

DP-DNHWE-WZ CONSTRUCTION ASSEMBLY INSTRUCTIONS



Manufacturer: BAKS – Kazimierz Sielski

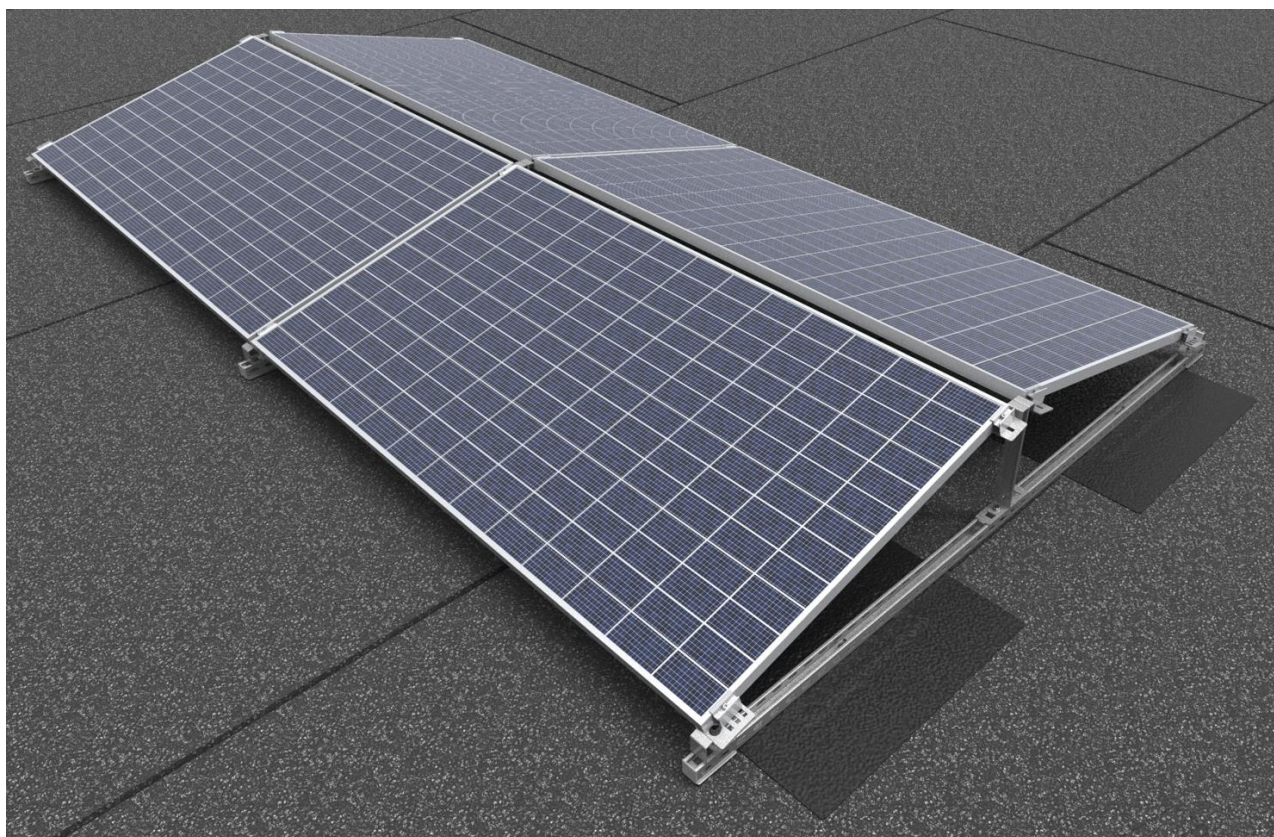
ul. Jagodne 5

05-480 Karczew

Poland

Steel structure for a flat roof in a pasted version.

Mounting of PV panels in a horizontal arrangement (horizontally).



1. Necessary tools for assembling the structure

- Allen spanner (ampoule spanner) size 6
- Cordless screwdriver with speed and torque control
- Hexagon socket wrench, hexagon size 6 for screwdriver head
- Combination spanners in sizes 13, 15, 17 mm
- Ratchet spanner with sockets in sizes 13, 15, 17 mm
- Extension piece 100-120mm for socket spanners
- Rubber mallet
- Torque spanner, range 10-45 Nm

2. General information:

- Structures can be used in wind and snow zones in accordance with the following standards: **EN 1991-1-3** and **EN 1991-1-4**
- **Before assembling the structure, please read the installation instructions for the photovoltaic panels.**
- Tighten **SAM8x...E** screws and **NKZM8E** nuts to a torque of 12-14 Nm.
- When tightening the **SGKFM8x20** and **SGKFM10x20PV** screw, hold the head of the screw in such a position that the underlay is blocked on the walls of the hole in which the screw is installed, and then, using a screwdriver, tighten the screw slowly until it is blocked in the hole. At the final stage, tighten the screw with the screwdriver successively with a torque of: M8 - 22 Nm; M10 - 42 Nm
- Tighten **SRM10x...F** screws to a torque of 20 Nm



3. Summary of components of the DP-DNHWE-WZ construction

No.	Product	Name of product	Designation in construction
1	Support Channel	CMP41H41/...MC	Support profile
2	Bottom holder	UPDMC	Panel support
3	Top holder	UPG...MC	Panel support
4	Side holder	BUFK...	Side panel mounting clamp
5	Middle holder	PUFK	Middle clamp for mounting the panels
6	Mushroom head screw	SGKFM...	Screw + flange nut
7	Steel mounting plate	SPM1	Pasted plate
8	Screw with rhomboid nut	SRM10x30F	Mounting of UPG and UPDC holders
9	Grounding washer	PUPK	Panel grounding
10	Channel base with vibration insulating rubber	PC50P	Prevents pressing of the steel profiles endings against the roof sheathing
11	Protective cap	NOWPAL40x40SR	Protects steel profiles endings

4. Assembly of DP-DNHWE-WZ structure

The A and B dimensions (dimension B is the module length + 20mm) depend on the size of the modules to be fitted. This must be determined by physically fitting the module onto the mounted UPG...MC and UPDMC holders.

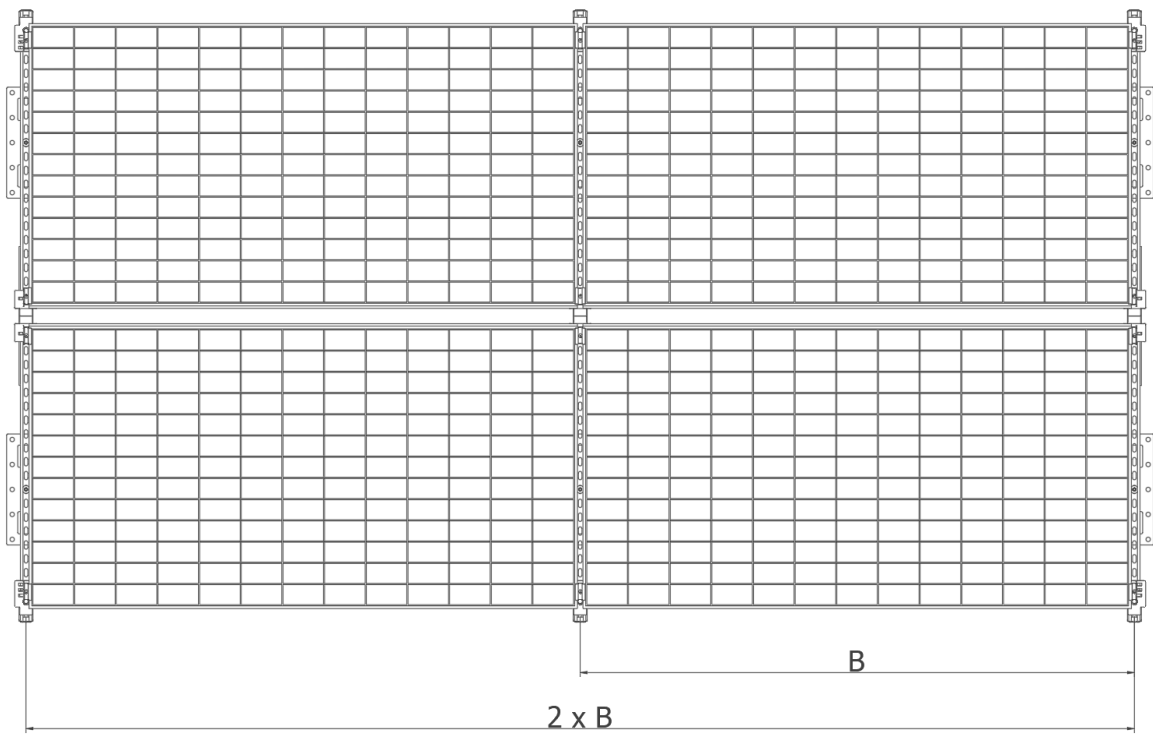
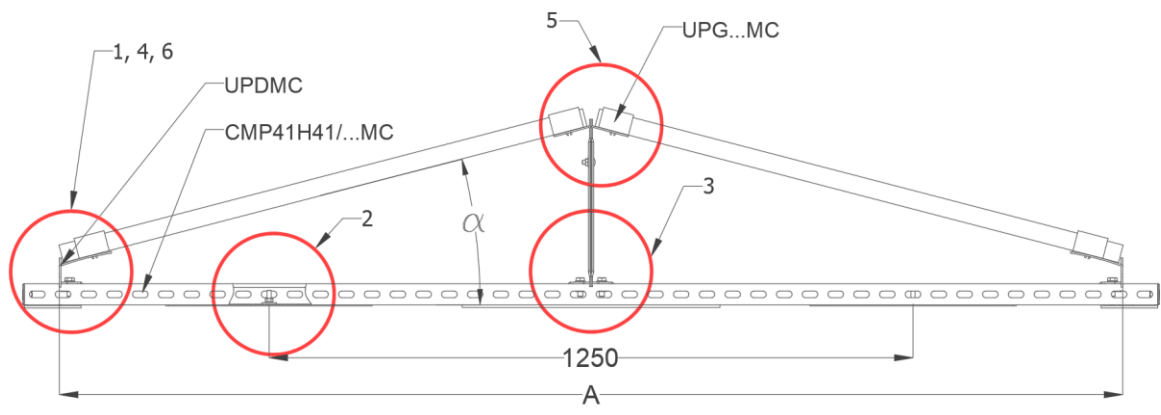
The maximum size of modules that can be correctly mounted on a DP-DNHWE-WZ structure is: 2100mm long x 1150mm wide (to be verified with module manufacturer)

Grounding washers of the PUPK type should be placed at the mounting points of the PUFK middle holders.

Where there are an even number of modules in a single row of construction, grounding washers are fitted every second pair of modules.

In the case of an odd number of modules, grounding washers must additionally be added under the extreme PUFK holders to ensure that the last module is also grounded.

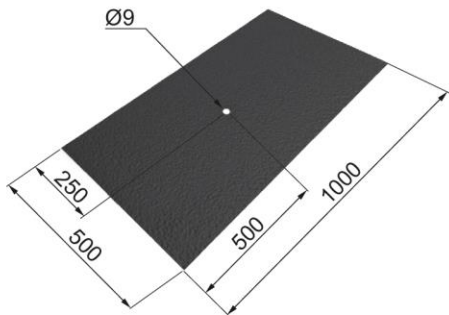




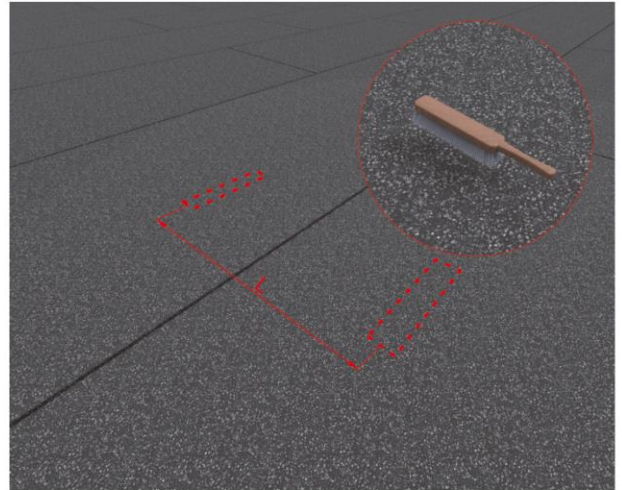
Assembly instructions for SPM1 Steel Fixing Plate to roofing felt
Note:

Requirements of the roofing felt to be used:

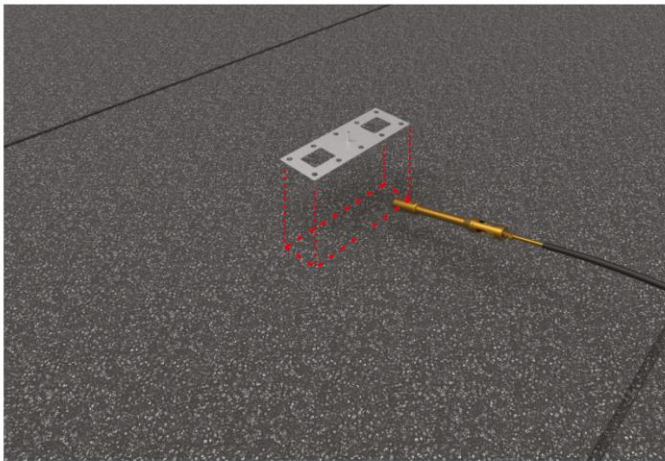
- 1) EN 12310-1 (tear strength) – min. 145N
- 2) EN 12311-1 (tensile strength) – min. 290N/50 mm
- 3) EN 12316-1 (peel strength of the joints) – min. 120N/50 mm
- 4) EN 12317-1 (shear strength of the joints) – min. 490N/50 mm



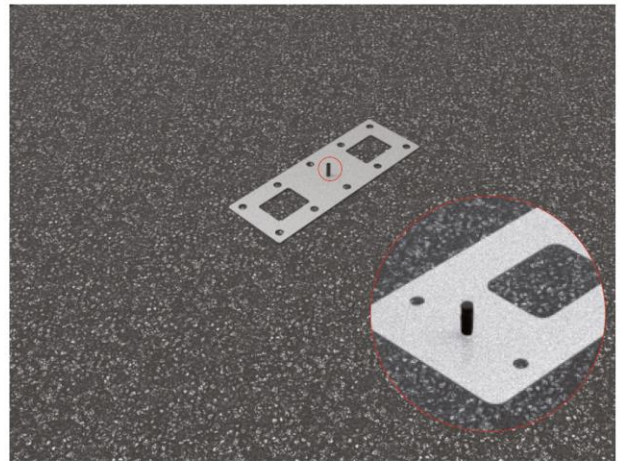
1. Before starting to install the SPM1 plates, cut out a fragment of roofing felt with minimum dimensions of 500 x 1000 mm, then cut out holes with a diameter of Ø9 mm in the locations of screws



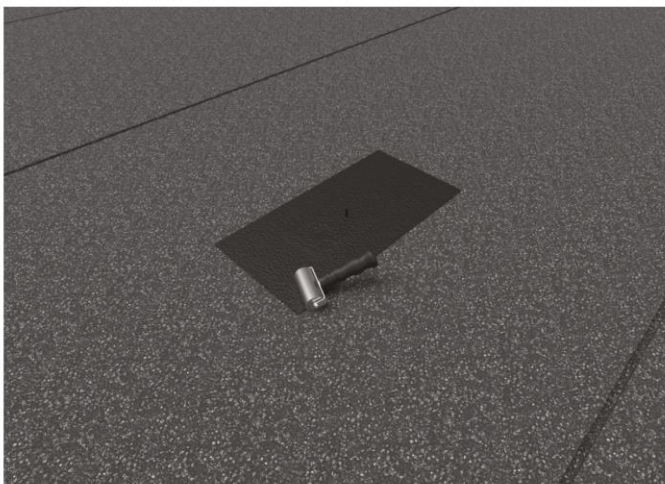
2. Measure the distance between the SPM1 plates, mark the points and then use a wire brush to clean the 500 x 1000 mm area of the roofing felt on the roof



3. On the designated area heat the surface in the size of a plate or slightly larger

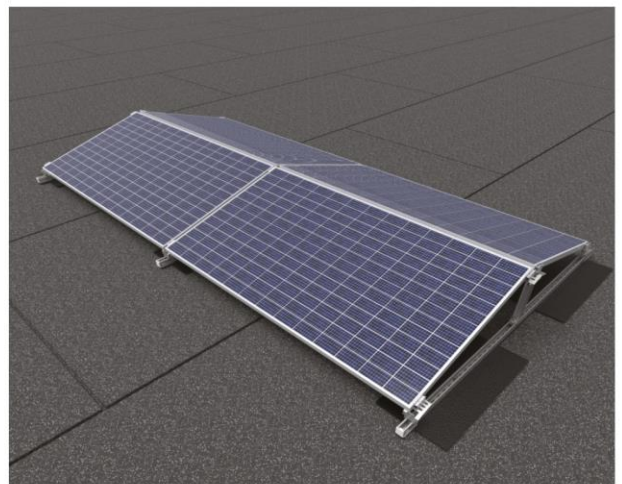


4. SPM1 plate should be placed on heated areas, pressed against prepared surface, protruding threads should be secured with NOP50 protection cap



5. Warm up the prepared roofing felt, cover the plate with it and then press it with a roofing roller in the locations of the holes

6. Warm up the side of the roofing felt and the surface and at the same time press the roofing felt with a roofing roller, repeat the operation for each side until the plate is fully fixed to the roof surface



7. Correctly installed structure using SPM1 plate and DP-DNHWE-WZ mounting system

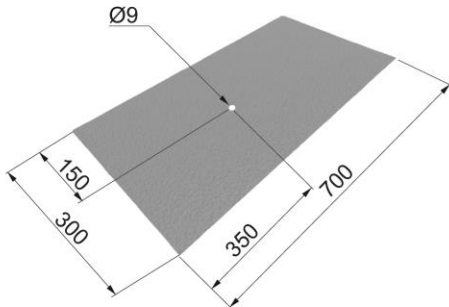


Assembly instructions for SPM1 Steel Fixing Plate to membrane

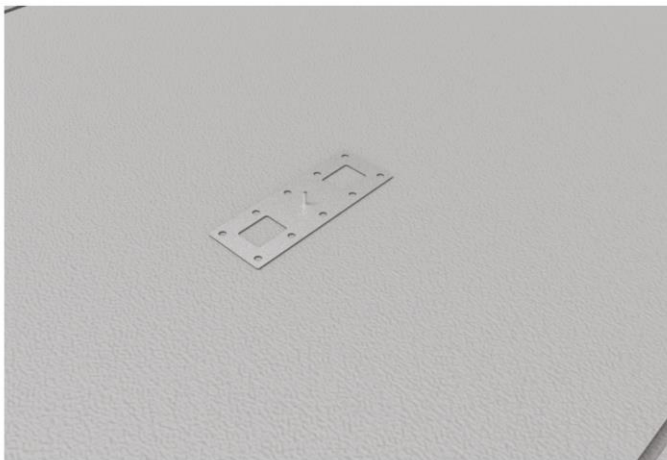
Note:

Requirements of the membrane to be used: PVC, ECB, EPO
min 1.2 mm thick:

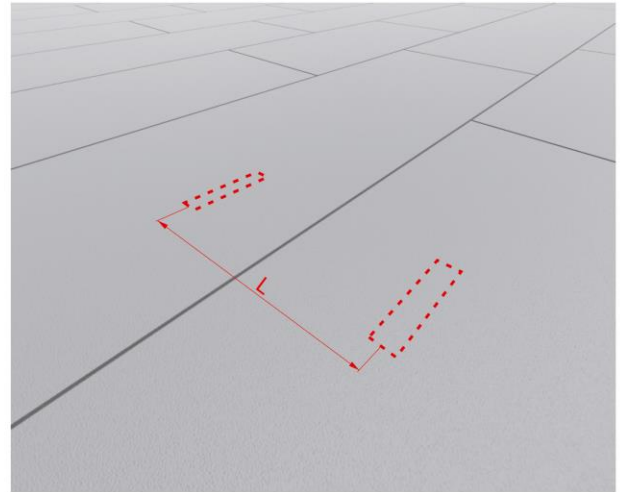
- 1) EN 12310-2 (tear strength) – min. 105N
- 2) EN 12311-2 (tensile strength) – min. 505N/50 mm
- 3) EN 12316-2 (peel strength of the joints) – min. 145N/50 mm
- 4) EN 12317-2 (shear strength of the joints) – min. 445N/50 mm



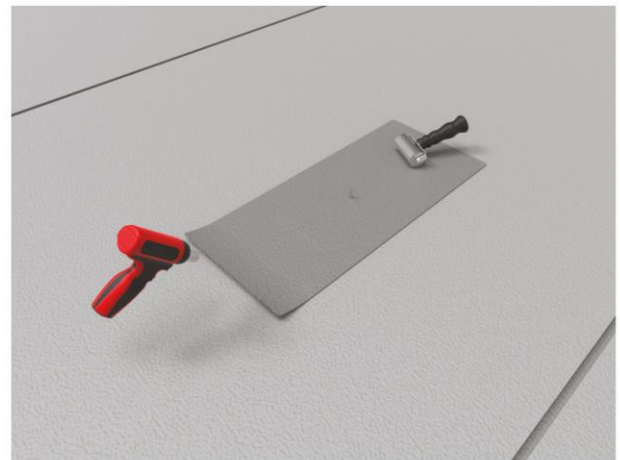
1. Before starting to install the SPM1 plates, cut out a fragment of membrane with minimum dimensions of 300 x 700 mm, then cut out holes with a diameter of Ø9 mm in the locations of screws, finally round the corners of the membrane.



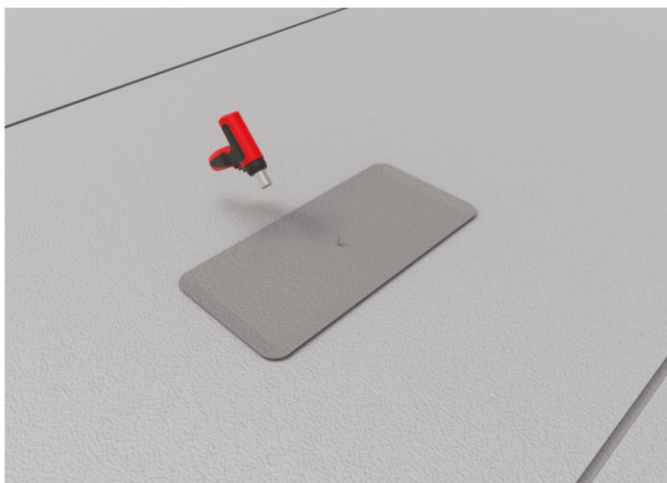
3. Place the SPM1 plate on the designated place



2. Measure the distance between the SPM1 plates, then mark the points.

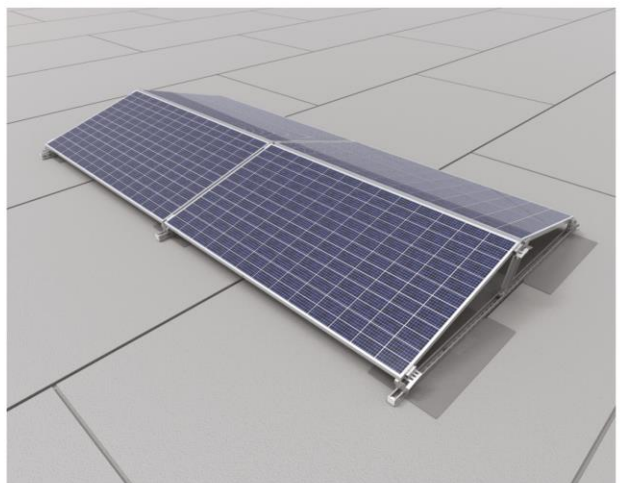


4. Cover the SPM1 plate with the prepared membrane and start the installation with a manual welding machine. Initially weld an hole of 60 x 80 mm, after proper heating press the membrane with a roofing roller. Repeat for the remaining holes.



5. Once the holes are welded, weld all sides around the SPM1 plate.

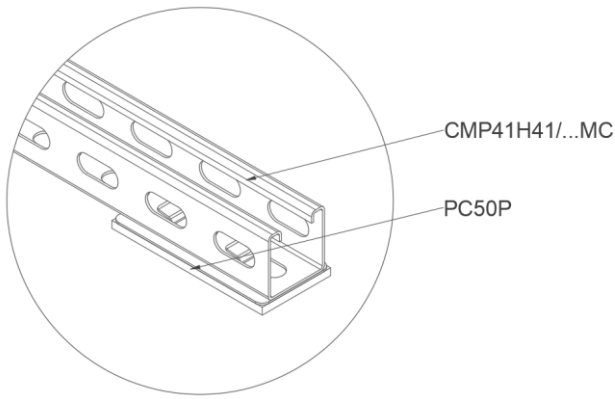
6. The SPM1 plate glued to the membrane is a basis for a structure for PV Installations.



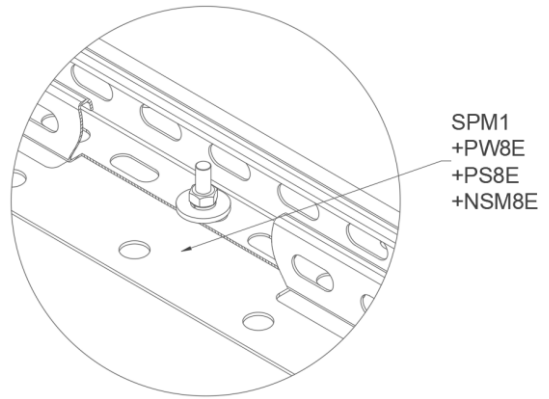
7. Correctly installed structure using SPM1 plate and DP-DNHWE-WZ mounting system



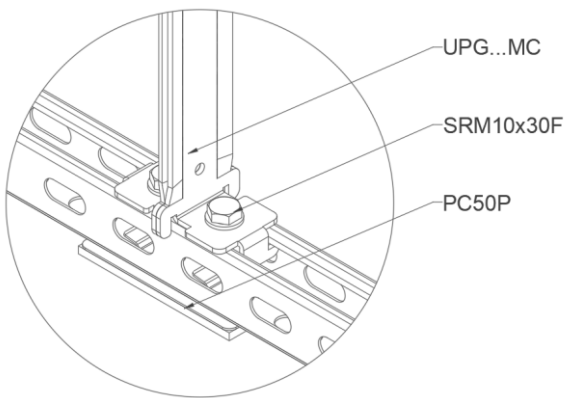
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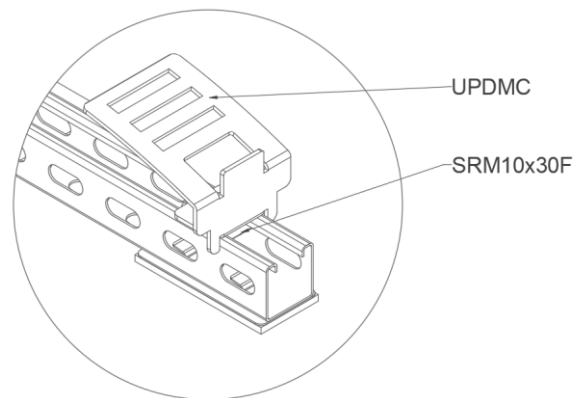
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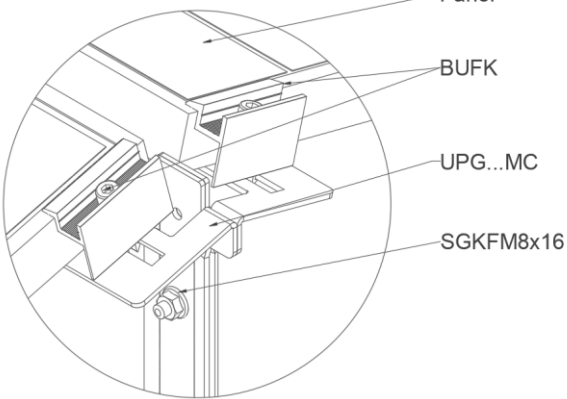
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