PRODUCTS FOR INSTALLATION OF PHOTOVOLTAIC PANELS

Fatra Fatra, a.s. is a traditional manufacturer of roof waterproofing membranes and accessories marketed under the **FATRAFOL** brand. Their function is to protect building structures from water and moisture penetration, thus preventing degradation.

If a roof area is supposed to be used for installation of a photovovoltaic power plant, it is necessary to consider all technical and operational requirements in the roof design, such as mandatory distances from roof edges, ventilation, penetrations, etc. It is also necessary to include installation of safety and service walkways.

When designing the roof, additional loads from photovoltaic panels and their mounting structures must also be considered. It is necessary to ensure that the waterproofing layer is not damaged due the improper installation of the photovoltaic system. This could cause leaks.

AVAILABLE SOLUTIONS:

FATRA**FAST** System

For conventional PV panels, without roof penetration and without additional ballast

FATRA**FLEX** System

For flexible PV panels – bonded, without roof penetration

Accessories

Pads, membranes, and tiles for walkways and service paths



WHY CHOOSE A SOLUTION FROM FATRA?

- System solution for fixing PV panels on roofs with FATRAFOL membrane
- Roof covering warranty remains valid
- Installation without perforation of waterproofing membrane
- Proven strength of welded and bonded joints
- Easy maintenance – all elements are easily accessible via walkways
- Fast and easy installation for all types of photovoltaic and solar systems
- Suitable for new or existing roofs with FATRAFOL PVC-P membranes

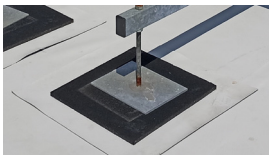
Note: To ensure system integrity, only Fatra components may be used in FATRAFAST and FATRAFLEX systems.

ACCESSORIES

Pads for ballasted PV structures

Pads are made of FATRAFOL 810 PVC membrane (thickness 1.5 mm) or FATRAFOL 807 (thickness 2.6 mm).
They can be used as a base layer under PV panel components, air conditioning units, pumps, etc. Their use minimizes the risk of damage to the roof waterproofing layer. At the same time, they create a protective separation layer between two types of materials.

Title	Dimension
Circular patch	**Ø 115 mm, 160 mm**
Rectangular cut with rounded corners	**305 mm x 225 mm**
Rectangular cut	**305 mm x 225 mm**
Square cut	**500 mm x 500 mm**
Base strip for PV systems	**120 mm x 2050 mm**

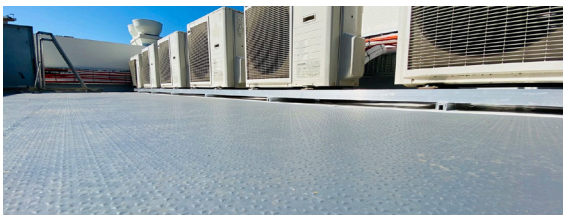





Products for walkway pavements on flat roofs

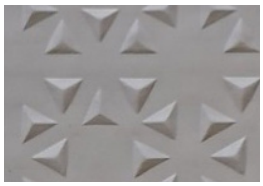
FATRAFOL 810 membrane with non-slipe surface

FATRAFOL 810 with the embossed surface is intended as an additional layer on completed roof coverings in order to create access and service paths and as independent roof covering of walkways (recommended thickness is 1.8 mm and more).



Width	Pattern
650 mm, 1300 mm	**D205 a D336**
1025 mm	**D336**
2050 mm	**D336**


D336


D205

FATRAFOL WALK 600 TILES

FATRAFOL WALK 600 is an anti-slip and protective roofing tile made of PVC-P membrane.

The tiles are designed to create anti-slip walkways and access routes that serve for the operation and maintenance of technical equipment on roofs.

The tiles are manufactured from excess PVC material remaining after the production of Fatrafol roofing membranes.

The tiles are installed by hot air welding to the existing Fatra roofing membrane. They have an excellent weathering resistance, including UV protection, deep surface texture provides high slip resistence.





Parameter	Value
Length	**605 mm**
Width	**605 mm**
Total thickness	**10,0 mm**
Pattern height	**3 mm**
Weight	**3,4 kg/piece**
Slip resistance	**14°**
Fire reaction	**Class E**

fatrafol®

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FATRAFAST System

The FATRAFAST system uses a FATRAFAST PVC profile with inserted aluminum reinforcement, designed for the installation of support structures for photovoltaic panels on flat roofs with a PVC membrane.

The profile is fixed to mechanically fastened FATRAFOL roofing membrane by hot-air welding. The aluminum profile is fitted with plastic end caps

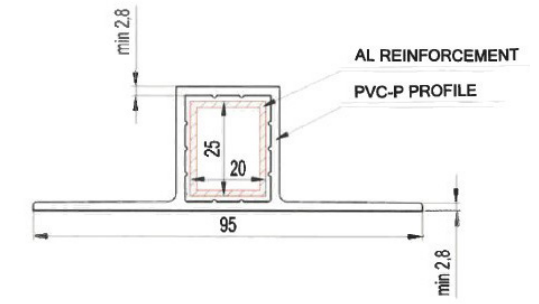
The aluminum profile allows structural elements to be fastened with screws without perforating the waterproofing membrane.

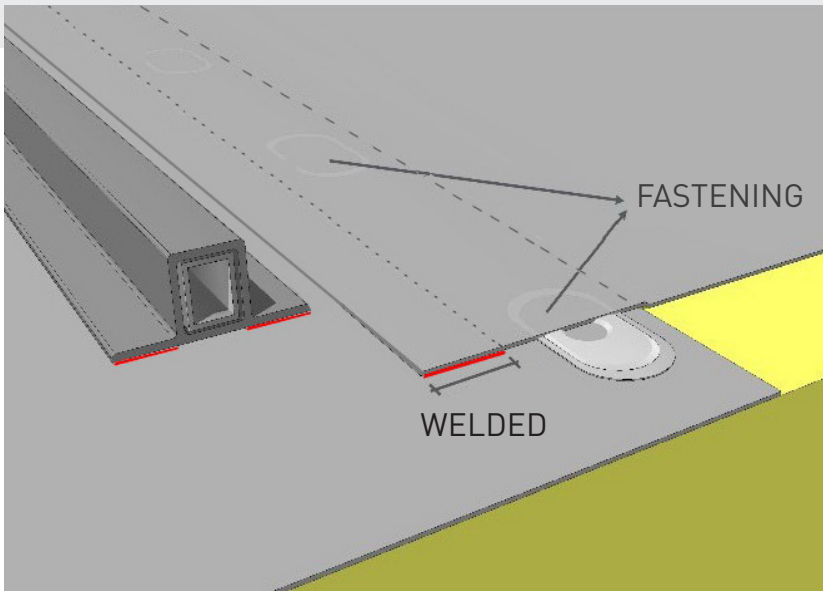


Parameter	Value
Height	**33 mm**
Base width	**95 mm**
Length	**1010 mm; 1510 mm, 2010 mm**
Weight	**1310 g; 1955 g; 2610 g**
Color	**RAL 7035**

Benefits

- Safe connection to the roof waterproofing system without the need for perforating the membrane
- Balanced transfer of forces to the roof structure
- Low additional load on the roof
- Easy and quick installation
- Long durability

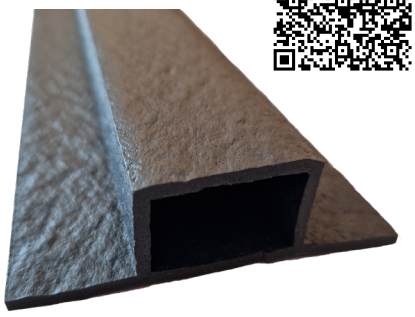






FATRAFLEX System

There are two ways to install flexible photovoltaic panels with Fatraflex:



1. HOT-AIR WELDING

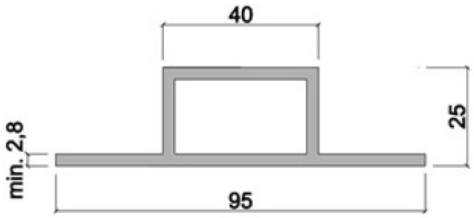
Fastening the FATRAFLEX flexible profile to the waterproofing membrane using hot air weld, followed by attaching the photovoltaic panel to the profile using adhesive.

FATRAFLEX is an innovative PVC-P profile designed as a base/distance profile for flexible photovoltaic panels installed on roofs covered with PVC waterproofing membranes.

The profiles are produced by extrusion of internally reprocessed PVC materials which come from the production of PVC roofing membranes. The profile is attached to the PVC-P waterproofing membrane by hot-air welding on both sides.

Flexible photovoltaic panels are installed on FATRAFLEX profiles by gluing them with a dedicated adhesive. Installation must always be carried out in accordance with the installation manual of producer of the photovoltaic panels and adhesive manufacturer.

Parameter	Value
Height	**25 mm**
Base width	**95 mm**
Length	**1000 mm až 2500 mm**
Weight	**ca. 700 g/m²**
Color	**dark grey**



Benefits

- **Long-term resistance to weathering, UV radiation and aggressive chemicals in the atmosphere**
- **Ability to easily adapt to uneven substrates and curved surfaces**
- **Low weight and fast installation**
- **The shape and increased flexibility of the profile ensure even load distribution without point stress on the roofing membrane**





2. USE OF ADHESIVE

Fastening the flexible profile H3092 or H3099 to the waterproofing membrane and the PV panel to the profile by adhesive.

Adhesives

Soudabond 677

Soudabond 677 adhesive is designed for bonding PVC profiles and flexible PV panels together. It is a flexible, colorfast, one-component adhesive based on SMX polymer with very fast curing.

Adhesive description:

- **Skin formation** ca. 5 minutes
- **Curing speed** 2–3 mm / 24 h
- **Maximum tension** (ISO 37) 3,80 N/mm²
- **Application temperature** +5 °C až +35 °C
- **Temperature resistance** -40 °C až +90 °C



Soudabond 680

Soudabond 680 is one-component adhesive based on Hybrid Polymer.

Adhesive description:

- **Skin formation** ca. 20-30 minutes
- **Curing speed** 3 mm / 24 h
- **Maximum tension** (ISO 37) 4,20 N/mm²
- **Application temperature** +5 °C až +35 °C
- **Temperature resistance** -40 °C až +90 °C

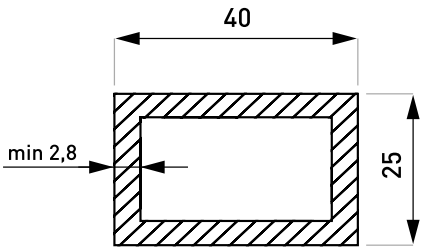




Profile H3092

Profile made of plasticized PVC (type 1630, 1631), weight 500 g/m.





Profile H3099

Profile made of plasticized PVC (type 1630, 1631), weight 550 g/m.
It makes it easier to bond the profile at high temperatures; the profile will not warp when presseed.



