	ES13-1020	252	61.56
2.50	ES13-1025	315	71.56
3.00	ES13-1030	378	81.56
3.50	ES13-1035	441	91.56
4.00	ES13-1040	504	101.56
4.50	ES13-1045	567	111.56
5.00	ES13-1050	631	121.56
5.50	ES13-1055	694	131.56
6.00	ES13-1060	757	141.56
6.50	ES13-1065	820	151.56
7.00	ES13-1070	883	161.56
7.50	ES13-1075	946	171.56
8.00	ES13-1080	1009	181.56
8.50	ES13-1085	1072	191.56
9.00	ES13-1090	1135	201.56
9.50	ES13-1095	1198	211.56
10.00	ES13-10100	1261	221.56



Electric underfloor heating for laminate & timber floors

Underfloor heating for living areas, bedrooms, hallways & conservatories

Bringing Out The Luxury Of A Wood Floor
ECO FILM^{SET} provides the luxury of electric underfloor heating to living rooms, bedrooms, hallways, loft conversions and conservatories or almost anywhere a laminate, engineered wood or real timber floor is being laid.

Easy To Lay
ECO FILM^{SET}, is supplied in 3 different widths (300mm, 500mm and 1000mm) & standard lengths between 2m & 10m in 0.5m increments. Just select the roll widths and nearest lengths to provide maximum floor coverage. Installation is completely dry with the element simply unrolled and taped into position.

Quick Installation
ECO FILM^{SET} comes pre-wired. Only a simple 2 wire electrical mains connection is required (no need for a transformer) to provide gentle and safe heating comfort. **ECO FILM^{SET}** is rated at 130W/m² for living areas and 160W/m² for conservatories.

Freedom Of Installation
ECO FILM^{SET} elements are ultra-thin and have a minimum effect on finished floor levels, an important consideration when laying floating floors. It can be laid on most sub-floors, concrete or timber, when used in conjunction with **ECOMAX-LITE** thermal insulation.

Safety
ECO FILM^{SET} is approved to the relevant International safety approval EN60335-2-96 as required by the 17th Edition Wiring Regulations (BS7671:2008).



After preparing a smooth surface, measure the area to be heated. Fit the **ECOMAX-LITE** Insulated Tile Backer Board (available separately) to the floor securely following the manufacturers instructions.

Economy
ECO FILM^{SET} produces the optimum heat distribution in any room by using the whole area of the floor to radiate heat. This means that the air temperature can be lowered by 2-3 degrees over a conventional convector system while still maintaining a comfortable environment. **ECO FILM^{SET}** can realise savings of up to 10% over conventional convector systems if the floor is well insulated.

Maintenance Free
ECO FILM^{SET} is reliable, safe and manufactured to last. Being electric with no moving parts it is completely maintenance free.

Warranty
ECO FILM^{SET} comes with a 10 year guarantee against manufacturing defects.

How Effective Is Under Laminate Heating?
ECO FILM^{SET} is a highly effective direct acting radiant heating system. It can be used to substitute traditional convector radiators by providing primary heating or just be used to warm a cool floor & provide background heat.

A Primary Heat Source
 Heat loss calculations should be performed before using **ECO FILM^{SET}** as the sole source of heating. Consult your Architect or heating engineer. As a guide however if your room complies with the insulation standards in current building regulations, **ECO FILM^{SET}** can be used as a primary heating source. Rooms with potentially high heat losses such as conservatories may need a supplementary heat source on very cold days.



Roll out the **ECO FILM^{SET}** elements and trim to length along the cutting line as required.

Running Costs
 The running costs associated with **ECO FILM^{SET}** can be related directly to the floor heat-up times. A well insulated sub-floor will significantly reduce heat losses, improve heat-up times & reduce running costs. Even on insulated floors (concrete or wood) a minimum of 6mm of **ECOMAX-LITE** Thermal Insulation should be used in conjunction with **ECO FILM^{SET}**.

Example:
 A 6m² floor in a lounge fitted with 6mm of **ECOMAX-LITE** Thermal Insulation on top of an insulated concrete sub-floor would cost approximately 4.5p* per square metre per day to run. This is based on the heating system being on twice a day for a 2hr and 5hr period respectively. This assumes a 50% duty cycle once the floor has reached temperature and assumes a cost of 10.0p per Kwh.

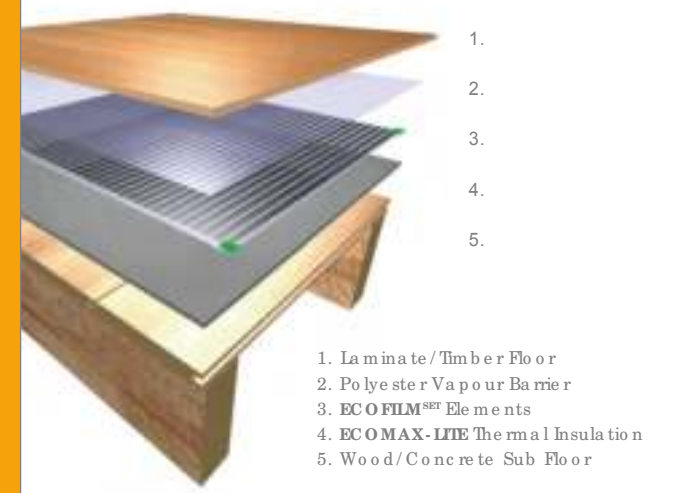
*Cost estimate given is an approximation only. Running costs vary depending on heat losses in individual rooms.

Simple Control
ECO FILM^{SET} is controlled by a simple to operate timer-the most that offers the user maximum flexibility and control. Air and floor temperature sensors regulate heat output to maximise comfort. The unit can offer full 24 hour control, 7 days a week with simple manual override functions.



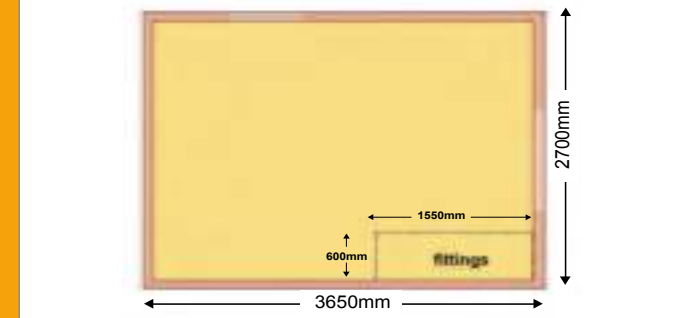
Insulate the trimmed ends as per the instructions before taping the **ECO FILM^{SET}** elements into position.

Installation
 Before laying the **ECO FILM^{SET}** on either a suspended wooden floor or concrete sub-floor it is necessary to install a layer of **ECOMAX-LITE** Thermal Insulation. This will minimise heat losses and ensure quicker heat-up times for the floor. It will also act as a means of sound deadening which is required for laminate floors. Next roll out the pre-cut lengths of **ECO FILM^{SET}** taking care to locate the "cold tails" on the wall nearest the thermostat connection box. Trim to length as required and insulate trimmed ends as per instructions before taping the element into position. Always take care **NOT** to overlap the heating elements. Cover the total floor including non heated areas with a layer of **Flexel Polyester Vapour Barrier** before laying the chosen floor covering.

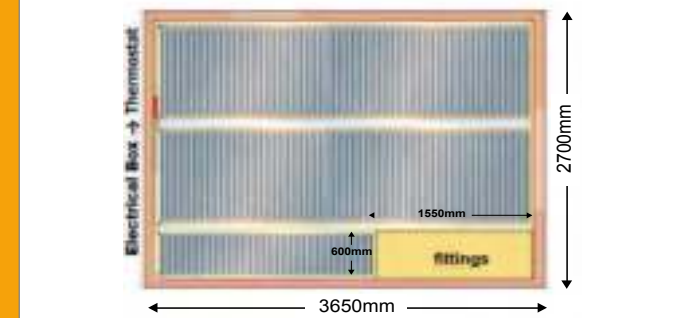


Cover the total **ECO FILM^{SET}** installation with **POLYESTER VAPOUR BARRIER** (available separately).

Installation Example:
 A child's nursery with a laminate floor to be laid



Room dimensions measured out, including fittings



From these sizes we can calculate that we require 2 pieces of 3.5m length and 1 piece at 2m.

Product Selection: 2 x ES13-1035, 1 x ES13-520

Remember the active (heating) portions of the element **MUST** not overlap each other and the minimum distance from a fixed object or wall **MUST** not be less than 50mm.



Lay the floor covering as soon as possible to prevent damage to the element.