

**mfh:systems**  
modern floor heating



**Efficient radiant heating  
and cooling systems for  
renovation and new build**

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Managing Partner

## mfh systems in profile



- » Development and production company
- » Radiant **heating and cooling systems** (underfloor-, wall- and ceiling heating) and **decentral ventilation** (push-pull-unit)
- » Specialist for **reconstruction and renovation** systems
- » **25 years** of application and production experience



## Product portfolio

### IDEAL / IDEAL ÖKO

Hydraulic heating and cooling systems for floor, wall, ceiling



### COMPACT FLOOR

Dry screeds, thermally conductive layers and levelling compounds



### E-ENERGY IQ

Self-limiting electric underfloor heating



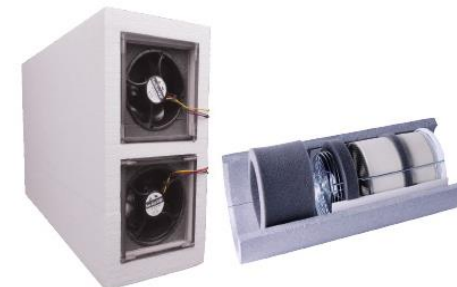
### E-ENERGY CARBON

Electric heating foil for ceiling, wall and floor



### AIRUNIT

Ventilation systems for living spaces

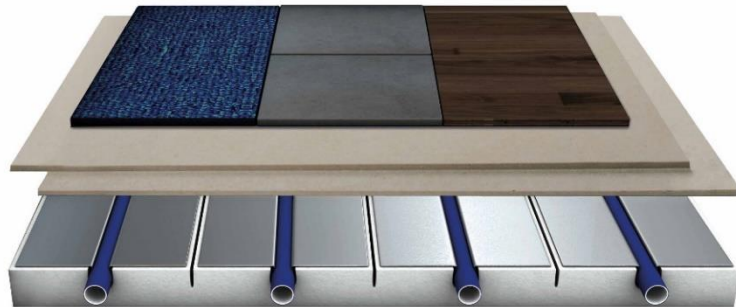




## Our philosophy - Saving energy with full comfort - Heating only when needed



## System IDEAL – Comfortable warmth at the touch of a button



- » Comfortable, fast-acting radiant heating/cooling
- » Optimal for renovation due to low installation height and efficient in new buildings
- » Can be used with heat pumps as surface heating & surface cooling and increases the efficiency



Floor Heating



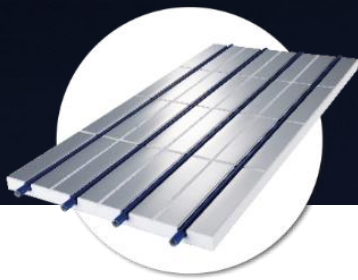
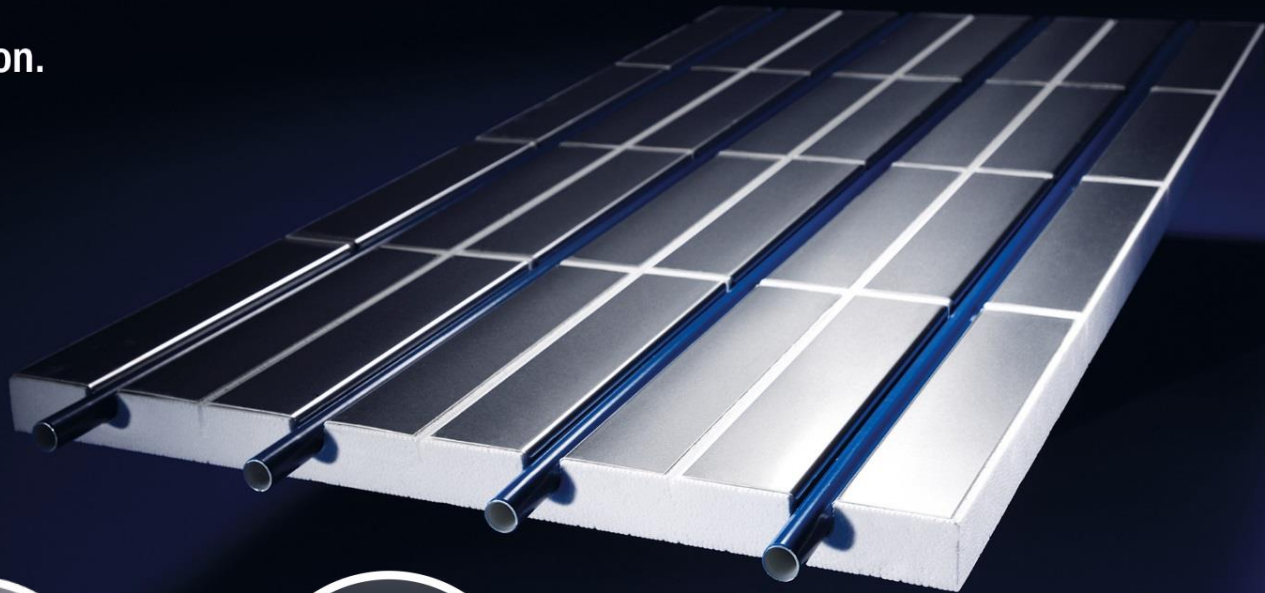
Wall Heating



Ceiling Heating & Cooling

## Technology is our fundament

- 1 mfh system elements always featured high-quality insulation.
- 2 mfh conductive sheets are always factory-glued.
- 3 mfh conductive sheets are always made from aluminium.



Heating and cooling  
surfaces without cavities



Predetermined  
breaking points



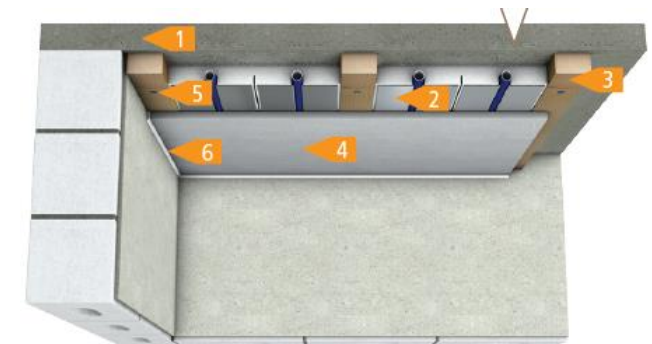
Omega-shape pipe  
channels & beaded ends

## Case study: IDEAL as floor heating and ceiling heating/cooling with heatpump

### Renovation of a 60s one-family house in 2015/2016



#### Konstruktion



- |  |         |
|--|---------|
| 1 Rohdecke                                 |         |
| 2 Hezelement EPS + MFH Systemrohr          | 30 mm   |
| 3 Lattung (gehobelter Kantholz 30 x 50 mm) |         |
| 4 Trockenbauplatte                         | 12,5 mm |
| 5 Befestigungsdübel / -schrauben           |         |
| 6 Bewegungsfuge                            |         |

42,5 mm



## E-ENERGY CARBON - Ultra-thin. Patented. Certified.



- » 0.4 mm thin heating foils - patented manufacturing process
- » Operating with security low voltage of 24 or 36 volts
- » Different existing solutions and flexible for new technology adaptations (current and heat output)
- » Fast response time due to near-surface installation on ceiling, wall and floor



Floor Installation



Wall installation



Ceiling installation



## Various application possibilities

Active on  
demand in all  
living spaces



Comfort  
heating in  
intensive  
used rooms



Full heating  
system in low  
energy  
buildings

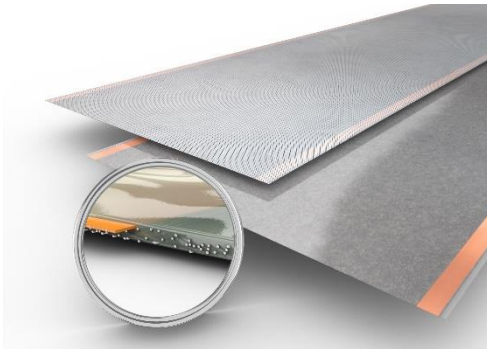


Renovation  
and  
refurbishment  
in inhabited  
rooms



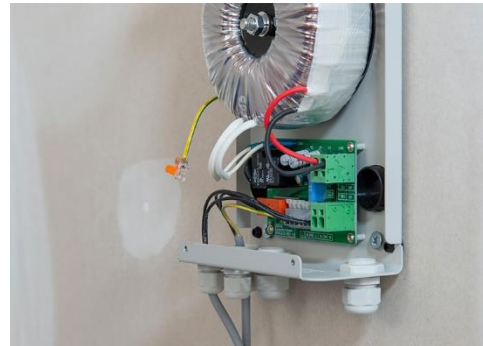
## What makes E-ENERGY CARBON different?

### Manufacturing process for the PET-CARBON matrix



- » Long service life, safety in operation
- » Insensitive to damage (perforation)

### Efficient and safe power supplies



- » System-specific power supply units as complete units
- » High efficiency, high safety, long service life

### Modern room temperature control

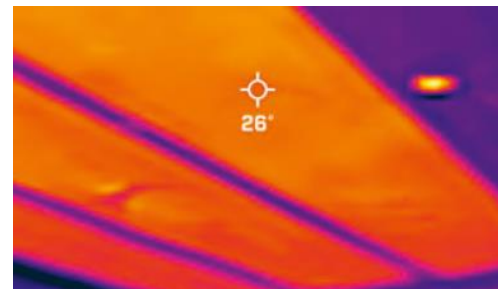


- » Simple and intuitive operation
- » Control via smartphone and app

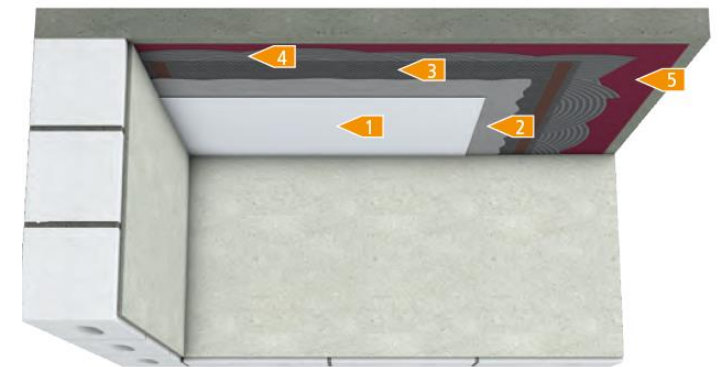
✓ Application Technology   ✓ Support   ✓ TÜV-Certificate   ✓ 30 Tests & Approvals

## Case study: E-ENERGY CARBON as ceiling heating

### Renovation of a 60s apartment in 2021



### Konstruktion



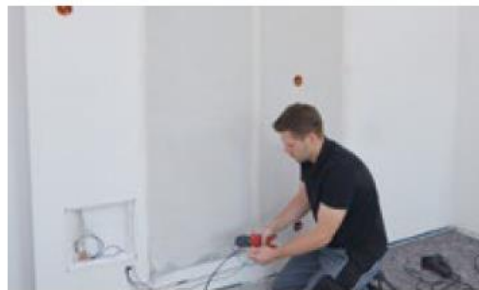
- |   |                                     |            |
|---|-------------------------------------|------------|
| 1 | Decke                               |            |
| 2 | Spachtelmasse / Putzsystem min. 2mm | 2 mm       |
| 3 | E-ENERGY CARBON FLEECE              | 0,4 mm     |
| 4 | Spachtelmasse / Kleber              | 2 mm       |
| 5 | Grundierung                         |            |
|   |                                     | <hr/> 5 mm |



## Efficient and sustainable in combination with photovoltaics



- » Heating without gas and oil or gradual withdrawal from gas & oil
- » Supplementary space heating for more independence
- » As a hybrid application in existing system optimal
- » As transitional heating with high comfort
- » Subsequent installation even in inhabited spaces



## mfh systems – Efficient radiant heating and cooling systems for renovation and new build



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