FISCHER PROFIL

A Tata Steel Enterprise

FischerTHERM Carrier® Solar

Solar fastening systems for sandwich panels

All in one place

We develop products and system solutions for your value added chain which not only facilitate energy-efficient, grant-eligible construction but also ensure our competitiveness.

As a Tata Steel Europe company, we offer quality and guarantees for more reliable planning.

Zeremis®
Together towards a zero-carbon emissions, circular world.

Fischer Profil

Partner for sustainable construction

As a Tata Steel Europe company, we've embarked on the biggest and most ambitious journey in our company's history to date – the Zeremis® Journey.
Zeremis – short for zero emissions – is a promise to the planet to become carbon-dioxide-neutral by 2045. The Zeremis® brand represents the path Tata Steel Nederland is taking along with its subsidiaries towards a recycling-oriented world free from carbon dioxide emissions.

Sustainable trading means taking ecological, economic and social cultural aspects into consideration equally so that subsequent generations can enjoy an intact environment and therefore equal opportunities.

The construction and building economy accounts for 38 percent[1] of global CO_2 emissions and is already facing major challenges today that will inevitably intensify when it comes to complying with climate goals.

So that our customers can plan in a way that is socially acceptable with lasting value, our highly qualified employees, alongside long-standing partners, develop products and system solutions for sustainable lightweight metal construction. We're aware of our responsibility towards people and the environment, so we've made the changes necessary for a more sustainable and strategic focus for 2022. We've set ourselves the ambitious goal of becoming climate-neutral at our Netphen-Deuz site by 2032. In doing so, we're aligning ourselves with UN's 17 goals and the operating principles of the Federal Government of Germany.

Goals we can achieve together with you.

Zeremis® journey products from Fischer Profil

ZIELE FÜR NACHHALTIGE ENTWICKLUNG

[1] Uno Report "2020 GLOBAL STATUS REPORT FOR BUILDINGS AND CONSTRUCTION"

CONSTRUCTING OUR FUTURE

Our contribution to climate reversal

Since we take climate protection as a company challenge very seriously, we develop product solutions for the construction of sustainable industrial buildings. These allow you to optimise the CO_2 footprint of your projects in a targeted way. Starting with the use of green steel – which can already achieve a CO_2e reduction of up to 90% today – to system solutions for façade and roof greening or solar application on our sandwich elements. The foam of our elements consists of up to 40% of post-industrial recycled contents and the flame retardant we use is halogen-free. In addition to top heat-insulating properties and span widths, we can also offer you a range of coating variants with guarantees of up to 40 years. All this allows us to organise projects both efficiently and sustainably.

As a Tata Steel Europe company, we offer quality and guarantees for more reliable planning.

Made with
Zeremis®
Carbon Lite
Low-CO_2 steel
from Tata Steel

Zeremis® Carbon Lite

Certified CO_2e savings

The Zeremis Carbon Lite solution from Tata Steel allows you to achieve CO_2e savings in your Scope 3 emissions. Carbon Lite is based on CO_2e savings projects along the supply chain and is reviewed by the DNV (Det Norske Veritas).

- It allows you to immediately improve your carbon dioxide balance.
- A flexible solution that allows you to select the CO_2e-intensity reduction you need.

Fischer product portfolio with CO_2-reduced steel

Enact change

As a Tata Steel Europe company, we're part of the Zeremis® Journey. A promise to our planet.

In the course of our new sustainability strategy and to support our common goals, we offer all our products and system solutions with the option of CO_2e-reduced steel.

Familiar quality. Less CO_2.

FischerTHERM Carrier® Solar with solar fastening system

New revisions and laws with respect to the duty to install solar in the non-residential field require planning, construction and operation through partnership-based dialogue.

We develop system solutions together with our partners which already allow you to strengthen your sustainable supply chain.

Solar solutions are one of the best options for developers for improving a building's carbon footprint. In some German states*, it is already written into law that new-builds will have to have a PV system installed in the future, with photovoltaic elements for electricity production or solar elements as the primary source for heating water. There is also a federal legislative initiative on this already. Our task is therefore to integrate environmentally-friendly solutions into traditional processes which contribute to reducing emissions. Our aim is to encourage you and to support your efforts with products which have been developed for the long-term success of your solar projects and, in this way, help change lives and the planet for the better.

We support you with system solutions and high-quality products for the building envelope.

It's all about choosing your materials!

Solar mounting syst

For all existing buildings regardless of the year of construction

EJOT®

1968
Production of the first FischerTRAPEZ profile

...

1992
Production of the first **FischerTHERM** panel

Lasteinleitung in Tragkonstruktio

* Please check the current legal position in your state.

Approved, matched construction systems

The right solution for your construction project through an innovative, holistic approach.

The promise of expert knowledge and quality we have offered for decades is based on years of experience, the involvement of external specialists, and a scientific approach.

Whether for existing constructions or new-builds, the right system for you is covered by our national technical approval.

The construction systems for photovoltaic plants must be controlled through the sandwich components' technical approval. Unlike trapezoidal profiles, sandwich elements are composite components where all possible influencing factors are checked and controlled through the 'National technical approval'.

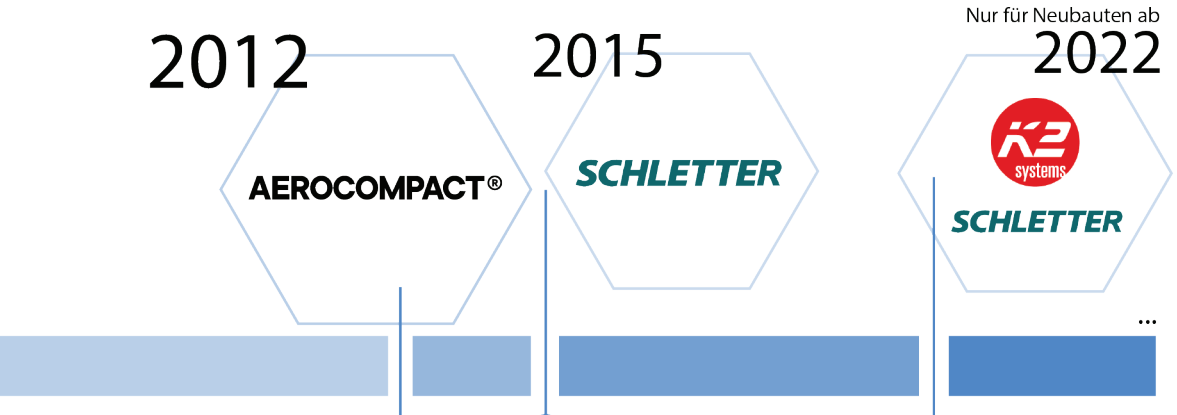
Benefits for you

- Systems covered by our approvals (see graphic)
- Quick and easy module assembly through system coordination
- Optimum use of roof space

With a comprehensive range of approved fastening systems for photovoltaic systems on our components, we can offer you the optimum solution for almost every application.

All components can be found in our Fischer Profil accessories catalogue.

tems for sandwich roofpanels



n

Loadtransfer into supporting structure

Approval 22.05.2012,
Z-10.4-540 Foamsystem FTS04

Approval 01.10.2015,
Z-10.4-540 Foamsystem FTS05
≥ FischerTHERM® DL 120

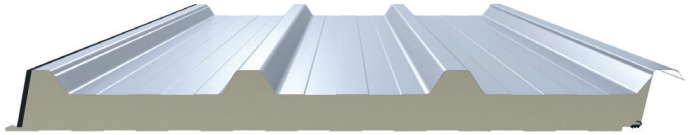
Approval 17.08.2022,
Z-10.4-901 Foamsystem FTS06
≥ FischerTHERM® DL 80

FischerTHERM Carrier D® Solar

System solutions for solar fastening

Our roof system is based on the FischerTHERM Carrier D sandwich panels with a rigid polyurethane foam centre and is available in thicknesses from 80 to 180 mm. The elements are load-bearing and can therefore be seamlessly combined with our approved systems – without negatively affecting heat protection, airtightness or assembly.

FischerTHERM Carrier D panels offer the possibility of efficiently designing solar projects. Together with our long-standing partners, we develop innovative system solutions to enhance your sustainable supply chain.



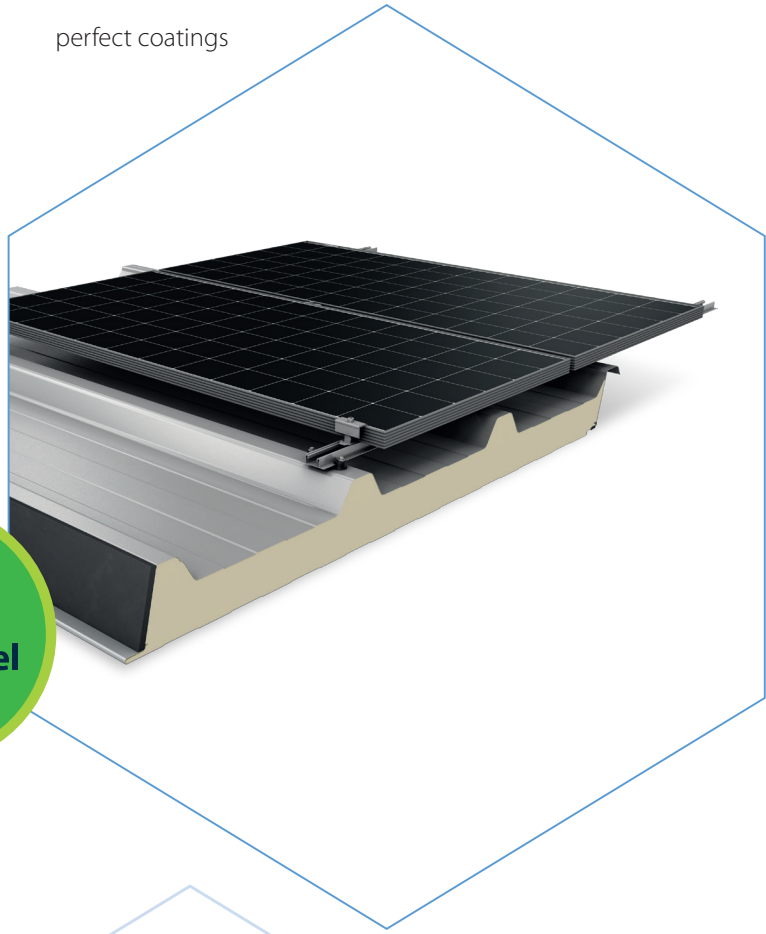
FischerTHERM Carrier D®

FischerTHERM Carrier D sandwich panels are available in thicknesses from 80 to 180 mm.

- The FischerTHERM Multitalent for add-ons such as solar fastenings
- They are 1000 mm wide and the maximum recommended length is 26.4 metres
- Good wrinkling stress values
- Colorcoat® SDP 50 and Colorcoat HPS200 Ultra® are the perfect coatings

FischerTHERM Carrier D Solar:

- Systems covered by our technical approvals
- Quick and easy module assembly through system coordination
- Depending on the solar fastening system and the approval, it is possible to fasten to the outer shell or the support structure.



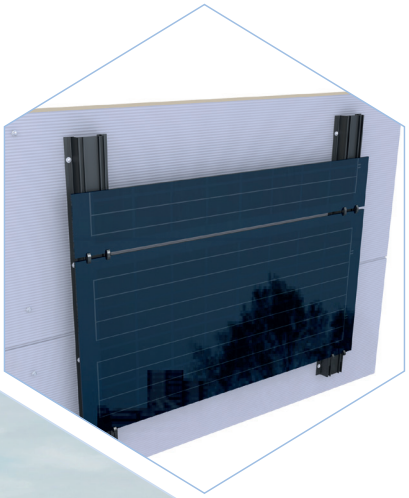
-CO_2
Available with
Green Steel
Fischer Profil
A Tata Steel Enterprise

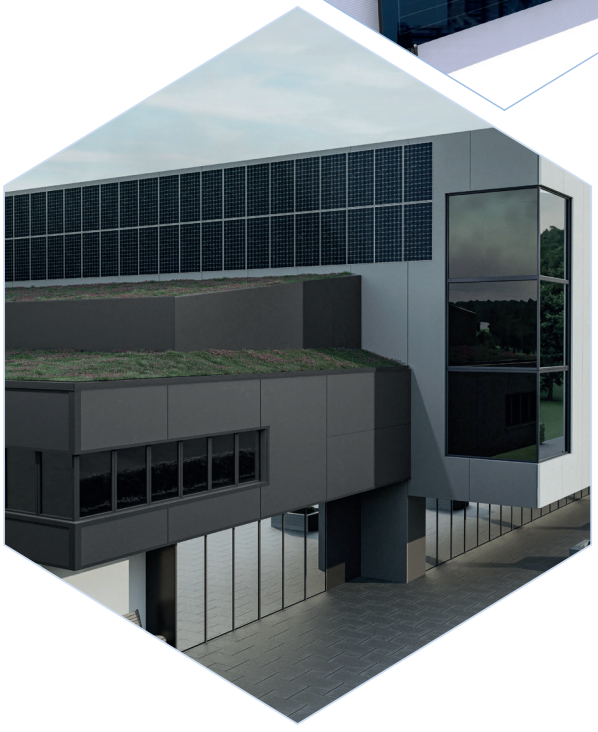
FischerTHERM Carrier® Solar

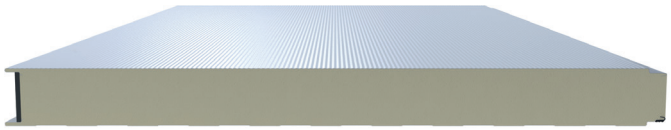
The solar façade carrier system

Our innovative façade system, consisting of FischerTHERM Carrier D panels combined with the Fischer Carrier rail, allows for a wide range of structuring options of curtain-wall façades in nearly all styles.

The modified Fischer Carrier rails are fixed vertically to the FischerTHERM Carrier panels which are arranged either horizontally or vertically. The rail is therefore only fastened to the micro-lined outer shell of the sandwich element – additional punctiform heat bridges are therefore prevented.





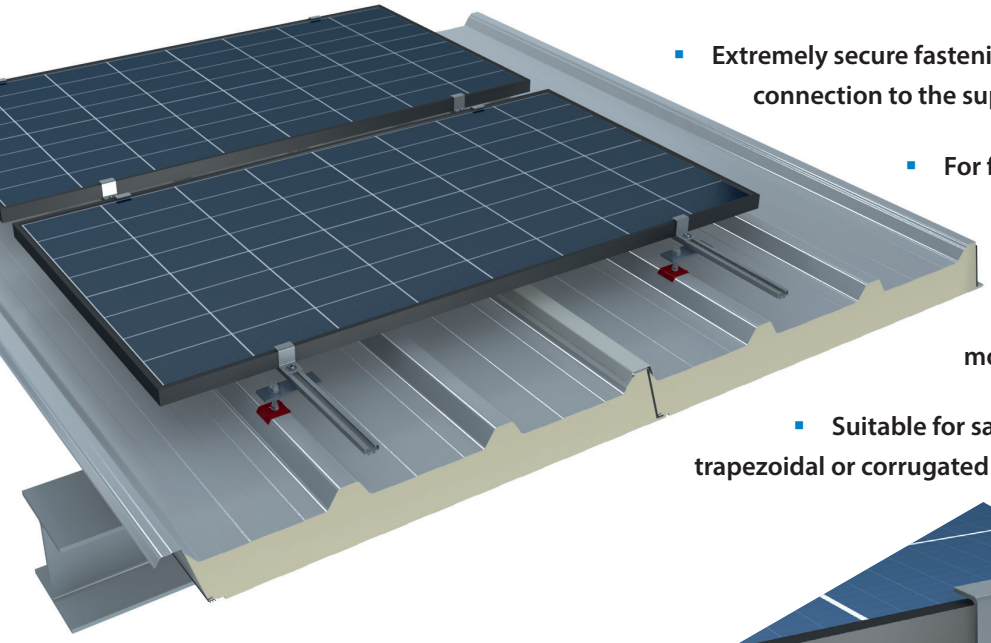


FischerTHERM Carrier sandwich panels are available in thicknesses from 80 to 120 mm.

- The Fischer Carrier rail is fastened to the micro-lined outer shell of the sandwich element
- The solar fastening systems are then mounted
- The elements are available in widths of 1000 mm and 1100 mm and the recommended maximum length is 16 metres.
- For hidden fastenings, the sandwich elements as well as FischerTHERM Carrier plus are available in 80-140 mm thickness and are particularly recommended if only part of a wall is to be equipped with hanging products.
- Colorcoat® SDP 50 and Colorcoat® Prisma are the perfect coatings.

FischerTHERM Carrier D® Solar with EJOT solar fastening system

Solar fastener in accordance with ETA-22/0762 on sandwich panels

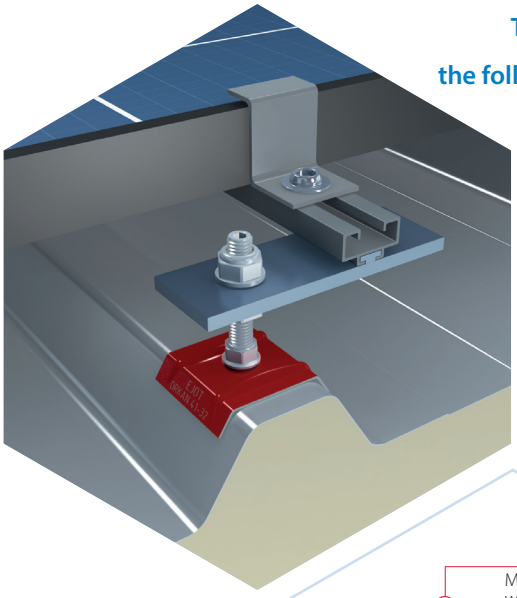


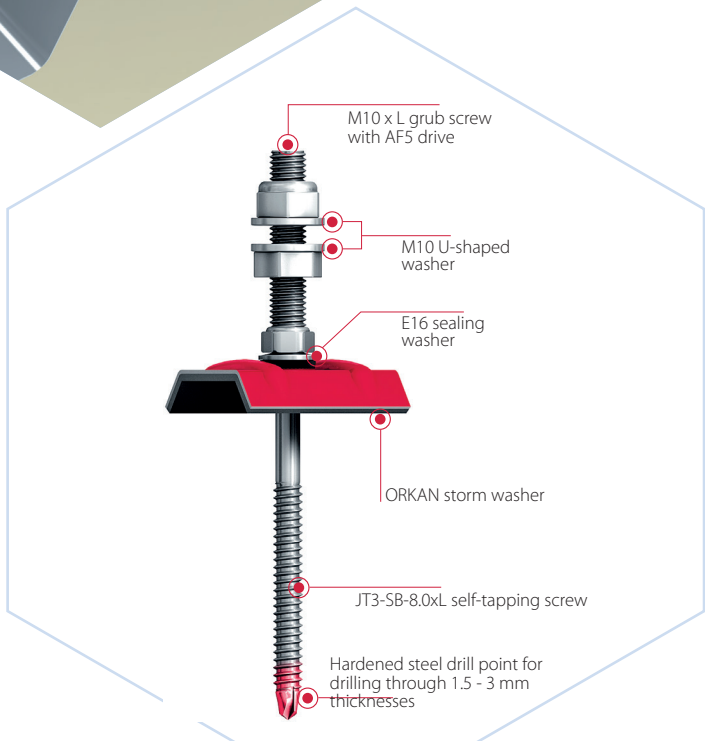
- **Quick retrofitting on existing roofs**
- **Extremely secure fastening due to direct connection to the supporting structure**
- **For fastening solar and photovoltaic system mounts to steel and wooden supporting structures**
- **No special tools required for mounting**
- **Suitable for sandwich elements as well as metal trapezoidal or corrugated profiles**

Note

The solar fastener components are matched to your specific project.
Other options are available on request.

The EJOT system has the following components:

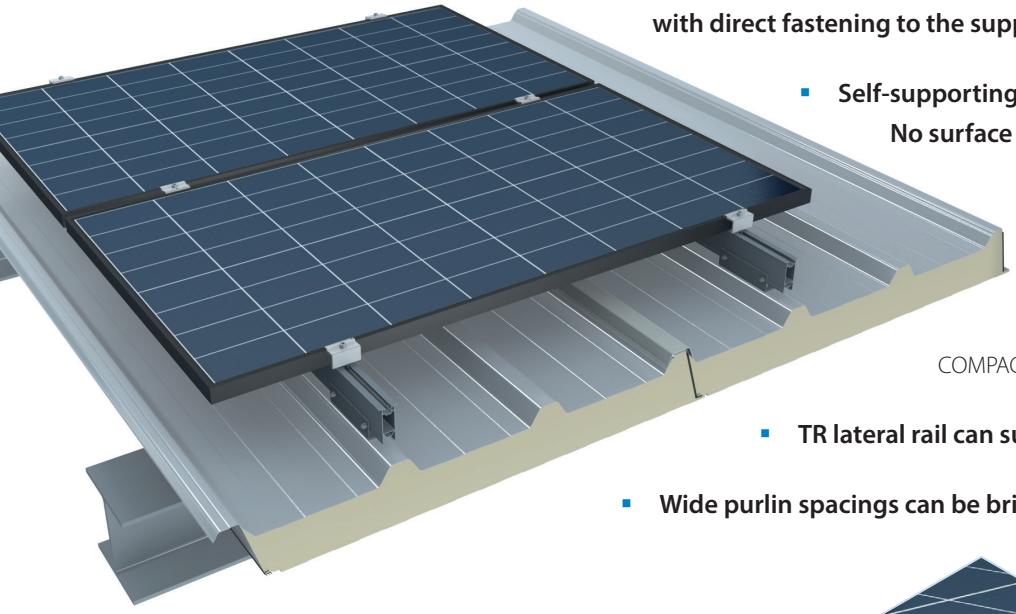




AEROCOMPACT®

FischerTHERM Carrier D® Solar with Aerocompact® solar fastening system parallel to the roof

COMPACTMETAL TR on sandwich panels with national technical approval no. Z-10.4-540

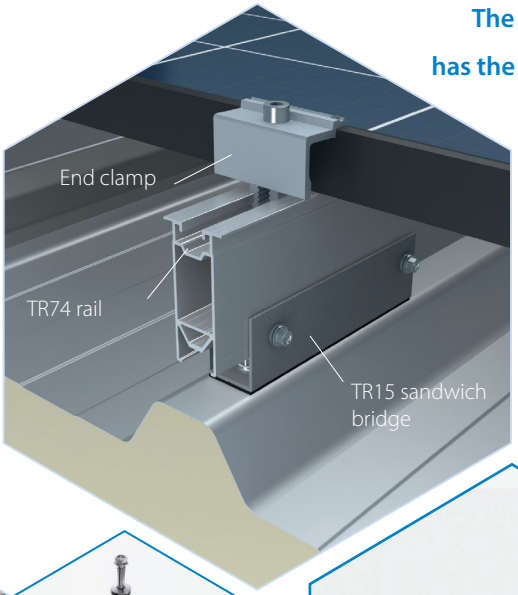


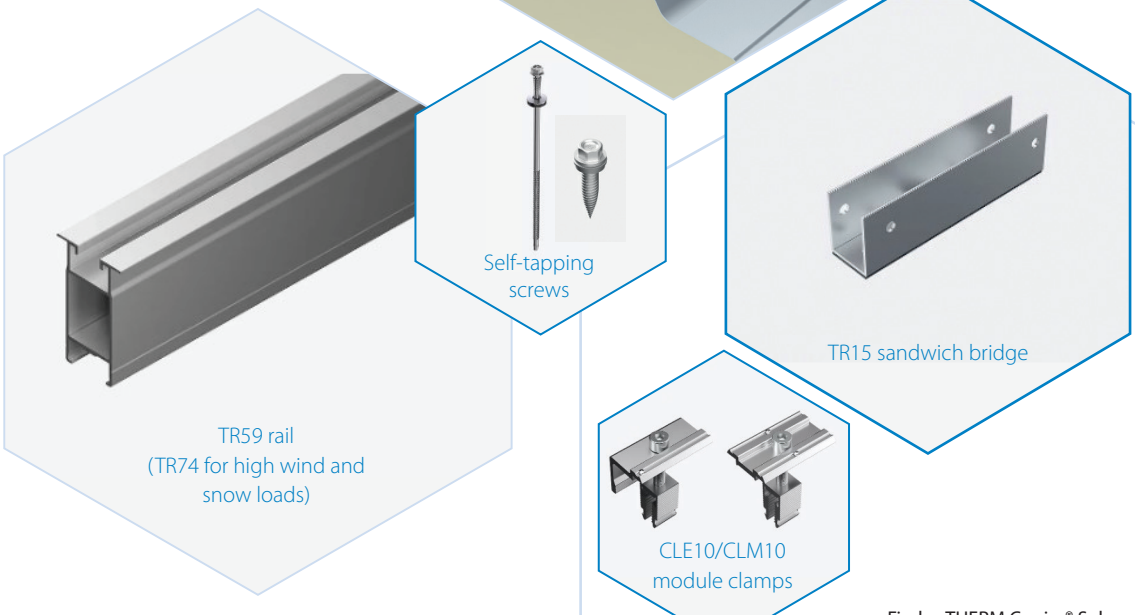
- **Revolutionary fastening solution for PV modules with direct fastening to the supporting structure**
- **Self-supporting system**
  No surface damage
- **Can take high snow and wind loads**
  For high snow loading:
  COMPACTMETAL TR74
  For normal snow loading:
  COMPACTMETAL TR59
- **TR lateral rail can support loads over wide spans**
- **Wide purlin spacings can be bridged**

The Aerocompact system

TR lateral rail can support loads over wide spans. Snow and wind loads are transmitted directly into the supporting structure by a patented support concept. Intermediate support positions are determined statically and prevent excessive rail sag.

The AEROCOMPACT system has the following components:

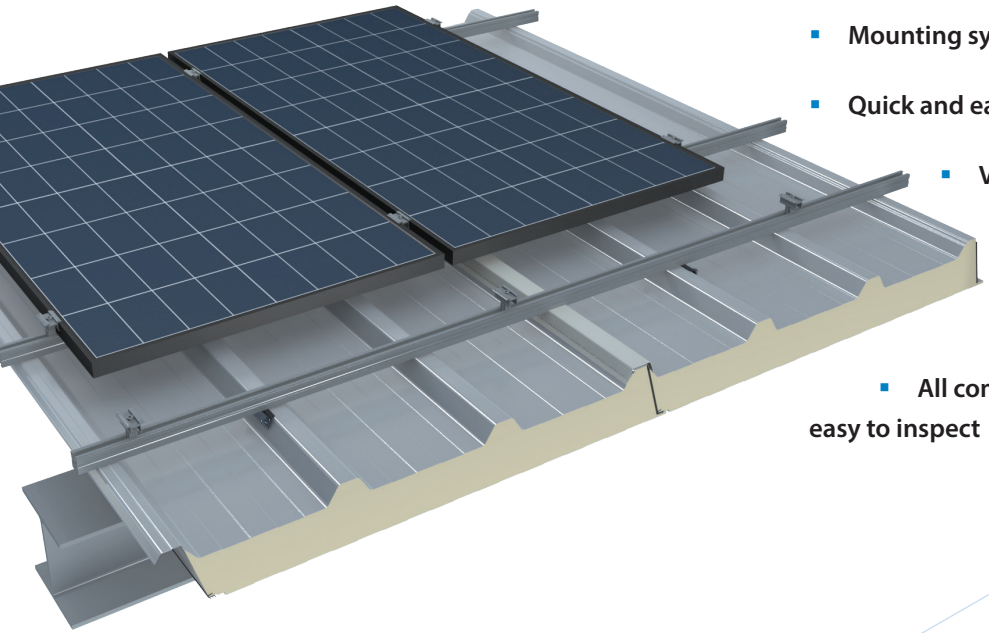




SCHLETTER

FischerTHERM Carrier D® Solar with Schletter vertical solar fastening system

SingleFix-V Light 20 assembly kit on sandwich panels with national technical approval no. Z-10.4-901



- **Mounting system for vertical module assembly**
- **Quick and easy module assembly due to push-fit system**
- **Very few individual components**
- **Low tolerance discrepancies**
- **Optimum use of roof area**
- **All components are visible and are therefore easy to inspect**

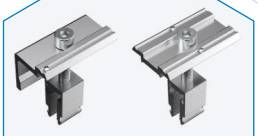
The Schletter SingleFix-V Light assembly kit

The SingleFix-V Light assembly kit provides easy and quick fastening options with minimal material requirements.

The Schletter SingleFix-V Light assembly kit is a safe fastening option for vertical module assembly with very low material requirements. The Schletter configurator allows you to generate a schematic and a parts list, and to export to pdf. Special screws with type approval and proven strength are used for fastening.

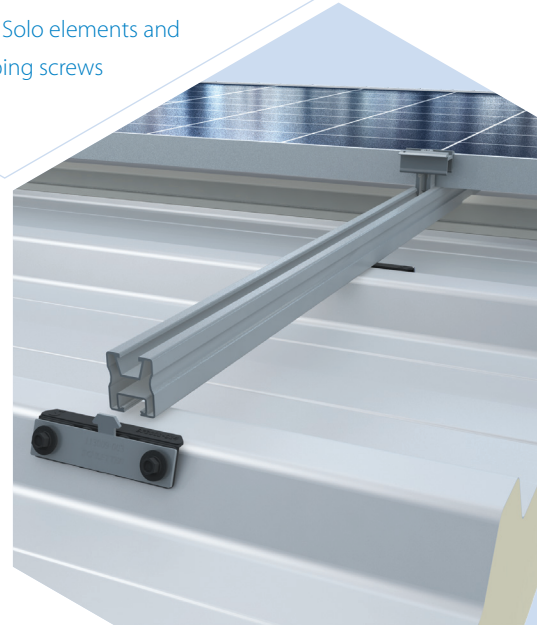
The Schletter system has the following components:

Set - 2 SingleFix-V Solo elements and 4 self-tapping screws



Rapid intermediate and end clamps

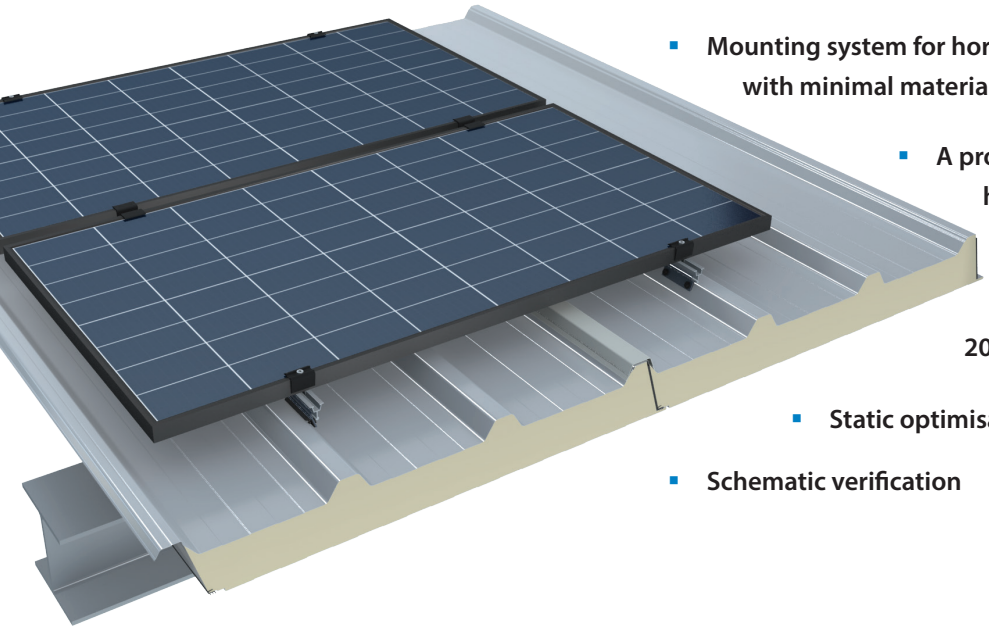
Long and short rails available



SCHLETTER

FischerTHERM Carrier D® Solar with Schletter horizontal solar fastening system

ClampFit on sandwich panels with national technical approval no. Z-10.4-901



- **Mounting system for horizontal module assembly with minimal material requirements**
- **A project-specific production run for special high beading dimensions is not necessary**
- **Suitable for sheet metal trapezoidal roofs with high beading dimensions of 20-60 mm**
- **Static optimisation with lateral screw fixing**
- **Schematic verification**

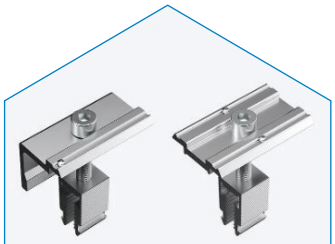
The Schletter ClampFix system

The new version of the trapezoidal ClampFit fastening (the logical development of the ClampFit-H) is intended for horizontal mounting of modules on sheet metal trapezoidal roofs and meets all these requirements in every respect.

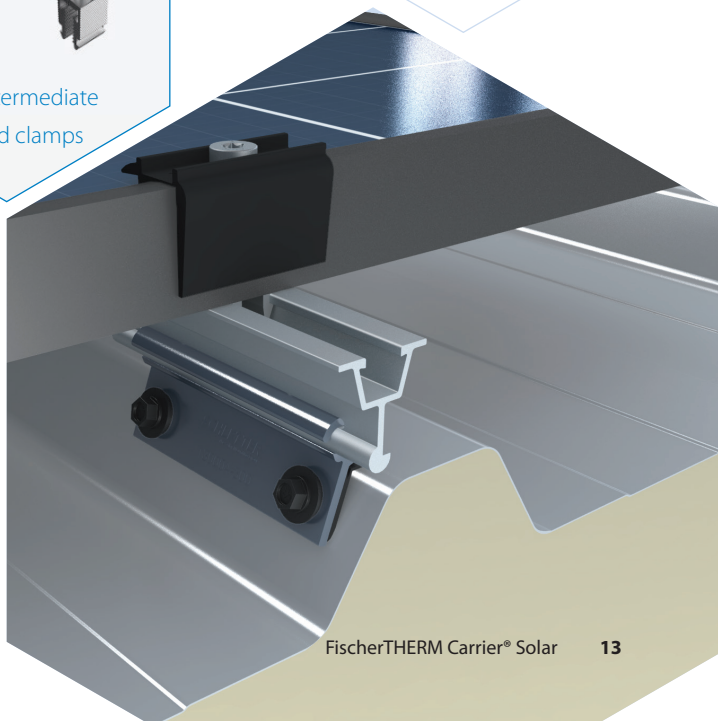
Optimum force transmission is achieved due to fastening to the side edge. This means that even very thin trapezoidal sheet is not subjected to excessive point loading. Screws loosening due to thermal expansion and alternating loads is reliably excluded with this fastening geometry.

The Schletter system has the following components:

ClampFit
with EPDM seal

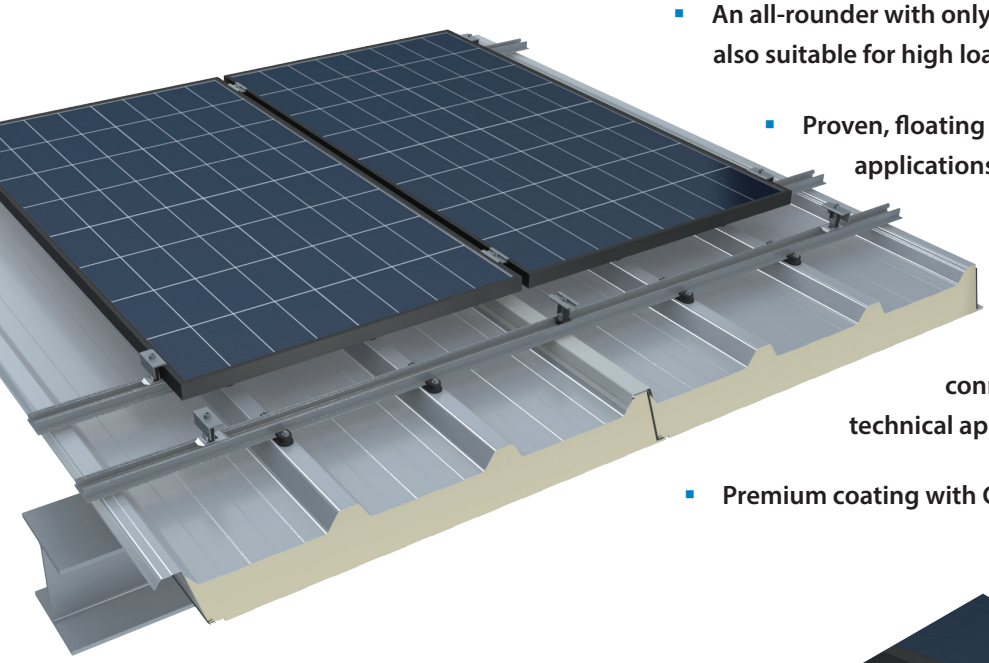


Rapid intermediate
and end clamps



FischerTHERM Carrier D® Solar with K2 Systems solar fastening system

BasicRail system on sandwich panels with national technical approval no. Z-10.4-901



- **An all-rounder with only four installation steps – also suitable for high loads**
- **Proven, floating support system for trapezoidal sheet metal applications with controlled thermal linear expansion**
- **Maximum span widths**
- **BasicClip roof connection and self-tapping thin sheet screws – BasicClip connection system with national technical approval**
- **Premium coating with Colorcoat Prisma® and HPS200 Ultra®**

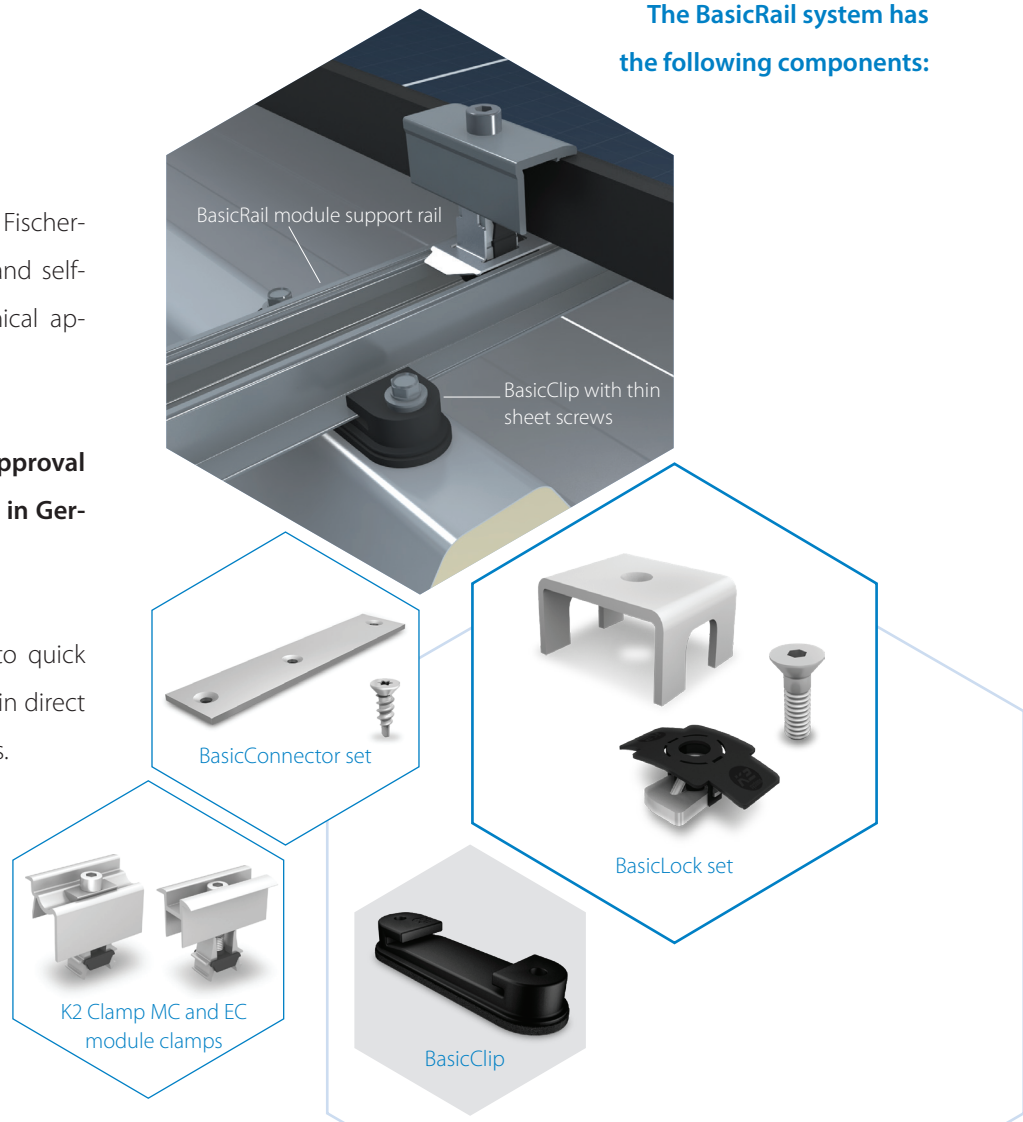
The K2 Systems BasicRail system

The BasicRail system direct connection to FischerTHERM sandwich panels using BasicClips and self-tapping screws has a DIBT national technical approval.

This type of mounting with a technical approval (Z-10.4-901) with the BasicClip is unique in Germany.

Minimum time is therefore required due to quick mounting of the BasicRail system, resulting in direct fasting of the system to the sandwich panels.

The BasicRail system has the following components:



Confidex guarantee

Our FischerTHERM Carrier sandwich elements and the extended addition to the Condifex® guarantee allow developers to achieve precisely this.

- The positive self-cleaning action of metal profiles is impeded when PV systems are installed or, in the worst cases, even prevented, producing so-called 'unwashed areas'. This can lead to a build-up of moss, for example, even after a relatively short period of time, increasing the effect of corrosion on the coating.
- To give developers more peace of mind and to meet the greater requirements of sustainable buildings, Tata Steel has extended the sector-leading Confidex® guarantee, which has been on the market for 30 years, with the PV addendum which also covers the use of rear-ventilated photovoltaic elements.
- Terms of contract between end user (developer) and Tata Steel.
- The guarantee uses an online registration platform and is easily transferred in the event of a change of ownership.

confidex

FischerTHERM® Carrier with Confidex guarantee - unsurpassed in the industry

*Colorcoat Prisma® element paints are not included in PV installations.

What to watch out for

Metal profile roofs below PV systems

Correct configuration of the FischerTHERM® Carrier D element:

- **Select the corresponding element thickness for the connection system in accordance with the approval (see timeline pp 4-5).**
- **External yield strength 350 N/mm²**
- **Standard sheet thickness**
  - ta 0.55
- **A coating is required from 45µm**

If you have any queries, please contact our technical support team:
technik@fischerprofil.de

General comments

Responsibility for planning and execution

Depending on the relevant regional building regulations, the developer of the solar plant is obliged to ensure only the permissible building measures are implemented. He or she is responsible for ensuring public statutory regulations are observed during construction, modification, change of use, and removal.

Solar plants are part of the building and are therefore subject to the provisions of building regulations. Essentially, the regional building regulations and the German Construction Products Act apply and, if necessary, the installation of the solar plant is subject to approval.

Proofs for the structural stability and fitness for purpose are to be completed for the solar plant, the connection to the structure, and the structure itself in accordance with the valid technical building regulations.

Loads are to be transmitted as follows for sandwich element roofs:

- Immediately into the supporting structure
- To the upper shell, provided the sandwich element is approved for the transmission or routing of individual, linear or distributed loads

An appropriate certificate of usability is always required.

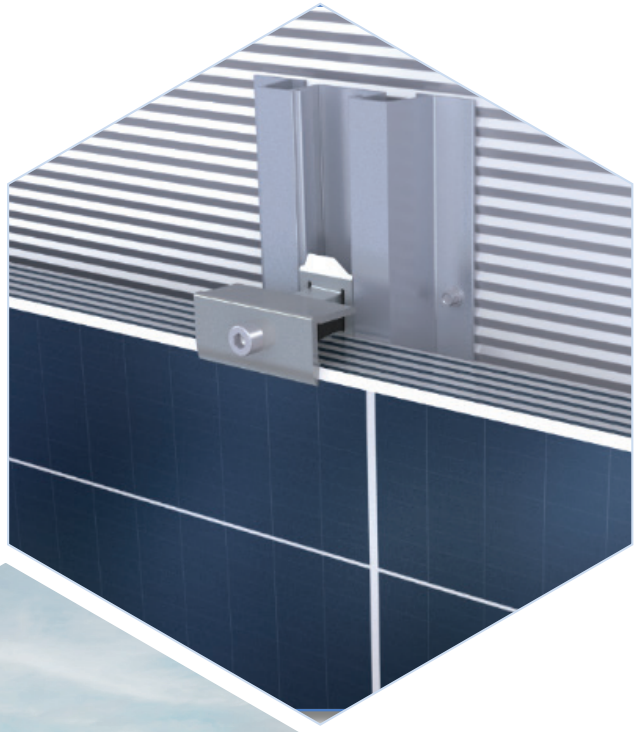
FischerTHERM Carrier® Solar

Our simple façade PV system solution

We have developed a modified rail system together with our system partners which allows you to easily and economically retrofit your sandwich façades with PV modules. Our matched systems reduce installation times and allow the overall costs of your project to be calculated more accurately. The connecting elements can be easily combined with our rails and are matched to each other.

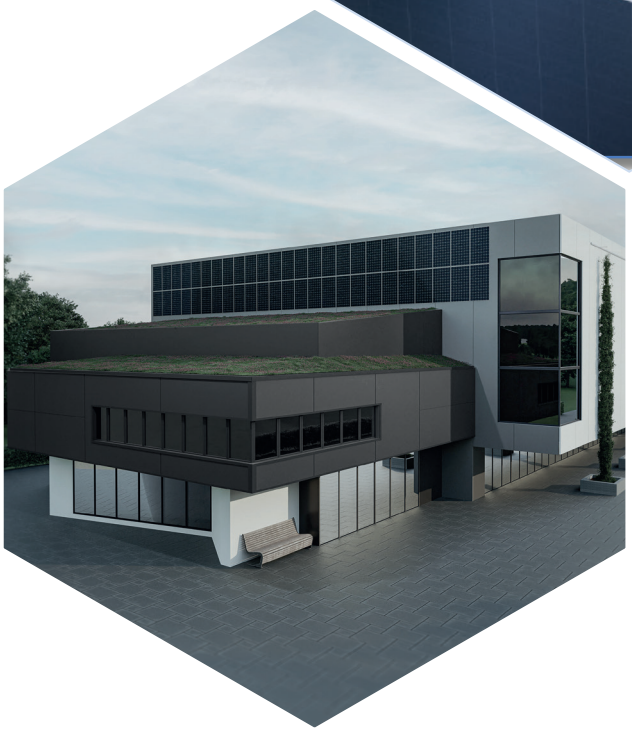
FischerTHERM Carrier Solar + FischerTHERM Carrier rail system = an attractive design and power generation all in one

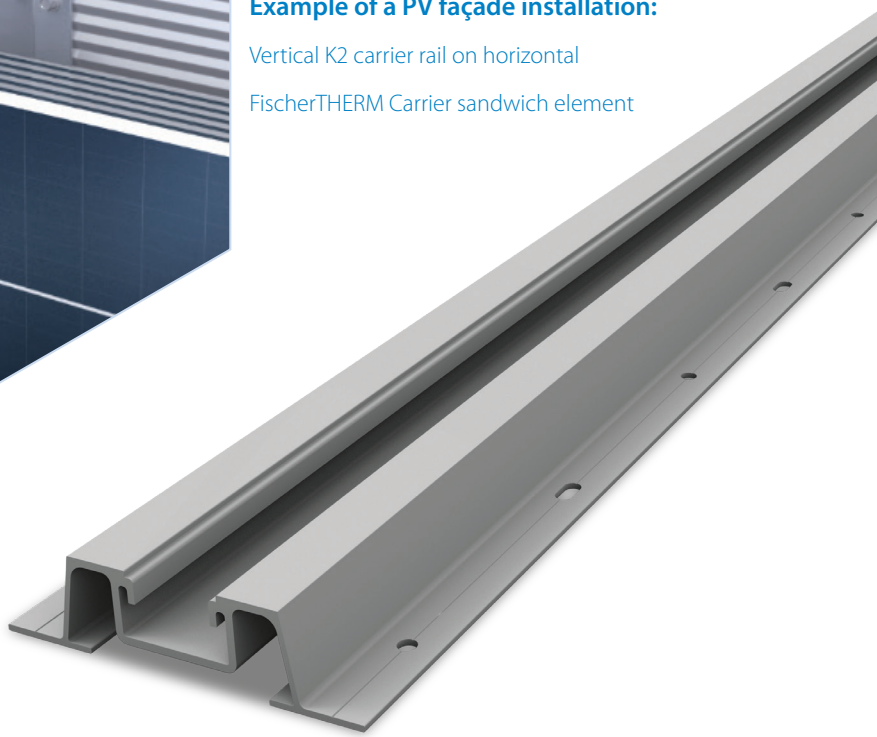
Carrier rail, developed in collaboration with KONVORTEC®



Example of a PV façade installation:

Vertical K2 carrier rail on horizontal FischerTHERM Carrier sandwich element





Carrier rail, developed in collaboration with K2 Systems

The Fischer DUO-seal

The energy saver for your building envelope

10%
Energy cost reduction

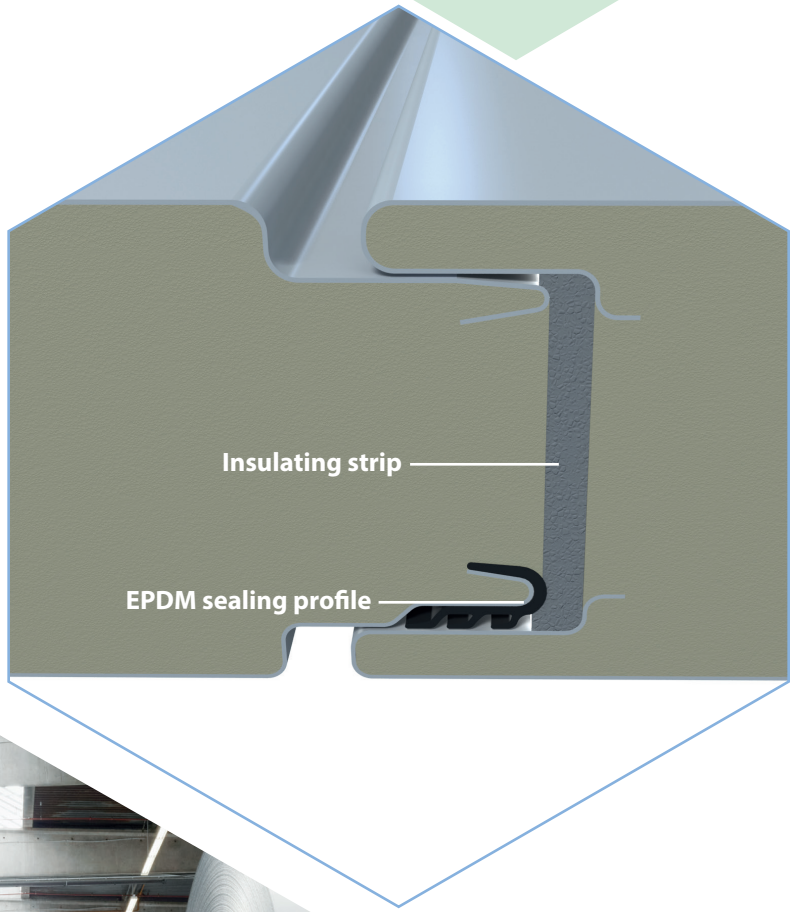
ENERGY SAVER

You can now combine efficient heat insulation with highly profitable energy savings and increase the value of your property many times over. Be on the safe side with our optional DUO-seal – ensure good heat protection with maximum airtightness.

When it comes to the joint permeability in the long term, the FischerTHERM elements with the DUO-seal have a value 100 times better (a=0.001)* than the required target value.

Air permeability is verified in accordance with EN 14509, A.12 and EN 12114. Thanks to the excellent joint air tightness, up to €2/m² can be saved annually in terms of heating costs. These savings are based on the heat generation costs of €0.08/kWh.

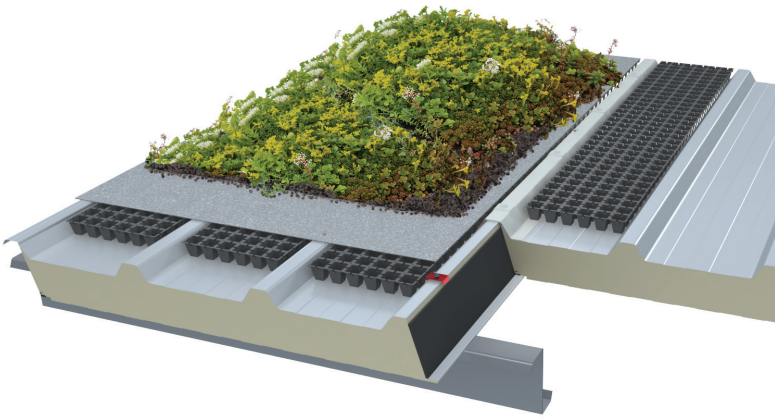
* The report by RWTH Aachen University on the checked and verified long-term behaviour is available upon request.



Zeremis® journey products from Fischer Profil

Construction material decisions are being scrutinised during the planning process, critical discussion of the sustainability of construction materials is gaining traction: these are also a key element of our investment plans. For this reason, we are not only investing in optimising our building infrastructures and our production processes, but are also introducing a range of innovative green product solutions.

SYSTEM SOLUTIONS FOR GREENING ROOFS AND FAÇADES



To achieve our climate protection goals, and above all to limit global warming to 1.5 degrees Celsius, we are developing more sustainable system solutions.

Because greening roofs and façades, for example, can also make a contribution to climate protection.

Reducing the carbon footprint even further

The solution for your green building projects and climate-neutral building planning with a sustainability certificate.

We started producing the well-known Fischer profiles from green steel in December 2022. As a Tata Steel Europe company, we have the opportunity to issue certificates for the use of Zeremis CarbonLite.
Yet another step in the direction of decarbonisation.
(See page 5 for more information)

USE OF GREEN STEEL

www.fischerprofil.de

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A Tata Steel company

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English 04/2023