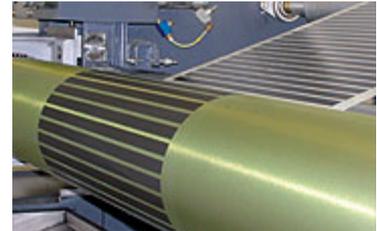


Basic description of a heating foil

ECOFILM heating foil consists basically of two polyester foils, laminated to each other using heat. Between the foils, silver-coated copper strips are laid along both sides – conductors (so-called conductor buses). Across the foil, between the buses, a heating element in the form of strips made from homogenized graphite is placed using screen printing. The strips are connected in parallel between the conductor buses and there is a 1cm space between them, so it is possible to cut the foil to any length desired with the area wattage as well as the operational voltage remaining the same.



1. polyethylene/polyester foil
2. copper conductor buses
3. silver-coated contacts
4. homogenized graphite layer



The production technology allows the production of heating foil with a width of 300mm to 1200mm, for a voltage of 12V to 230V and theoretically, with any output from 20 to 300 W/m². In the interests of production efficiency, it is necessary to produce approximately 1000m of foil of one type in one production 'run'. Therefore, it isn't possible to produce the foils on demand as a standard service, and they are offered only in standardized outputs and widths.

The normally sold foils are divided into ECOFILM F (floor) for floor heating and ECOFILM C (ceiling) for ceiling heating. The basic difference is in the rigidity of the foil – ECOFILM F has a thickness of 0.4mm, ECOFILM C only 0.3 mm (higher mechanical stress is expected in the case of floors) - and in the width of the non-heating edges. The floor foil has only 25mm wide non-heating edges along the sides, so that lengths of foil can be laid as close to one another as possible, while the ceiling foil has 50mm wide non-heating edges because it is usually attached to the cross-beams of the plasterboard structure and a wider edge is needed in order to attach it.



This technology enables an even distribution of temperatures across the whole surface. An absolute majority of floor, wall and ceiling heating systems (heating cables, warm-water pipes) operate with temperatures of approx. 40-55°C and 6 – 15 cm of spacing between the heating elements – however, ECOFILM heating foils operate at temperatures of only 25-35°C (according to the type and output) and with only 1 cm (!) of spacing between the heating elements. Thus, the same output as in the case of hot-water pipes or heating cables is achieved also at a lower surface temperature thanks to

the larger heating surface. Therefore, building structures are less stressed thermally and at the same time are heated more uniformly.

As (unlike with other systems) the foils are placed directly under the covering layer (floor covering, plasterboard board), the heating system is more flexible and features more economical operation compared to e.g. when a layer of concrete is heated. Last but not least, the foils are easier to lay and a dry installation process is used (without cements, screed, concretes etc.) so they are therefore ideal e.g. for wooden structures.