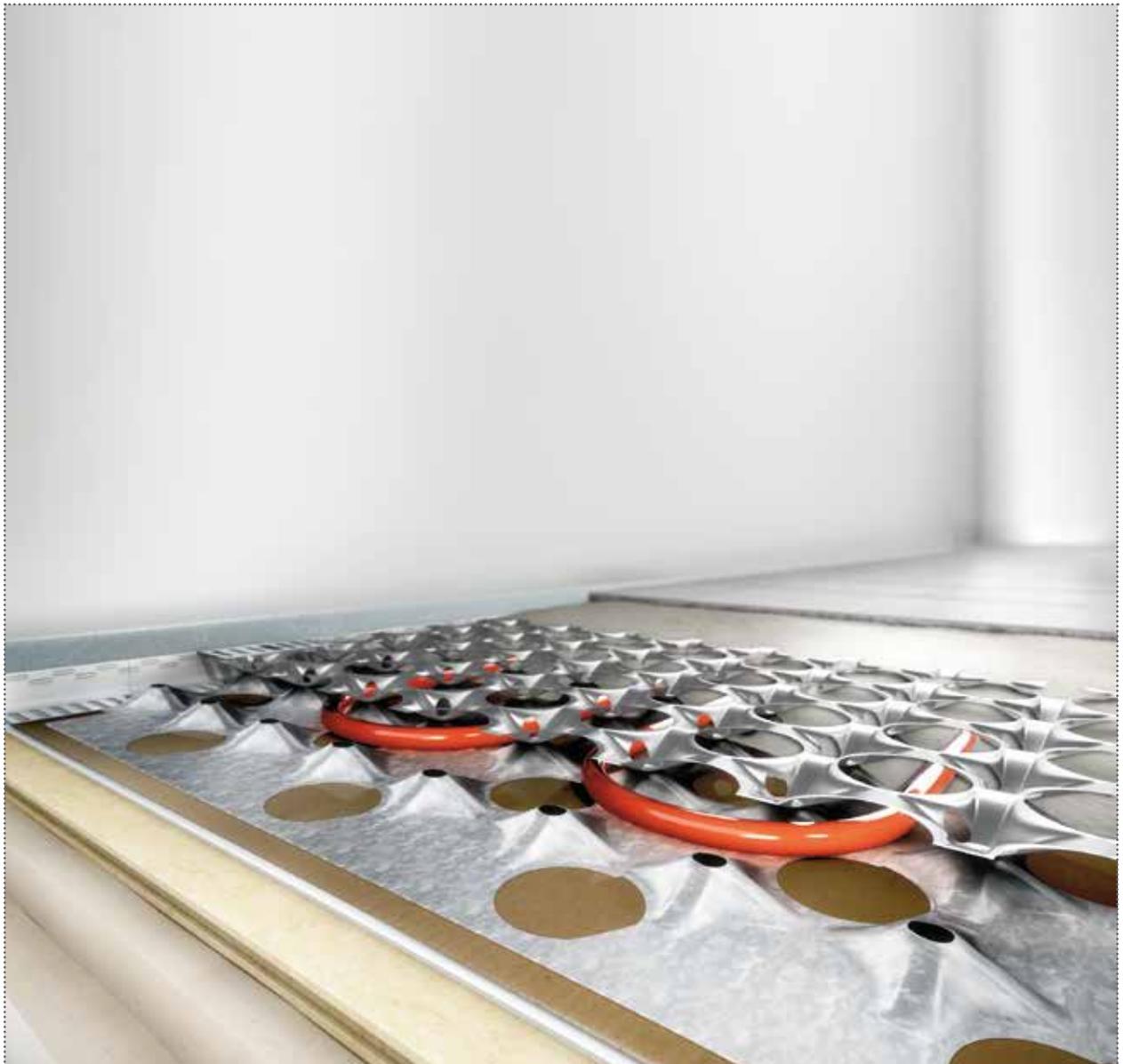


# INSTALLATION INSTRUCTIONS FOR COMB PANEL SYSTEMS

## COMB PANEL WP

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### IMPORTANT SAFETY ADVICE!

When fitting the effidur comb panels always wear labour protection gloves acc. to DIN EN 388 (minimum category 2) in order to avoid the risk of injury through sharp edges! You can use all common tools for sheet metal processing when cutting the comb panels considering the relevant safety advices. Take care of fire protection for the building and objects nearby because of flying sparks when cutting the steel panels. Additionally, it is necessary to wear protective eyewear!

### AVERAGE FITTING TIME

We recommend that the effidur floor system is fit by a team of two workers. Hereby you need to consider the following times»

Fitting of the comb panels	10 min / m <sup>2</sup>
Fitting of the heating pipe + connection to the heating system	10 min / m <sup>2</sup>
Backfilling with system screed SFM	5 min / m <sup>2</sup>
Team of two workers	≧ 4 m <sup>2</sup> / h

The above mentioned fitting times refer to a rectangular medium-sized room (24 m<sup>2</sup>) and a team of two trained workers as well as the machine-supported backfilling with screed. The fitting times may vary (raise) with unsymmetrical and angled rooms and the manual backfilling with screed.

### PREPARATIONS PRIOR TO PANEL FITTING

First the sub-floor needs to be evaluated regarding its load-bearing capacity and stability. Furthermore, it needs to be swept clean, passable and widely even. Unevenness of up to 20 mm can be balanced out without further measures. If these pre-conditions are not fulfilled, an underground needs to be created considering the required evenness. Consider sealing requirements according to DIN 18195 and implement according measures (also see documentation for SYSTEM SCREED).

Furthermore, the positioning and carrying out of the expansion joints need to be determined under consideration of the following points among others » joint plan of architect / data sheets of IGE & IWM / notices of this installation instruction.

Wooden floors might creak. These sounds might be improved, but not removed since they are part of this floor's nature. If required, wooden sub-floors need to be reworked.

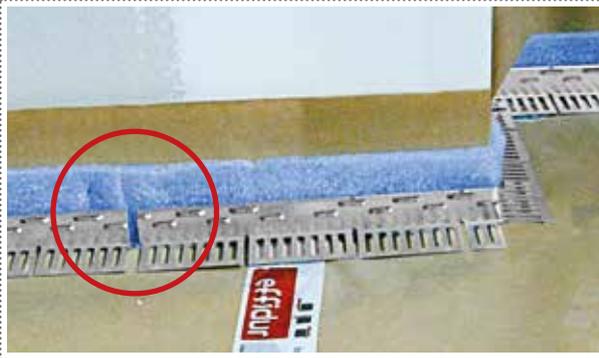
Evenness can be created with the casting of concrete-bound light levelling compound upon the mostly found floor constructions or also when removed floor boarding upon load-bearing false floors. Hereby always pay attention to the static condition of the building and fire protection requirements. After backfilling of the comb panels with system screed (SFM) and its hardening the loads need to be borne and led-off by the bearing structure of the building.

Subsequently, the fitting of impact sound and heat insulation as well as the separation layer has to be implemented according to current standards. In order to avoid damage (as e.g. the deformation of comb panels or defects at the heating pipe), the fitter needs to take care, that no on-site traffic and no follow-up works are allowed before releasing the floor system for use. Please calculate 5 % offcuts.

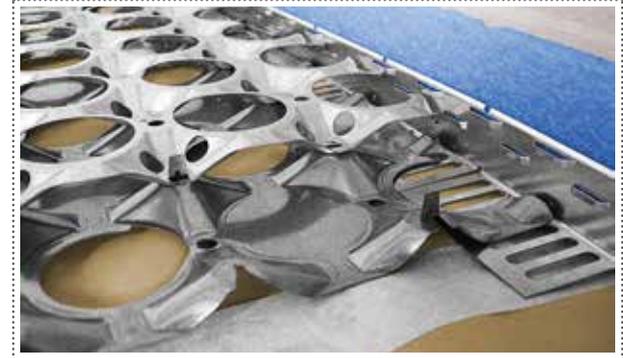
### FITTING OF BORDER INSULATION TAPES

Before fitting the border insulation tapes (RDS) lay out the effidur separation layer (SL) or depending on the building situation an alternative separation layer at all upcoming building parts (walls, columns etc.) with a minimum height of 10 cm and among each other with a minimum overlap of 10 cm (welded or glued).

Subsequently, fit the according border insulation tapes (RDS 10 / RDS 2000) without joints at all building parts bordering upright to the floor (walls, columns etc.). Hereby, form the complete overlaps that are designed at the borders of the PE-foam [fig. 1].



**1** Simple forming of corners with border insulation tape. Overlapping of PE-foam.



**2** Maximum distance between comb panel and border insulation tape » 2 cm.

The cutting-off of projecting border insulation tape may only be carried out after the fitting of floor coverings resp. when textile or elastic flooring after the hardening of the filling!

**INSTRUCTIONS PRIOR TO THE FITTING OF COMB PANELS**

The comb panels are fitted among each other in a linked manner, if required upon an insulation layer, but always upon a separation layer, as e.g. effidur SL. The fitting is carried out without joints per room, if permitted by the geometry and the areas size of the room (also see documentation for SFM). When fitting the comb panels a maximum gap of 2 cm towards the effidur border insulation tapes (RDS) resp. 1 cm to both sides of the effidur professional joint (PF) is licit [fig. 2, fig. 7].

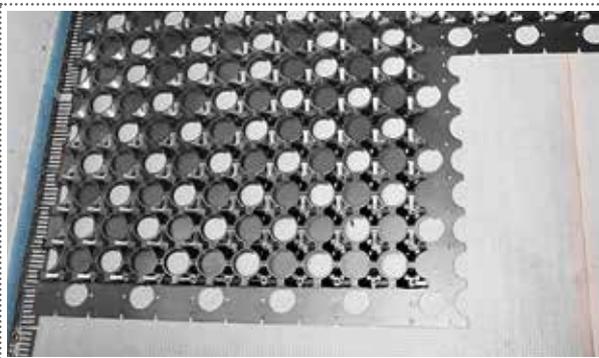
The cutting of the comb panels can be carried out with all common tools for sheet metal processing considering the relevant safety advices. Our sheet metal shears (HBS) are ideally suited for delicate metal sheet cuttings.

**FITTING OF THE COMB PANELS**

The comb panels consist of an upper and a lower panel that are connected to each other in a staggered manner. When fitting, the lower panel (asymmetric blanking) needs to be visible on the right side and on the front pointing in the installation direction. Thus, the bending clips point to the top [fig. 3].

Fitting shall always be carried out from left to right and if possible towards the door. Choose a straight and large wall as first installation line. When cutting the panels for the first row, trim back the overlapping top panel that is nearest to the wall, so that it is flush with the bottom panel. The remaining part of a line becomes the initial part of the next installation line. Avoid cross joints!

The installation should preferably be diagonally to the timber truss or to any other existing structure for load-bearing. In long narrow rooms the panels should be fitted lengthways along the longest wall.

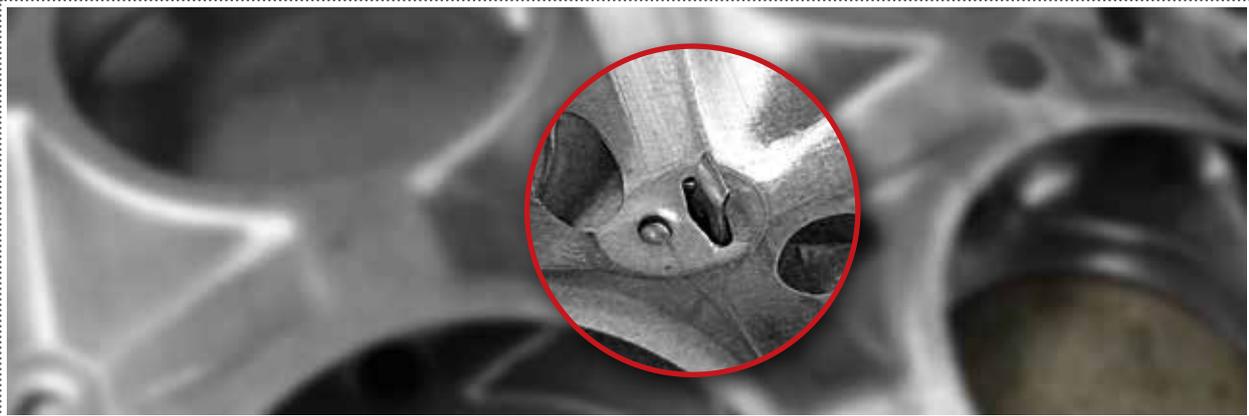


**3** When fitting the lower panel needs to be visible on the right side and on the front.

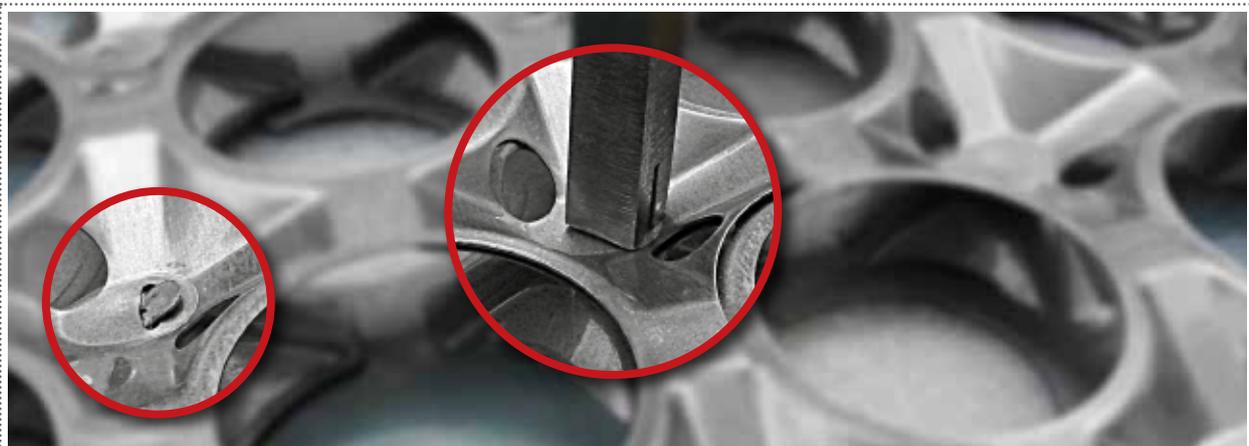


**4** Insert brackets (HK) into border insulation tapes (minimum 3 pieces / m).

FITTING OF COMB PANELS [CONTINUATION]



**5** Bending clips click into place through slotted holes.



**6** Twist and bend bending clips for force-locked connection.

The single comb panels are put in place by reaching through the blanking of the upper panel. Carefully click the panel into place through the slotted holes [fig. 5]. Hereby, control the fitting of the bending clips and if necessary correct it through slight deforming.

Do not apply pressure when fitting! After fitting bend or twist the projecting clips with the bending tool (VS). Thus, a force-locked connection of the panels is created [fig. 6].

The connection of the single panels has to be carried out with the utmost care. Damages of the separation layer (e.g. effidur SL) need to be avoided, since the comb panels are subsequently backfilled with thin fluid screed.

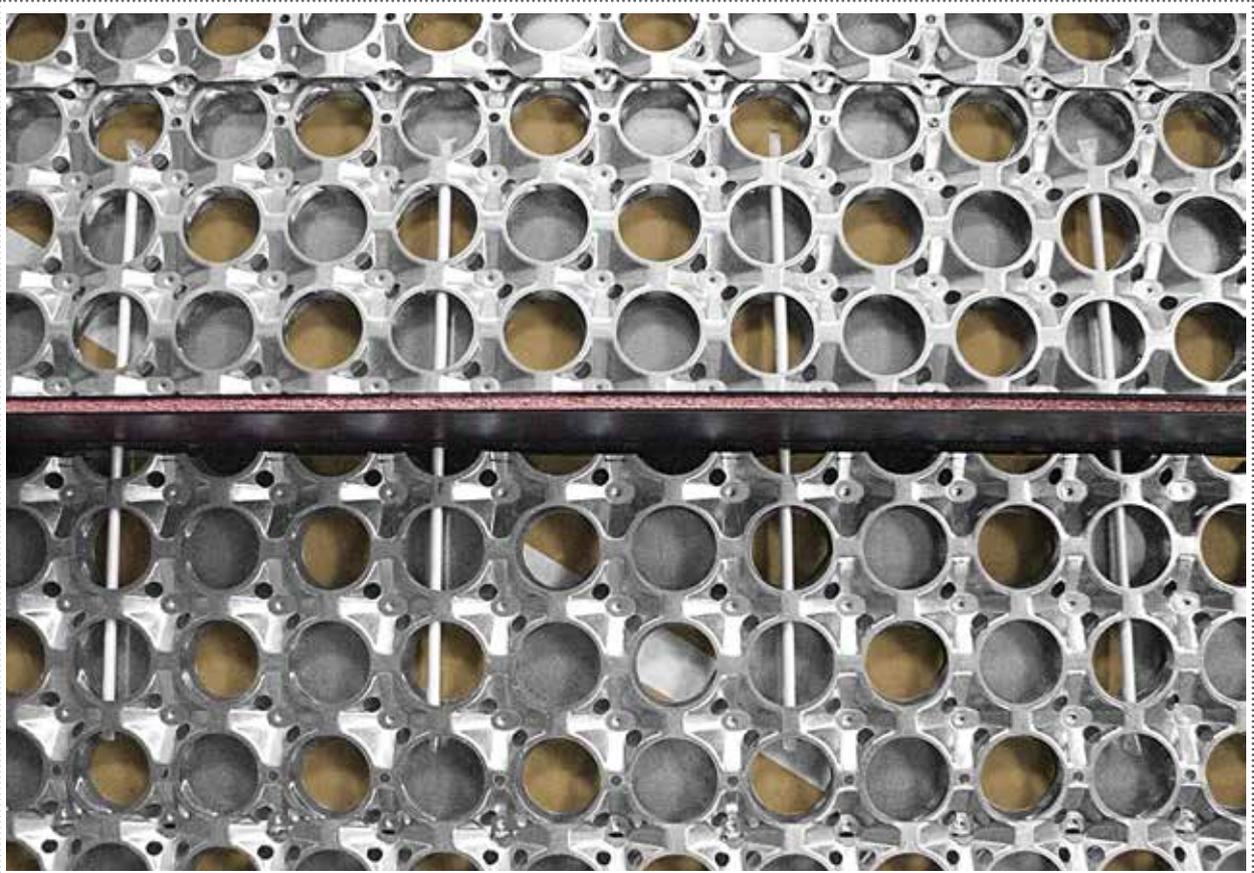
After fitting of the comb panels, the brackets are inserted into the border insulation tapes (minimum. 3 pieces / m) in order to fix these areas [fig. 4].

Before backfilling with system screed the comb panels need to be checked for defects and damages especially in bordering or joint areas as well as at upcoming building parts (walls).

**ADVICE!**

**Do not apply pressure when fitting the panels!**

FITTING WITHIN DOORWAY AREAS / DEFINITION OF FIELD SIZE



**7**

Fitting at doorway areas and other field definition through professional joint (PF) and joint dowel (here» FDS) Maximum gap between comb panel and professional joint» 1 cm.

Expansion joints need to be provided at upcoming building parts, at area projections, within large / geometrically unfavourable floor areas, within doorway areas and for the separation of heated and unheated areas.

Herefore consider the joint plan of the architect / planner according to DIN 18560 and the information sheets of IGE / IWM!

Heated room areas in a rectangular form and a size of up to 200 m<sup>2</sup> (side length ration maximum 2:1) can be fitted without joints when using the system screed SFM.

Larger areas or areas with an unfavourable geometry (projecting corners, long narrow corridors or L-forms) resp. also doorway areas and borderlines between heated and unheated areas are to be divided with e.g. self-adhesive professional joints (PF).

Off-sets in height caused by uneven strain of bordering system areas can be minimised by using 3 – 4 pieces of joint dowels (FD / FDS) per meter of professional joint [fig. 7]. Areas with different use (heated to unheated) shall only be coupled after approval and only with joint dowels with sound protection (FDS). Building separation joints are to be adopted in equal width through the entire floor without a reinforcement through joint dowels etc.!

Alternative joint profiles / joint dowels for heated and unheated areas need to be approved and matched with the specific application.

The cutting-off of projecting joint profiles (PF etc.) may only be carried out after the fitting of floor coverings resp. when textile or elastic flooring after the hardening of the filling.

