

Strip Collector

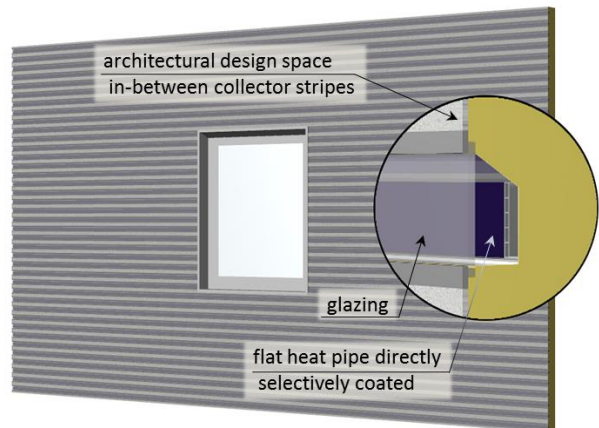
Architectural design diversity

Strip collectors are strip-shaped heat pipe collectors which are variable in length and which can be attached flexibly. The distances and materials between the strips can thus be selected freely. Strip collectors therefore allow for great design diversity for high-quality architecture.

The heat pipe concept is designed to enable all alignments, including in the horizontal direction. The collector connection is provided in the form of a heat pipe condenser which engages in a form-fit manner with a corresponding extruded collection duct. As a result a reduced thermal resistance is anticipated. The particular connection to the heat collector also enables an infinitely variable, flexible distance of the individual heat pipes, thus further contributing to the individualization of the application. Classic materials such as wood or plaster, structures and colors can be used in the area between the glazed collector strips. The combination of a high level of efficiency with architectural design diversity is thus possible.



Visualization of a façade with strip collectors. © Facade-Lab



Solar thermal façade with integrated strip collector with heat pipes. © Fraunhofer ISE

By using heat pipes based on extruded profiles, the project team anticipates the production of different collector lengths at low production costs. In contrast to collectors through which fluid flows directly, the connection of heat pipes of different lengths to a shared collection duct is hydraulically unproblematic. The modular structure of the collector and the “dry” connection of the heat pipe to the collection duct also lead to simpler assembling of the collector and to lower installation costs.

Advantages of the Strip Collector

- **Large freedom of design**
- **High efficiency due to special connection to collection duct**
- **Easy, flexible installation**

In the project “**ArKol** – Development of architecturally highly integrated solar façade collectors with heat pipes” Fraunhofer ISE together with partners is developing two innovative facade collectors from initial concepts through to first applications. Additional information can be found under <https://arkol.de/en>.

In collaboration with

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DEUTSCHE
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VON ROBERT MURJAHN

IBK2

Institut für
Baukonstruktion
Lehrstuhl 2

priedemann
facade experts

**Fraunhofer Institute for
Solar Energy Systems ISE**

Heidenhofstr. 2
79110 Freiburg
Germany

Building Energy Technology –
Building Envelope

Dr.-Ing. Christoph Maurer
building.envelope@ise.fraunhofer.de
Phone +49 761 4588-5667