

zehnder

always the
best climate

PROPORTION
OF RADIATION
UP TO 89%

Always the best climate for

FLEXIBILITY AND EFFICIENCY

Zehnder ZFP radiant ceiling panels with high thermal radiation

The energy-efficient innovation: Zehnder ZFP

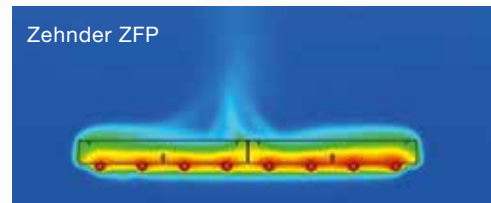
The modular Zehnder ZFP radiant ceiling panels have been designed to achieve maximum infrared thermal radiation to provide efficient air conditioning inside halls. Optional components such as the thermal radiation shield and innovative insulation concept significantly increase the proportion of radiation without dramatically reducing overall performance.

THERMOGRAPHIC FLOW SIMULATION

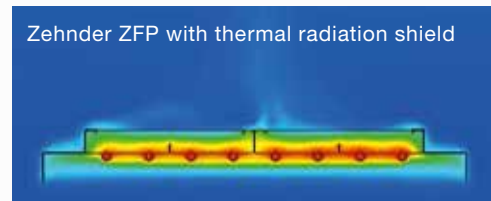
The simulation shows a comparison and the proportion of convective thermal transfer of a Zehnder ZFP with and without a thermal radiation shield, with the same output. The results reveal an increased level of thermal radiation in connection with the reduction in convective output. Overall performance remains virtually the same.

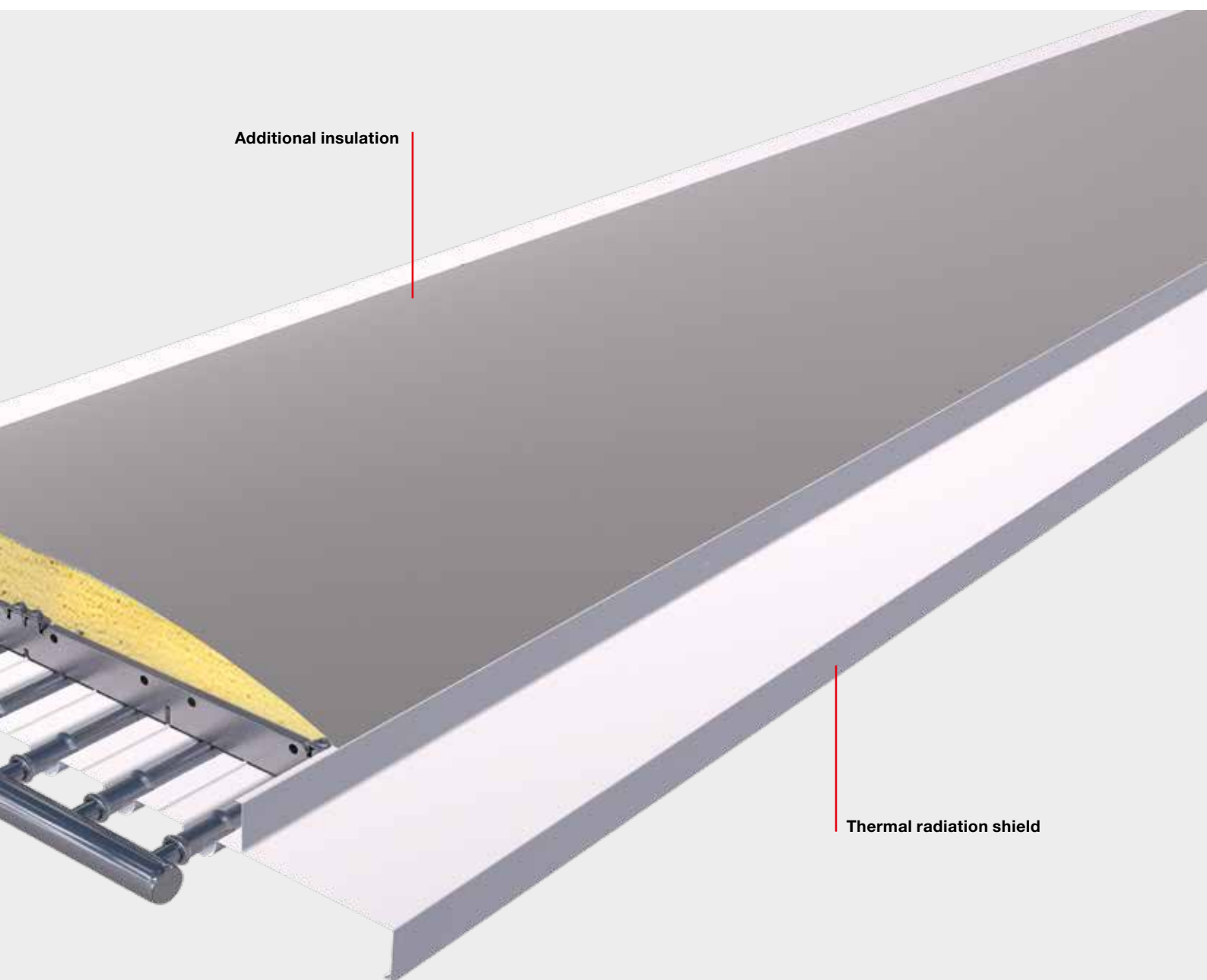


Zehnder ZFP



Zehnder ZFP with thermal radiation shield



**83%****Zehnder ZFP with thermal radiation shield**

The proportion of radiation increases to up to 83% when a thermal radiation shield is used.

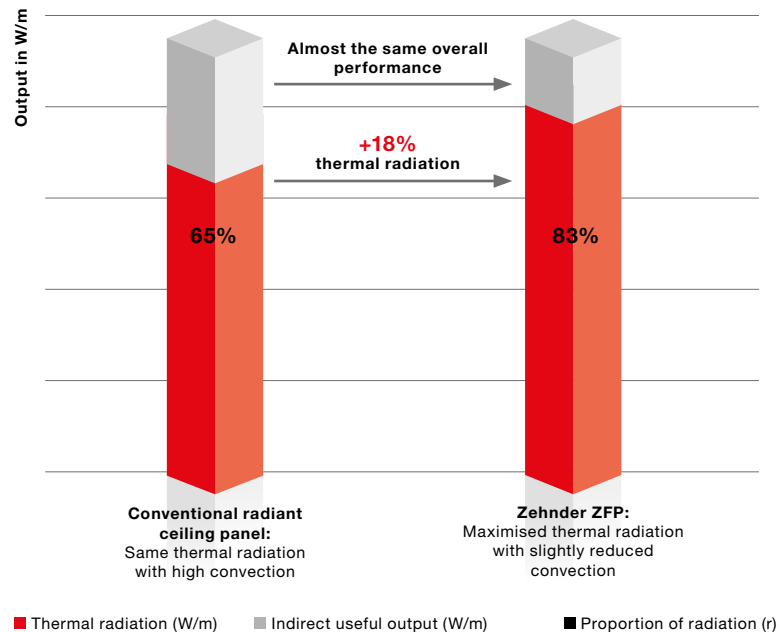
89%**Zehnder ZFP with thermal radiation shield and insulation material**

A peak value of 89% is achieved by using a thermal radiation shield in combination with the innovative insulation concept.

PROPORTION OF RADIATION FOR ZEHNDER ZFP COMPARED WITH CONVENTIONAL RADIANT CEILING PANELS

OPTIMISED THERMAL

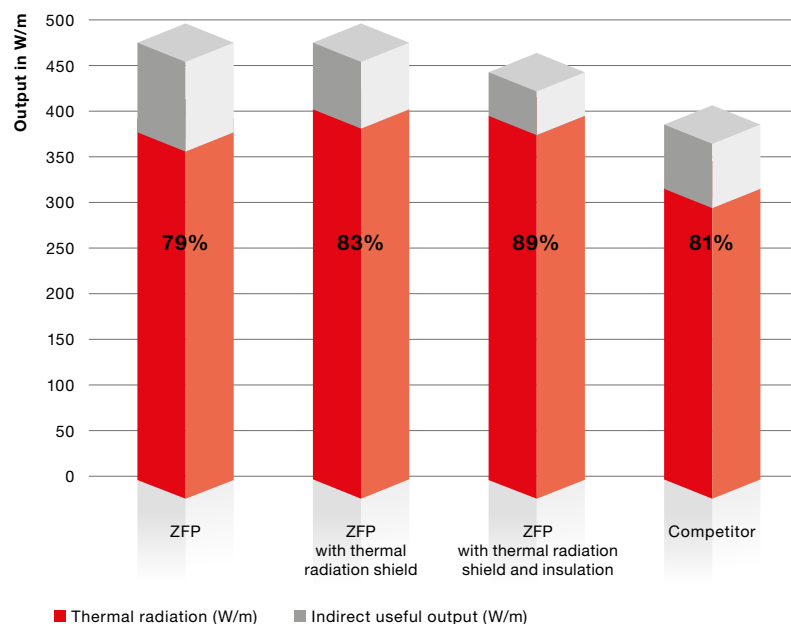
RADIATION: With conventional radiant ceiling panels, reducing the convective output also leads to a reduction in overall performance. With Zehnder ZFP by contrast, the proportion of infrared radiation increases without significantly compromising the convective proportion. As a result, overall performance remains at the same high level.



OVERALL PERFORMANCE OF ZEHNDER ZFP COMPARED WITH COMPETITORS

HIGH THERMAL

RADIATION: Coordinated components help Zehnder ZFP radiant ceiling panels to achieve a proportion of radiation of up to 89% compared with competitors.



Zehnder ZFP:

5 reasons for high efficiency

High energy efficiency during heating and cooling

Zehnder ZFP achieves the highest levels of thermal radiation when both heating and cooling. The effective and efficient transmission of the supplied energy reduces energy consumption.

1

Low operating costs and efficient use of resources

Zehnder ZFP can be operated at low operating temperatures without compromising its high proportion of radiation. It can also be combined with modern heat pumps, resulting in further energy savings and low operating costs.

2

Low investment costs

Optimum overall performance with optimum thermal radiation. This results in lower investment costs, as fewer ceiling panels need to be installed to cover the heat load.

3

Easy and quick to retrofit

The thermal radiation shield and optional insulation concept can be retrofitted to increase Zehnder ZFP's thermal radiation to up to 89%. Coordinated components from the modular system mean that these elements can easily be retrofitted at any time.

4

Certified proportion of radiation

Zehnder ZFP achieves a proportion of radiation of up to 89% in measurements conducted in accordance with DIN EN 14037 and verified by an accredited test laboratory (HLK, Stuttgart). Test numbers: DC519 D12.5077; DC519 D12.5081

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