

## **Principles of correct installation of the ECOFILM ceiling heating film in plasterboard constructions – ceilings and soffits**

When installing the ECOFILM ceiling heating film, it is necessary to observe the prescribed instructions and technological processes of manufacturers (or perhaps suppliers) of plasterboard constructions and building materials. As the heating film operation increases thermal stress of a ceiling construction, the technological processes are completed or adjusted with the following requirements:

1. The ECOFILM heating film is designed for dry building processes with plasterboards.
2. It is not recommended to use the ECOFILM heating films with supply density higher than 200 W/sqm in plasterboard constructions. In permanently occupied rooms, it is not recommended to install the ECOFILM heating films with supply density higher than 150 W/sqm if their clearance is lower than 2.40 m.
3. The heating film must be placed tightly between thermal insulation and plasterboard. The heating film does not function as a moisture stop. Moisture stop may be installed above or under the heating film.
4. The ceiling construction with the heating film installed must be designed as a floating construction, without any firm connection to peripheral walls (plasterboards must not be screwed into peripheral UD profiles). Elements covering the joint between a horizontal and vertical construction (e.g. polystyrene corner profiles) may only be fixed to a vertical surface.
5. The ceiling area (so-called dilatation unit) must not be longer than 8 m and larger than 50 sqm. Should the ceiling area be larger than the prescribed dimension, a dilatation joint must be carried out. The dilatation joint need not divide the ceiling area in the middle, it is recommended to situate it in a suitable place (break, corner, change of area shape or profile) so that none of the areas would exceed the prescribed dimensions. Elements covering the dilatation joint may only be fixed to one of the separated areas. When the ceiling deflection is bigger than 1 cm, joints between a soffit and a wall must be made as sliding joints.
6. All gaps between boards (crosswise and vertical) must be filled up with putty and strengthened with a strengthening glass tape (except dilatation joints).
7. After cementing and when and all wet processes on plasterboards have been finished, it is necessary to observe the technological processes of maturing and drying of these materials. Subsequent putting the heating film into operation must be made with a gradual increase of room temperature. The temperature rise is controlled with a room thermostat which increases the room temperature by 1 °C per day until the required value. Starting temperature is the lowest temperature of an unheated room (it is recommended to start heating and change temperature in the morning).

8. If possible, it is convenient to put the heating film into operation before jointing and cementing. In this case, it is not necessary to rise temperature according to the foregoing point. Boards and the surrounding ambient get dry and the risk of subsequent breaking of joints is reduced. Jointing and cementing is made subsequently, within 24 hours after the ambient temperature has reached the operating temperature.

**These recommendations were consulted and written in coaction with the KNAUF Engineering Department.**

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