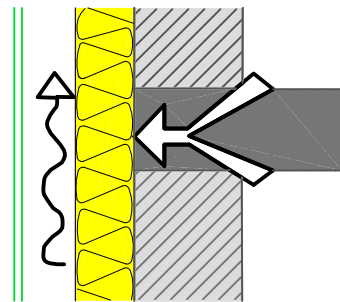


## Advantages of ventilated facades

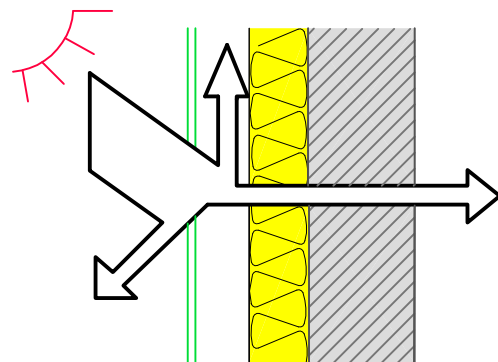
### 1. Insulation during wintertime

insulation, fixed on the outside wall, allows a continuous and low thermal bridge construction. The insulate material is adequate for all insulation requirements.



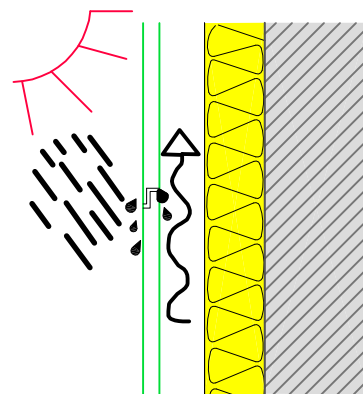
### 2. Insulation during summertime

Heat accumulation resp. heat up is mostly prevented because of ventilation between insulation and facade. The outside wall heats up lightly and slowly. The outside fluctuation of temperature has mostly no influence of the room temperature.



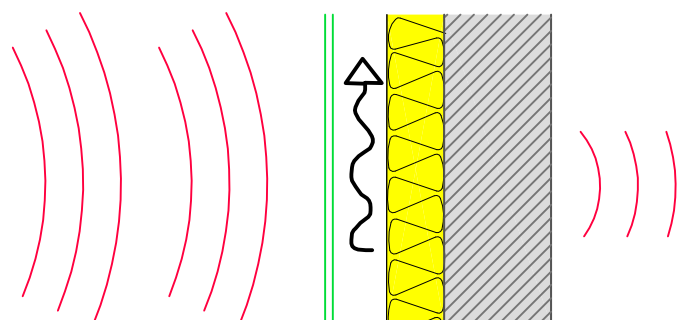
### 3. Rain protection, open joints

Partial penetrating water will be ousted from the airflow shortly, so the insulation remains in function.



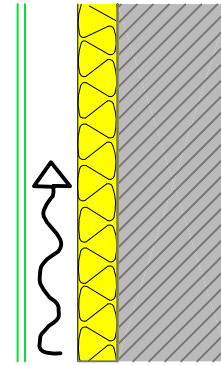
### 4. Sound insulation

More than up to 15 dB improvement compared to solid walls.



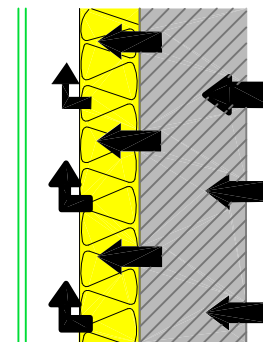
**5. Humid protection**

The condensation water zone is outside the wall.



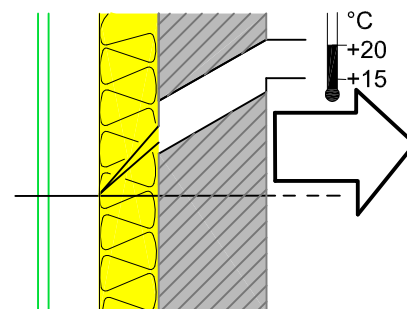
**6. Water steam diffusion**

By meaning of building physics the ventilated facade has the most safety function, with diffusion open heat insulation simply ideal. No need of a vapour barrier.



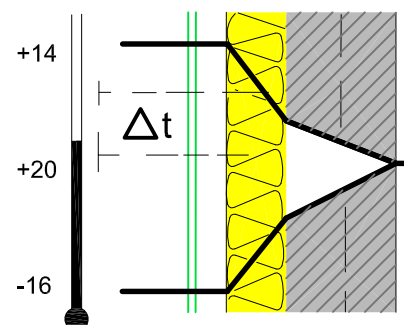
**7. Heat accumulation in the wall**

more wallthickness means more heat accumulation capacity of the room-components. In case of short interruption of the heating facilities, or if capacity is reduced, the temperature equalization is made.

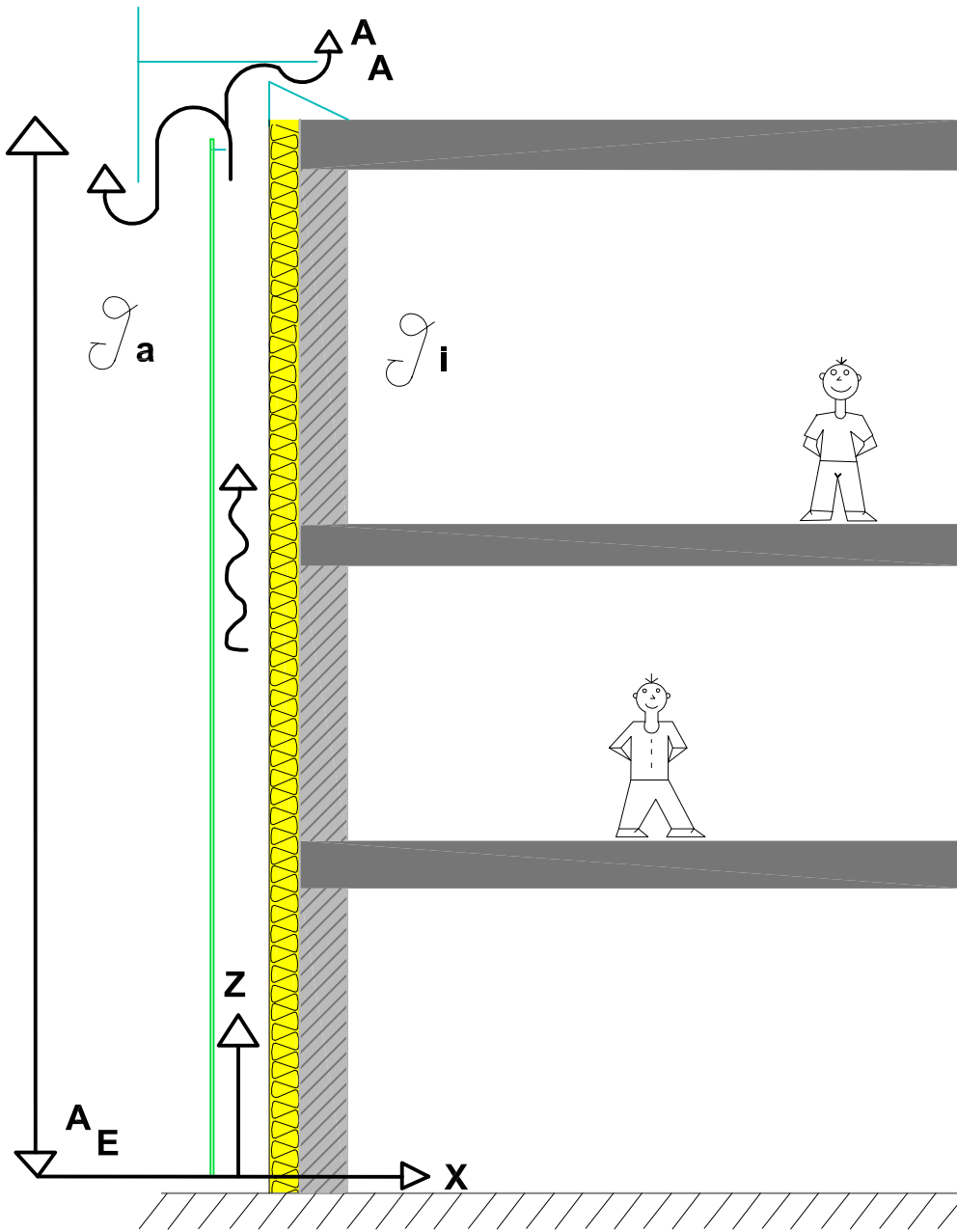


**8. Building protection**

The outside walls are protected against fluctuation of temperature through the heat insulation. Wall-loads are by-passed. Wall stays dry, therefore no further corrosion failure.



**Prinziple of ventilated cladding system**

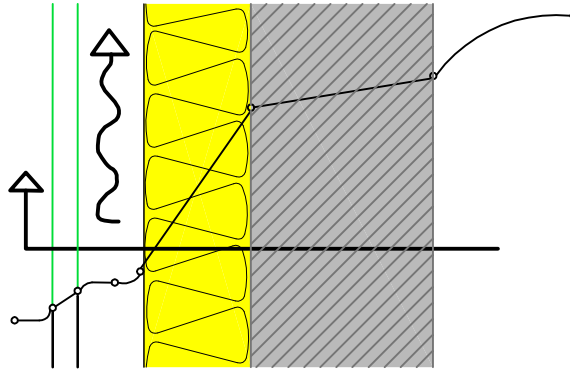


Balance of heated air column in the ventilation gab as well as the outside air column => follows load differential

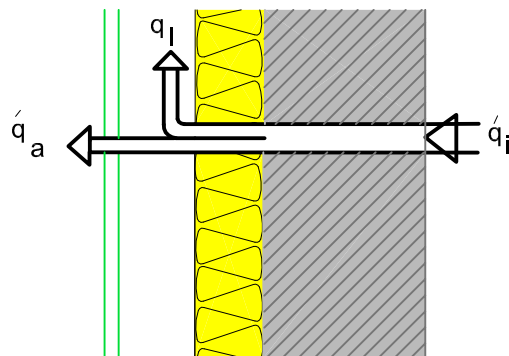
$$\Delta p = p_a g l - \int_0^l p_1(z) g dz$$

Heat transition through a ventilated wall

*Temperature during wintertime*

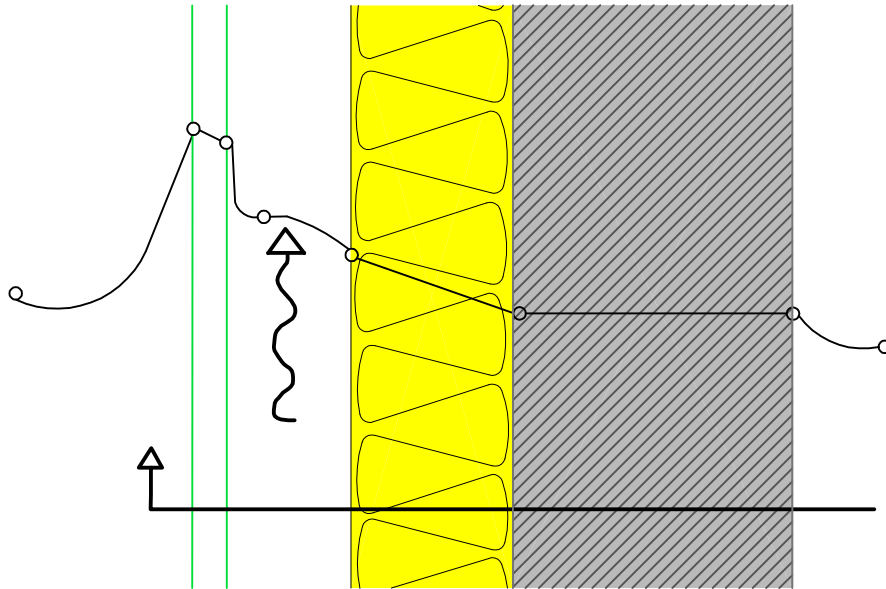


Temperature in wintertime when heating the building

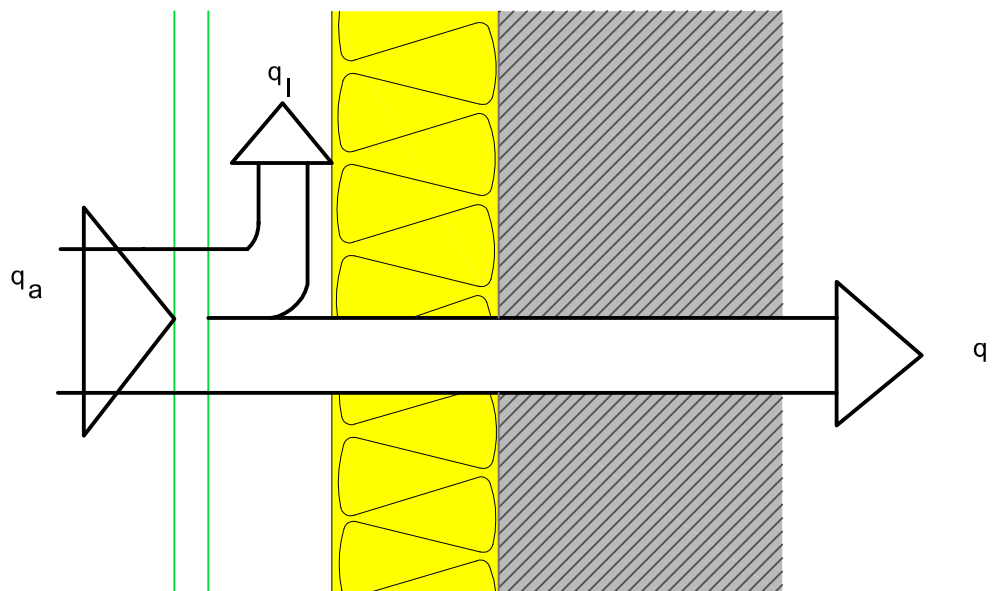


Heat statement during wintertime

Temperature during summertime



Temperature in summertime during insulation



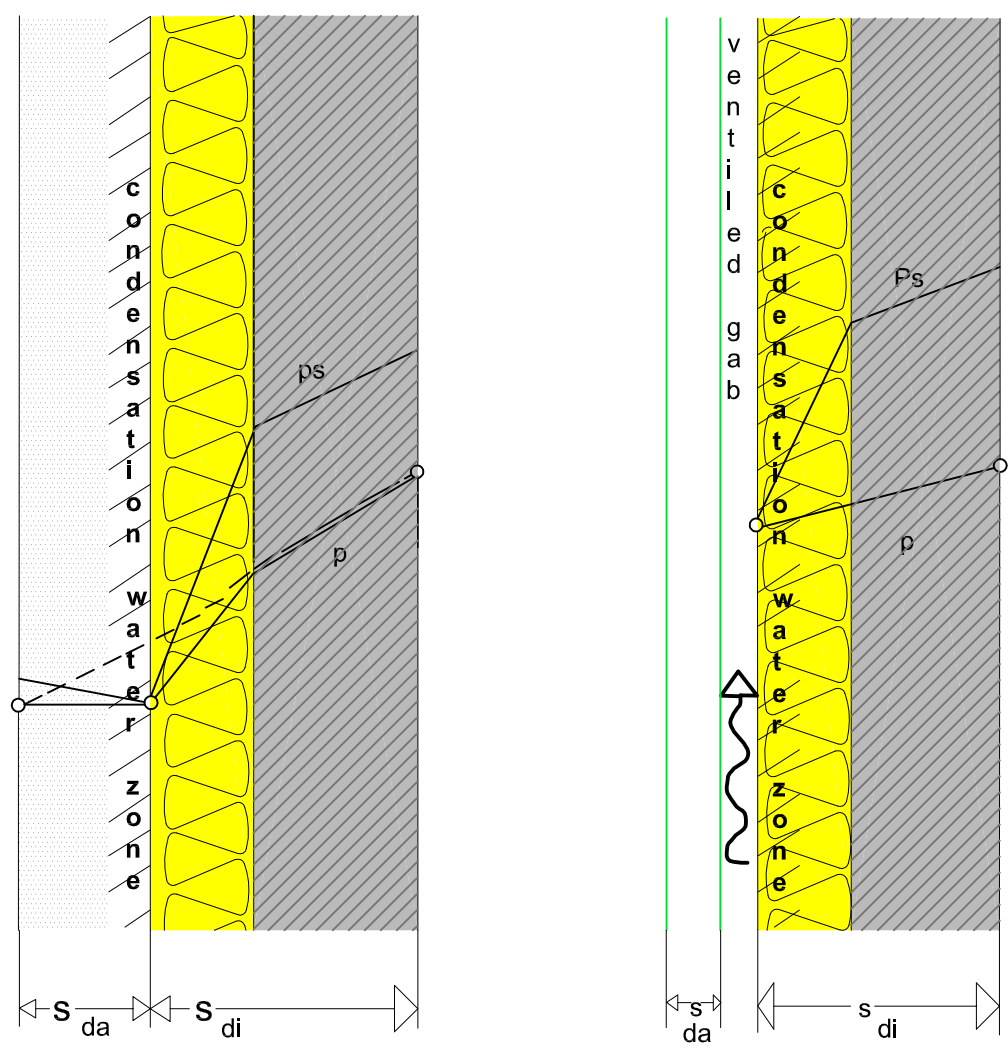
Heat statement during summertime

# Humidity protection



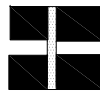
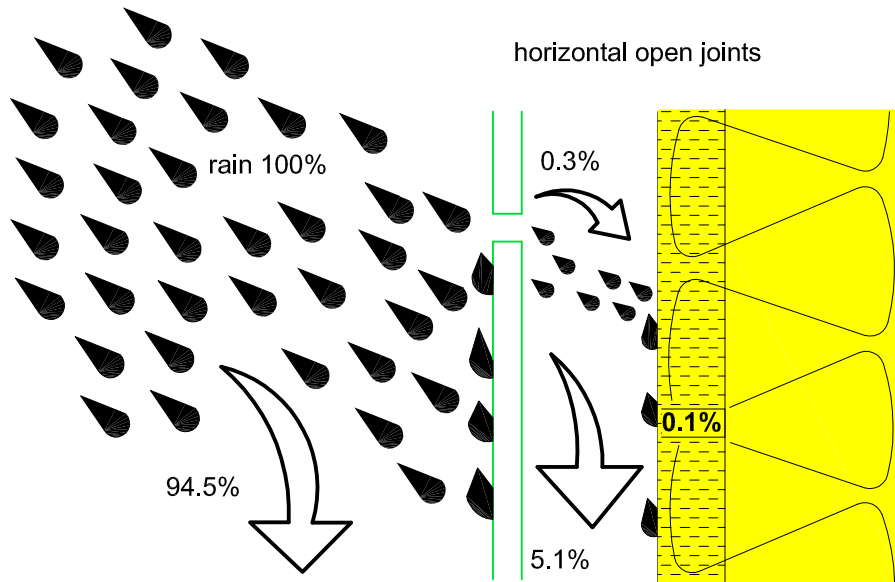
non-ventilated

ventilated

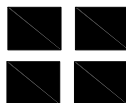
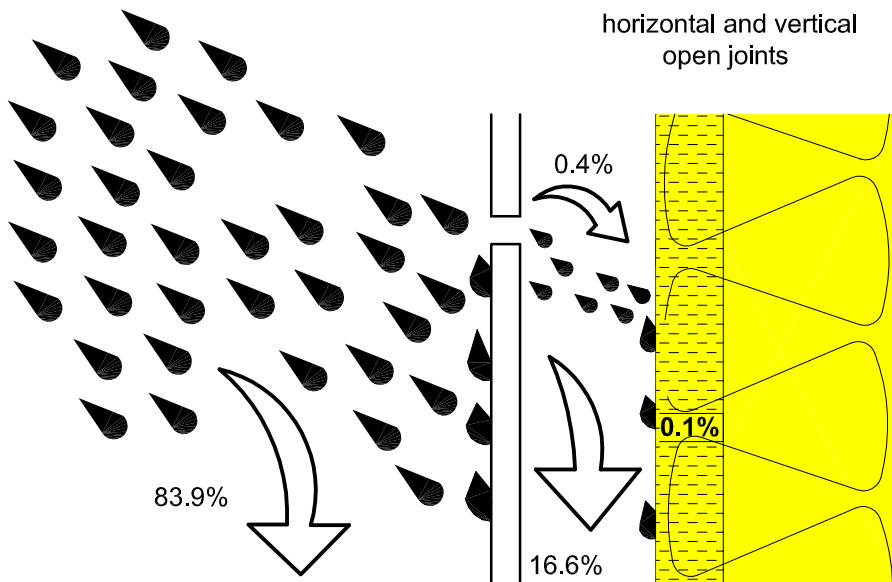


Presentation of diffusion diagram non-ventilated and ventilated outside-wall

## Rain protection: open joints



panel size 600x600 mm  
horizontal open joint 8 mm,  
ventilation aperture 60 mm



panel size 600x600 mm  
horizontal open joints 8 mm,  
ventilation aperture 60 mm