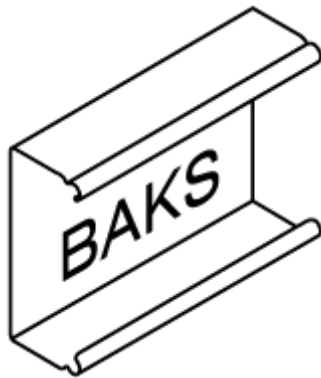


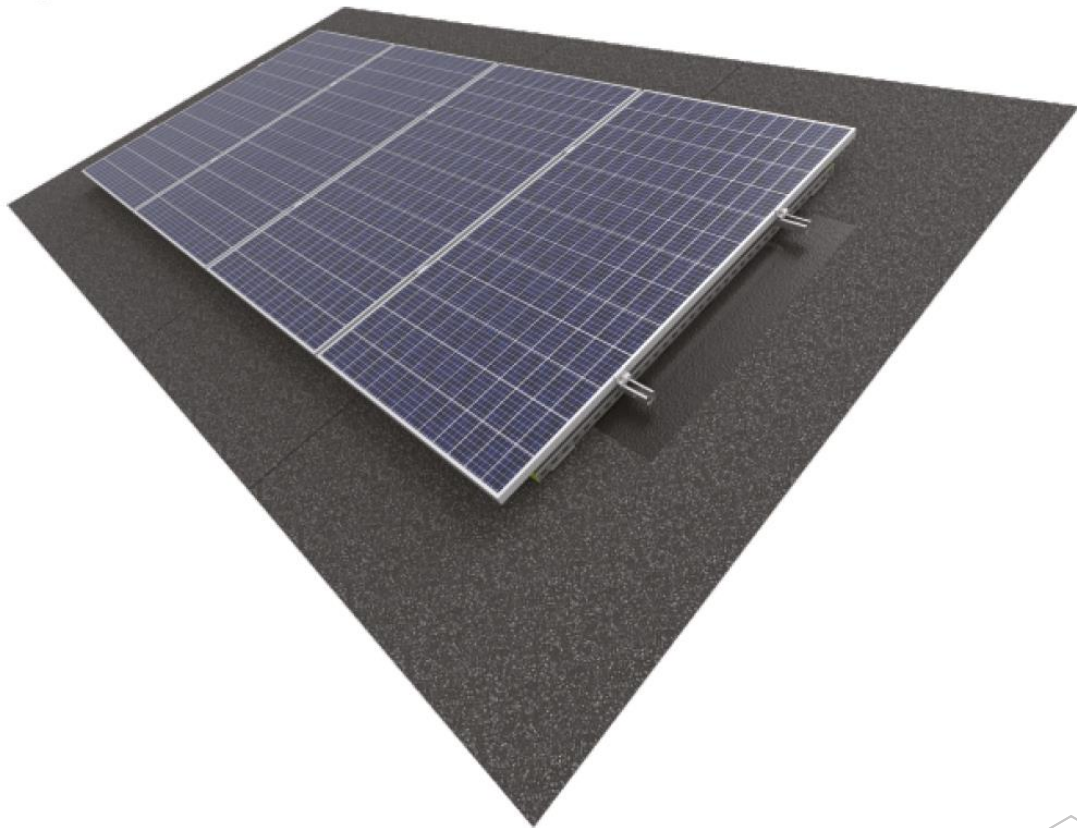
CONSTRUCTION ASSEMBLY INSTRUCTIONS DS-V7N



Manufacturer : BAKS – Kazimierz Sielski

ul. Jagodne 5
05-480 Karczew
Poland

Construction for panels in a vertical arrangement (vertically).
Mounted on a sloping roof covered with roofing felt or membrane.



1. Necessary tools for assembling structures

- Allen key (ampoule) size 6
- Cordless screwdriver with speed and torque control
- Hexagonal bit, Allen size 6 for screwdriver head
- Combination spanners in sizes 13, 15, 17 mm,
- Ratchet wrench with sockets in sizes 13, 15, 17 mm,
- Extension 100-120mm for socket wrenches
- Rubber hammer
- Torque wrench, range 10-45 Nm

2. Informacje ogólne:

- Possibility of using the structure in wind and snow zones in accordance with the following standards: EN 1991-1-3 and EN 1991-1-4.
- **Before starting the assembly of the structure, you should read the installation instructions for photovoltaic panels**
- Cutting elements is allowed only with low-speed reciprocating saws and hand saws with tools made of high quality steel, this avoids excessive heating of the material.
- Cut edges must be unconditionally protected – sanded with sandpaper, cleaned and degreased again, after drying protect with zinc paste with a minimum of three layers..
- **SAM8x...E** screws with **NRM8F** nuts should be tightened with a torque of 12-14 Nm
- When twisting the **SGKFM8x20** and **SGKFM10x20PV** screws, hold the screw head with your hand, in such a position that the planting is blocked on the walls of the hole in which we mount the screw, and then with the help of a screwdriver, tighten the screw slowly until it is blocked in the hole. In the final phase, tighten the screwdriver with the following torques: M8 – 22 Nm; M10 - 42 Nm.
- Screws **SRM10x...F** tighten with 20 Nm torque
- Tighten the **SPM2** boards to the channel section with a torque of 24 Nm.



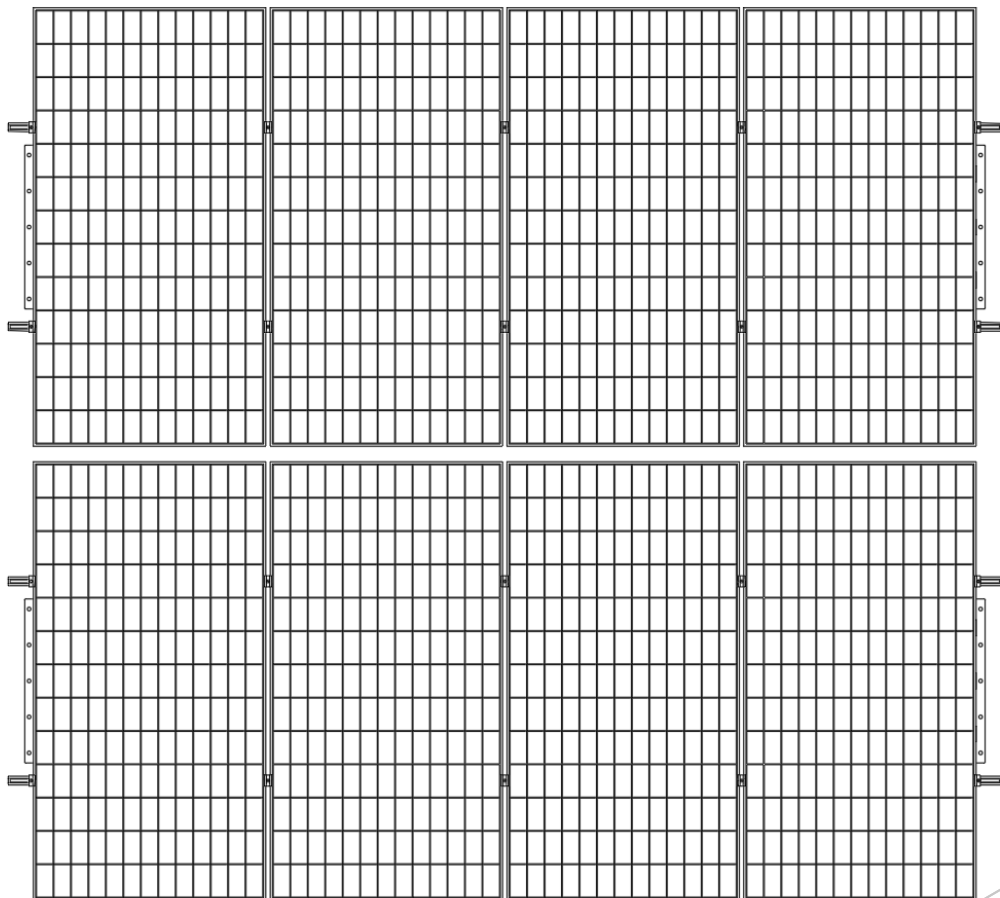
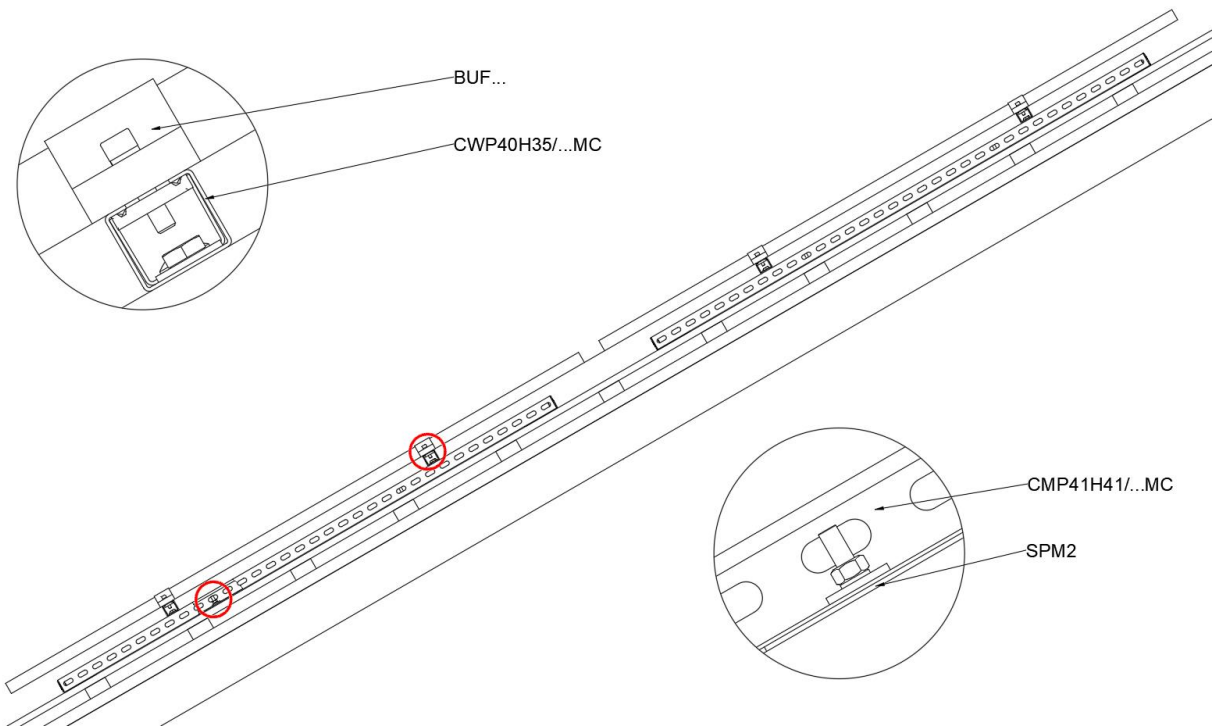
3. List of elements included in the structure DS-V7N

Nr	Name	Product symbol	Purpose in construction
1	Channel	CMP41H41/...MC	Mounting profile
2	Channel	CWP40H35/...MC	Carrier profile
3	Connector	LC40H35MC	Channel connector
4	Steel fastening plate	SPM2	Pasted plate
5	Side handle	BUF...	Side clamp fixing panels
6	Intermediate handle	PUF	Intermediate clamp fixing the panels
7	Grounding pad	PUP	Grounding of panels
8	Screw	SAM8x...E	Clamp mounting screw
9	Mushroom head screw	SGKFM10x20	Bolt + flange nut
10	Channel nut	NRM8F	Nut
11	Spring washer	PS8E	Washer
12	Channel nut bolt	SRM10x30F	Joining Channels
13	Enlarged washer	PW10F	Washer
14	Channel base with vibration isolation rubber	PC50P	Prevents the ends of steel profiles from pressing on the roof sheathing

4. Assembly of structure type DS-V7N

- Determination of the place of assembly of the structure
- Determination of the position of the extreme glued plates **SPM2**, support profile **CWP40H35/.. MC** can protrude up to 300 mm behind the extreme glued plates
- The edge of the PV panel must be at least 500 mm from the edge of the roof
- The spacing of subsequent glued plates is determined on the basis of wind and snow zones occurring at the place of installation of the structure. In addition, their spacing must not exceed 1.2 m
- **PUP** grounding pads should be placed in the mounting areas of **PUF** intermediate holders
- Where there is an even number of modules in a single row of structures, grounding washers shall be installed every second pair of modules
- In the case of an odd number of modules, **PUP** washers should be additionally added under the **PUF** extreme handles to ensure grounding of the last module as well

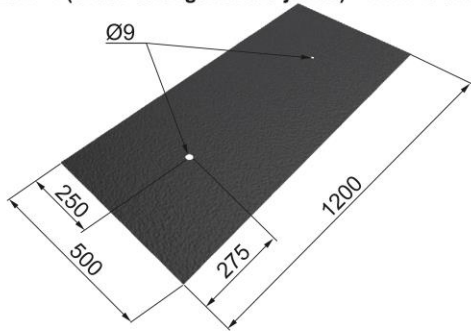




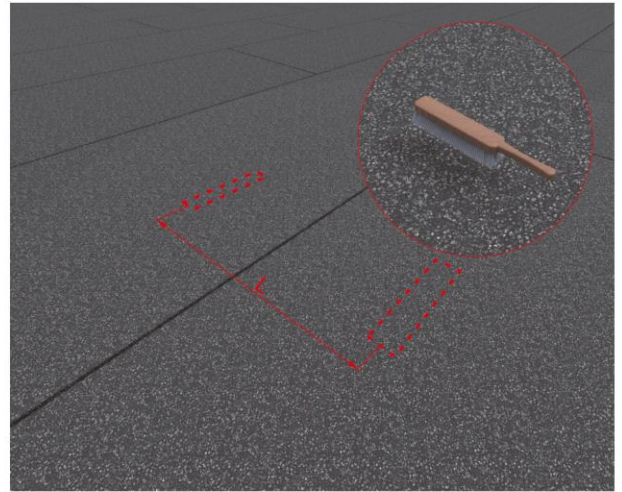
Assembly instructions for SPM2 Steel Fixing Plate to roofing felt
Note:

Requirements of the roofing felt to be used:

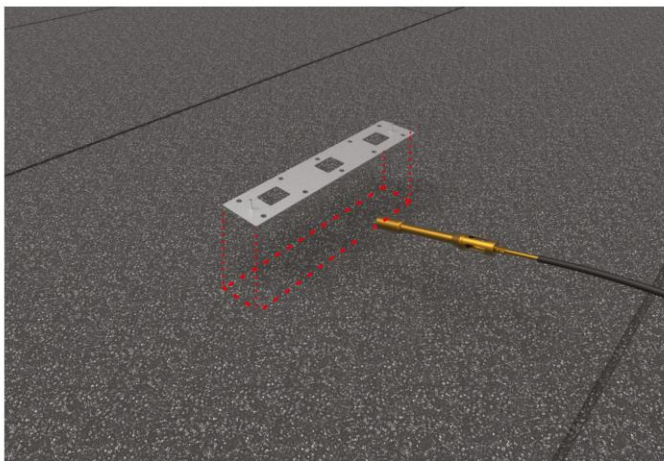
- 1) EN 12310-1 (tear strength) – min. 145N
- 2) EN 12311-1 (tensile strength) – min. 290N/50 mm
- 3) EN 12316-1 (peel strength of the joints) – min. 120N/50 mm
- 4) EN 12317-1 (shear strength of the joints) – min. 490N/50 mm



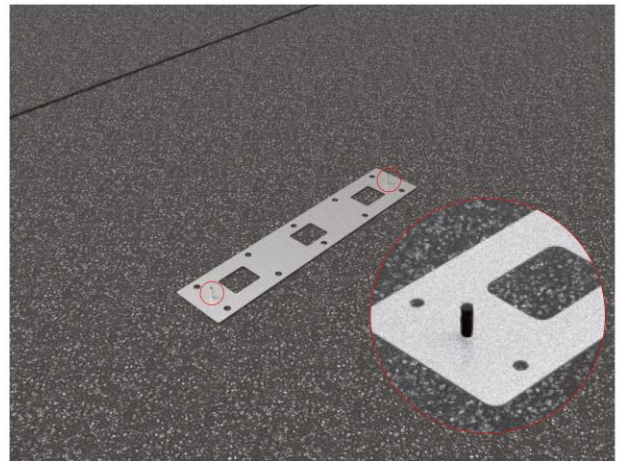
1. Before starting to install the SPM2 plates, cut out a fragment of roofing felt with minimum dimensions of 500 x 1200 mm, then cut out holes with a diameter of Ø9 mm in the locations of screws



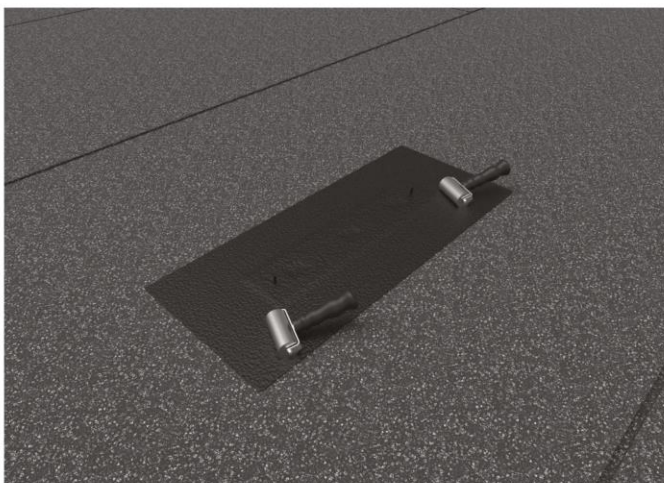
2. Measure the distance between the SPM2 plates, mark the points and then use a wire brush to clean the 500 x 1200 mm area of the roofing felt on the roof



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

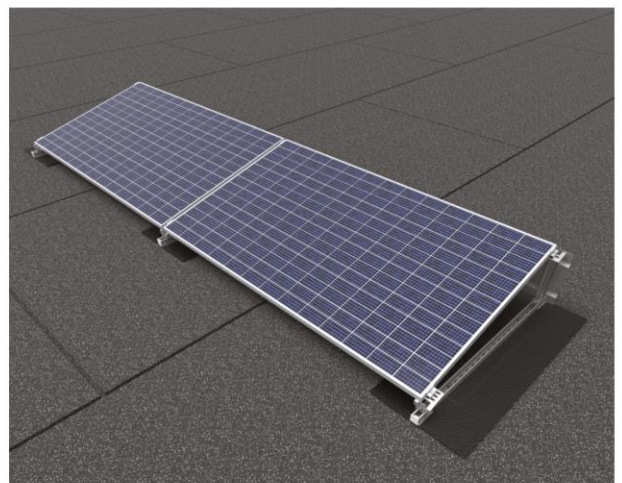


4. SPM2 plate should be placed on heated areas, pressed against prepared surface, protruding threads should be secured with NOP50 protection cap



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 SPM2 plate and DP-DNHWE mounting system

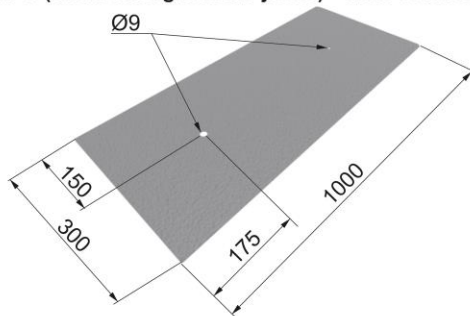


Assembly instructions for SPM2 Steel Fixing Plate to membrane

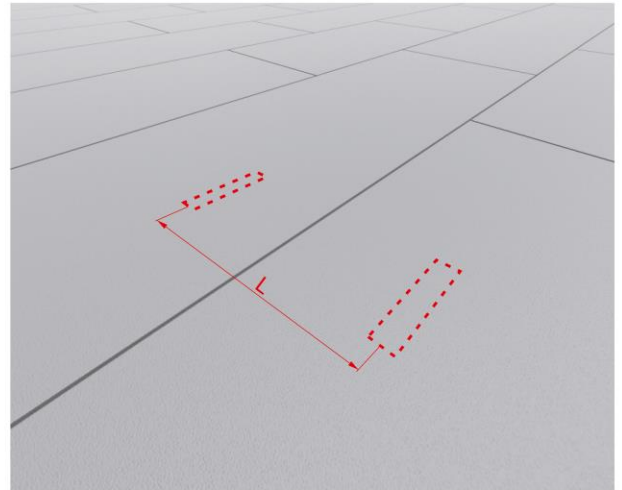
Note:

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

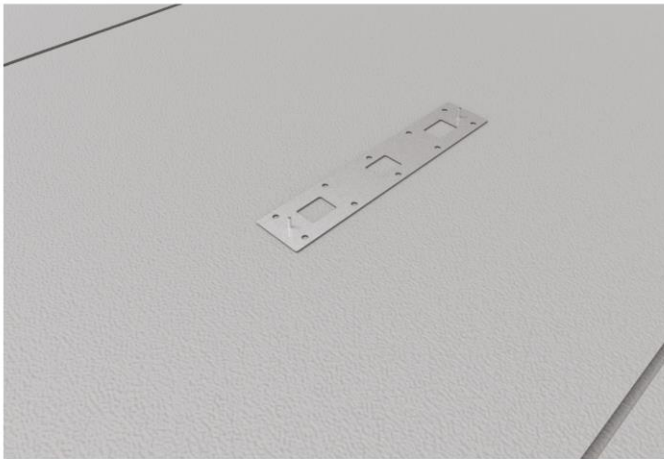
- 1) EN 12310-2 (tear strength) – min. 105N
- 2) EN 12311-2 (tensile strength) – min. 505N/50 mm
- 3) EN 12316-2 (peel strength of the joints) – min. 145N/50 mm
- 4) EN 12317-2 (shear strength of the joints) – min. 445N/50 mm



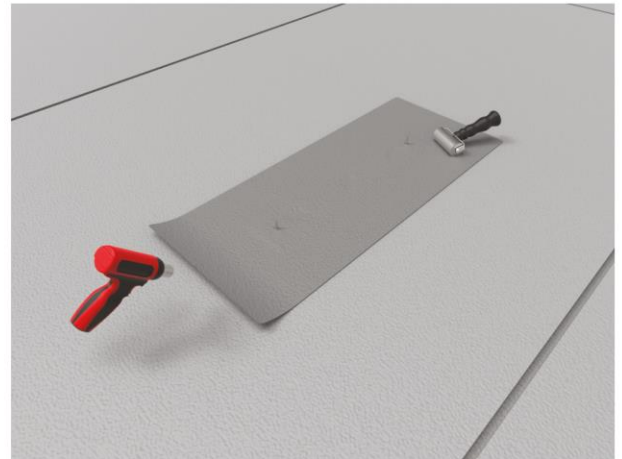
1. Before starting to install the SPM2 plates, cut out a fragment of membrane with minimum dimensions of 300 x 1000 mm, then cut out holes with a diameter of Ø9 mm in the locations of screws, finally round the corners of the membrane.



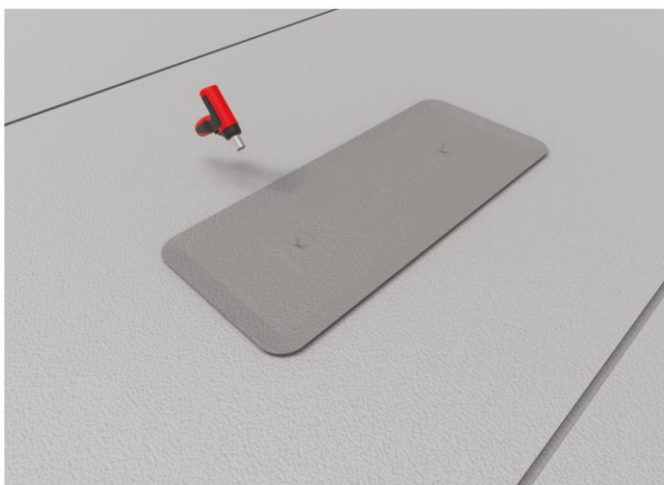
2. Measure the distance between the SPM2 plates, then mark the points.



3. Place the SPM2 plate on the designated place

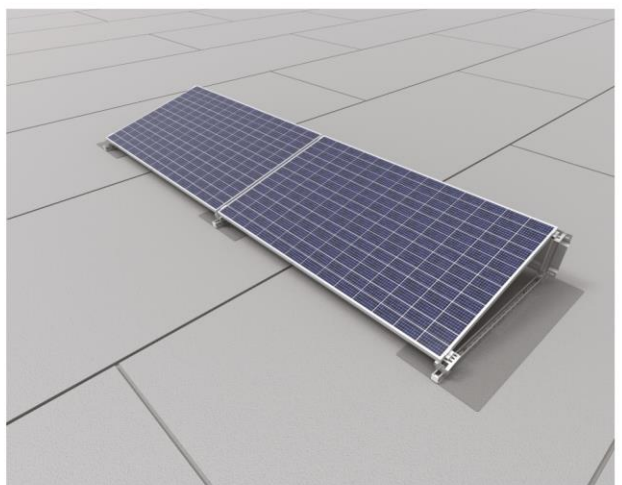


4. Cover the SPM2 plate with the prepared membrane and start the installation with a manual welding machine. Initially weld an hole of 60 x 80 mm, after proper heating press the membrane with a roofing roller. Repeat for the remaining holes.



5. Once the holes are welded, weld all sides around the SPM2 plate.

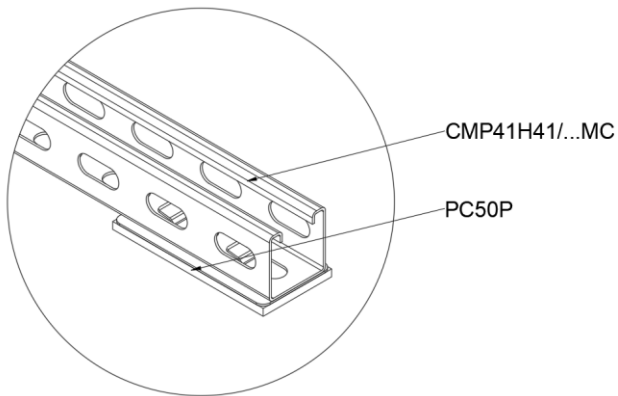
6. The SPM2 plate glued to the membrane is a basis for a structure for PV Installations.



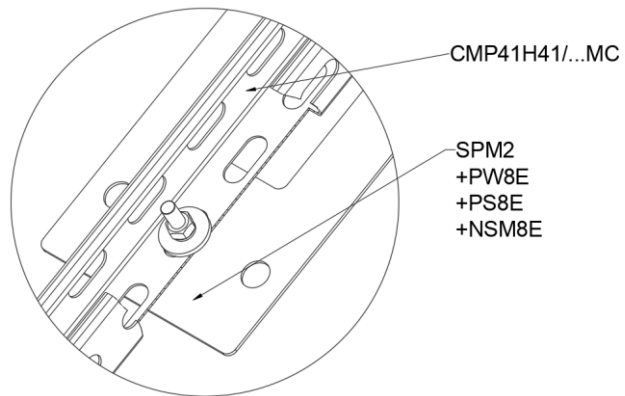
7. Correctly installed structure using SPM2 plate and DP-DNHWE mounting system



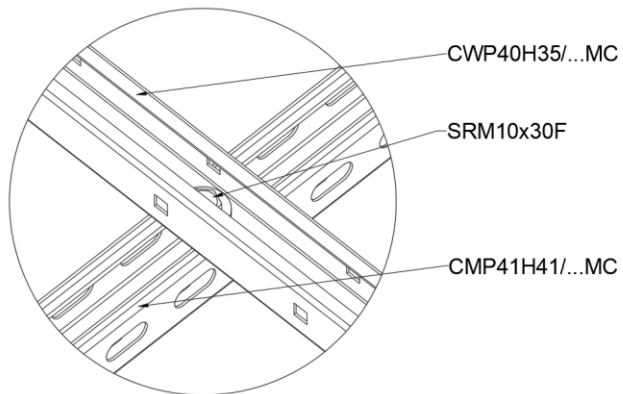
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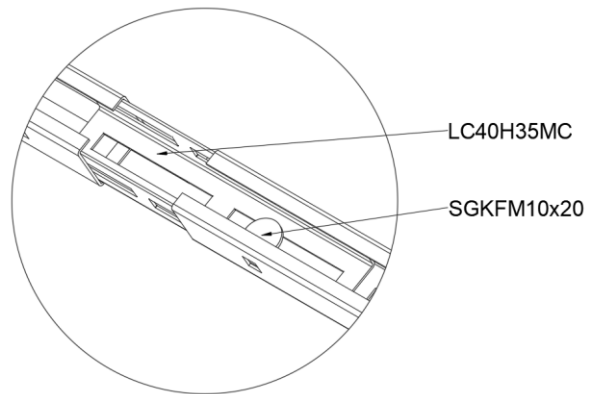
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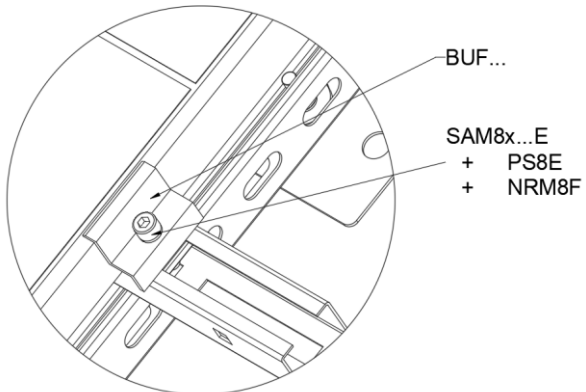
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