

BAKS

PROFESSIONAL CABLE MANAGEMENT SOLUTIONS





BAKS Company

BAKS was established in 1986.
The total surface of the Company constitutes -100 000 m² (out of that production halls cover 50 000 m²).

BAKS Company is located 30 km from Warsaw in Karczew municipality





Family Company with 100% of Polish capital

Mr Kazimierz Sielski is the founder and the owner supported by Mrs Barbara Sielska – his wife.

Mrs Karolina Sielska-Głuchowska – their daughter - takes care of the investments and the Company key customers

Mr Tomasz Sielski – their son – Chief Executive Officer takes care of the Export Department and coordination of the work of production departments.



Innovative anticorrosion protection plant

2011- opening of a new hot dip galvanizing plant

2016 – opening of a zinc flake coating plant

2017 - modernization of the hot galvanizing plant

Advantages:

- zinc coating highest quality;
- production and zinc coating at the same site (in one factory);
- improvement of anticorrosion zinc coating quality;
- short time of production of HDG products



Zinc Coating (Hot Dip Galvanizing) Plant

Dimensions of the zinc coating bath:

- length 10,0 m;
- width 1,6 m;
- depth 3,5 m.

Maximum capacity upto 8 tons per hour





Certificates

Certificate of Compliance TÜV Rheinland

Confirms that all our constructions fulfill requirements of a number of construction and building standards.

CERTYFIKAT

nr: TM 61000362.001



Właściciel licencji
BAKS Kazimierz Sielski
ul. Jagodne 5
05-480 Karczew, PL

Miejsce produkcji
BAKS Kazimierz Sielski
ul. Jagodne 5
05-480 Karczew, PL

Numer projektu
26100380

Nasze oznaczenie
SD/84932163

Termin ważności
od 16.02.2018 do 15.02.2023

Podstawa badań
PC-TUV-I21 Procedura certyfikacji konstrukcji do mocowania systemów paneli fotowoltaicznych

PN-EN 1990:2004	PN-EN 1991-1-1:2004	PN-EN 1991-1-3:2005
PN-EN 1991-1-4:2008	PN-EN 1993-1-1:2006	PN-EN 1993-1-3:2008
PN-EN 1999-1-1:2011		

TÜV Rheinland Polska Sp. z o.o. oświadcza, że niżej opisany wyrób jest zgodny z wymaganiami przywołanych dokumentów odniesienia:

- Systemy montażowe do paneli fotowoltaicznych
- Według katalogu konstrukcji BAKS do montażu paneli fotowoltaicznych 2017/2018 wyd. 10.2017

TÜV Rheinland Polska Sp. z o.o.
ul. Komitetu Obrony Robotników 56,
02-146 Warszawa, Polska
Tel.: (+48/22) 846 79 99
Tel.: (+48/22) 868 37 42
e-mail: post@pl.tuv.com



Jednostka Certyfikująca


Tomasz Opaszowski

Warszawa, 16.02.2018


Niniejszy certyfikat podlega Regulaminowi Certyfikacji oraz Ogólnym Warunkom Zawierania Transakcji JCW TRP i odnosi się wyłącznie do wyrobów zgodnych z wzorem stanowiącym podstawę przeprowadzonej oceny zgodności. Niniejszy certyfikat samodzielnie nie uprawnia właściciela do umieszczenia oznaczenia CE. Niniejszy certyfikat uprawnia do umieszczenia na wyrobie znaku TÜV Safety.



Bezpieczeństwo
Produkcja
kontrolowana



www.tuv.com
ID 0000056707



TÜVRheinland®
Precisely Right.

www.tuv.pl

Formularz F 14/WA certyfikat strona 1/1



Certificates

ISO 9001:2008
Quality Management Systems

ISO 14001:2015
Environment Management System

Certyfikat

Standard odniesienia **ISO 9001:2008**
Numer rejestracyjny 01 100 1331984

Posiadczy certyfikatu:


BAKS Kazimierz Sielski
ul. Jagodne 5
05-480 Karczew
Polska

Zakres ważności: projektowanie i produkcja metalowych systemów nośnych dla kabli, przewodów, kanałów wentylacyjnych, lakierowanie proszkowe, cynkowanie ogniowe

Na podstawie audytu potwierdza się spełnienie wymagań normy ISO 9001:2008.

Okres ważności: Certyfikat jest ważny od 2017-05-11 do 2018-09-14. Pierwsza certyfikacja w 2001 r.

2017-05-15 
TÜV Rheinland Cert GmbH
Am Grauen Stein - 51103 Köln

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Certyfikat

Standard odniesienia **ISO 14001:2015**
Numer rejestracyjny 01 104 1541861

Posiadczy certyfikatu:


BAKS Kazimierz Sielski
ul. Jagodne 5
05-480 Karczew
Polska

Zakres ważności: projektowanie i produkcja metalowych systemów nośnych dla kabli, przewodów, kanałów wentylacyjnych, lakierowanie proszkowe, cynkowanie ogniowe

Na podstawie audytu potwierdza się spełnienie wymagań normy ISO 14001:2015.

Okres ważności: Certyfikat jest ważny od 2017-02-27 do 2020-02-26.

2017-02-27 
TÜV Rheinland Cert GmbH
Am Grauen Stein - 51103 Köln

www.tuv.com    Precisely Right.



Certificates

Electrical Continuity VDE Certificate according to PN-EN 61537 – 11.1

Certificate refers to all the cable trays and support channel profiles

ZERTIFIKAT CERTIFICATE

Auftraggeber / Hersteller <i>Client / Manufacturer</i>	BAKS – Kazimierz Sielski ul. Jagodne 5 PL-05-480 Karczew
Erzeugnis <i>Product</i>	Kabelträgersystem für elektrische Installation <i>Cable tray systems and cable ladder systems</i>
Prüfbericht Nr. / Test Report Ref. No.	5018795-5430-0001/219753
Typenbezeichnung <i>Type designation</i>	Siehe Prüfbericht / see Test Report
Technische Merkmale <i>Technical characteristics</i>	Siehe Prüfbericht / see Test Report
Angewandte Normen <i>Applied standards</i>	DIN EN 61537 (VDE 0639):2007-9; EN 61537:2007
Geprüfte Abschnitte <i>Tested clauses</i>	Abschnitt 11.1: Elektrische Leiteigenschaften <i>Sub clause 11.1: Electrical continuity</i>

Ein Muster dieses Erzeugnisses wurde geprüft und die Übereinstimmung mit den angewandten Normen festgestellt. Der oben genannte Prüfbericht ist Grundlage dieses Zertifikates.
A sample of the product has been tested and found to be in conformity with the applied standards. The above mentioned Test Report is part of this certificate.

Dieses Zertifikat darf Dritten nur in Verbindung mit dem oben genannten Prüfbericht im vollen Wortlaut und unter Angabe des Ausstellungsdatums zur Kenntnis gegeben werden.
This certificate may only be passed to a third party in combination with the above mentioned Test Report in its complete wording and the date of issue.

VDE Prüf- und Zertifizierungsinstitut GmbH
VDE Testing and Certification Institute GmbH
Kategorie CC4

Für den Binnenmarkt der Europäischen Union (EU) ist das VDE-Prüfinstitut unter der Kenn-Nr. 0366 notifiziert worden.
The VDE Testing and Certification Institute has been notified with the Identification Number 0366 for the Internal Market of the European Union (EU).

D-63069 Offenbach am Main, 13. April 2016
Merianstraße 28

TEL (149) (069) 0300-237 · FAX (149) (069) 0300-745 · e-mail: Reiner.Lehrer@vde.com

VDE

Page 3 - 10.05.2016 Our reference 5018795-5430-0001/219753
CC4/hue-di

Bezeichnung <i>Designation</i>	Typ <i>Type</i>	Höhe (mm) <i>Height (mm)</i>	Breite (mm) <i>Width (mm)</i>
Kabelrinne / Cable tray	KC	42, 50, 60, 80, 100, 110	50, 100, 150, 200, 300, 400, 500, 600
	KG	30, 42, 50, 60, 80, 100, 110	35, 50, 100, 150, 200, 300, 400, 500, 600
	KB	30, 42, 50, 60, 80, 100, 110	35, 50, 100, 150, 200, 300, 400, 500, 600
	KA	42, 60, 110	50, 100, 150, 200, 300, 400, 500, 600
KLICK Kabelrinne / CLICK Cable tray	KF	60, 100	50, 100, 150, 200, 300, 400, 500, 600
	Kabelleiter / Cable ladder	DU	45, 50, 60, 80, 100, 120
DK		45, 50, 60, 80, 100	100, 200, 300, 400, 500, 600
KLICK Kabelleiter / CLICK Cable ladder	DKF	45, 60, 100, 120	100, 200, 300, 400, 500, 600
	DF	45, 60, 100, 120	100, 200, 300, 400, 500, 600
C-Profil / C-Profile	C	12, 20, 30, 50	28, 40, 50, 55, 70
	CW	10, 22, 30, 35, 40, 47, 60, 80	20, 30, 40,
	CM	21, 22, 30, 40, 41, 50, 60, 100	40, 41, 50
	CTM	40, 42, 50, 60, 80, 82, 100	40, 41, 50, 60, 100
	KLICK C-Profil / CLICK C-Profile	CMF	41, 50, 60, 62, 100

A COMPANY OF THE VDE ASSOCIATION FOR ELECTRICAL, ELECTRONIC & INFORMATION TECHNOLOGIES

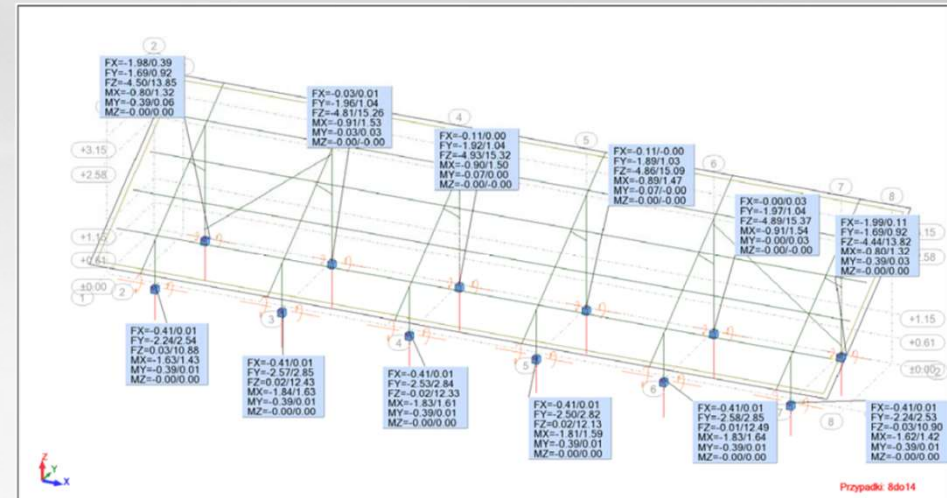
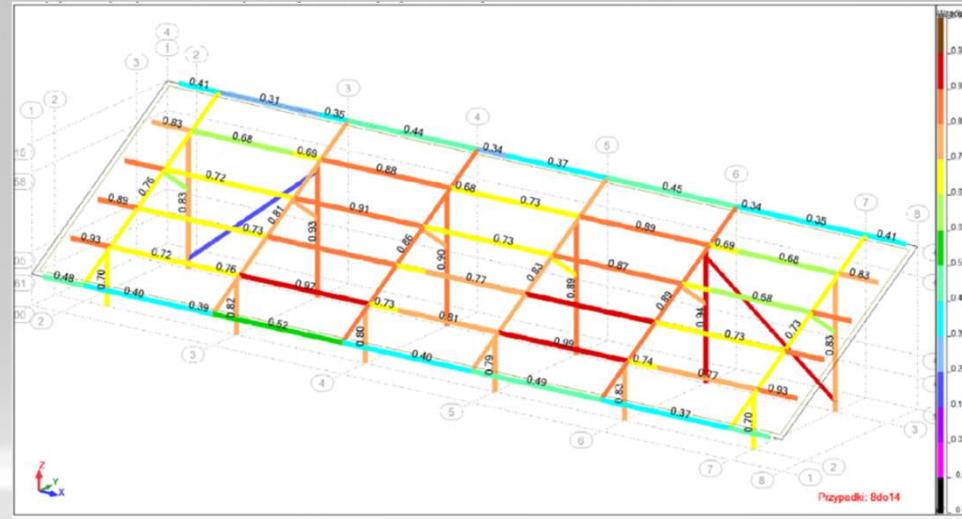
<small>Managing Director ZSÜ-Ing. Michael Jungbluth, CEO EUR-CE-Ing. Wolfgang Neidhalm Merianstrasse 28 63069 Offenbach e-mail: vde@vde.com http://www.vde.com</small>	<small>Vorstand Präsident am Main HRB 43618 Vst-Dir: 0691822960 Tel. No. 0625502598 Phone: +49 69 8306 0 Fax: +49 69 8306 555</small>	<small>Make Payments to Comptech AG Frankfurt BLZ 550 800 00 Account No. 108 007 000 B.V. I.F.T. Code DE88 2511 0000 0000 0000 0000 BAKS DE 5508000019827000</small>	<small>Notified Body according to the Product Safety Act (ProdSG) and the EMC Directive 2004/108/EC. Accredited according to DIN EN ISO/IEC 17025 and 17065. Recognized Testing and Certification Body for CE Mark, for International IEC schemes (CEE and IECQ) and Russian certification schemes (GOST, VCB, ENEC)</small>
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Certificates

Reports on static-withstand calculations

Constructions have been subjected to calculations in respect of the strength and cost effectiveness.



Reference Investments and Projects

Bierutów nearby Wrocław—
2MW



BAKS Company constructions are
offered by the network IKEA shops

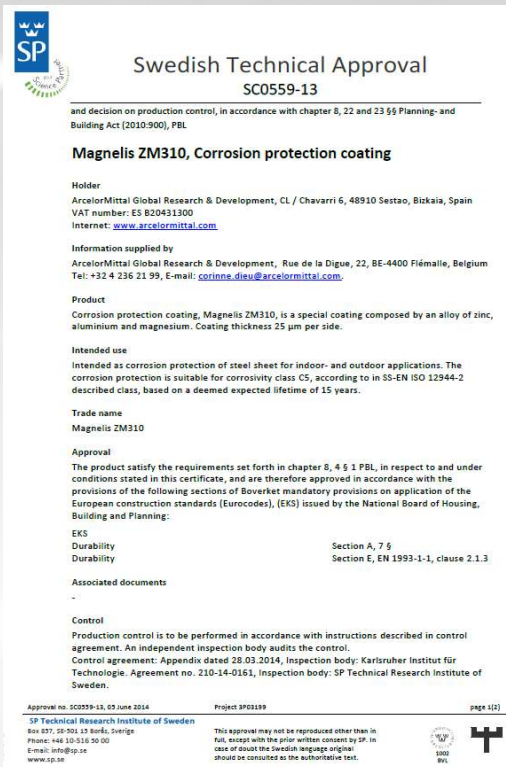
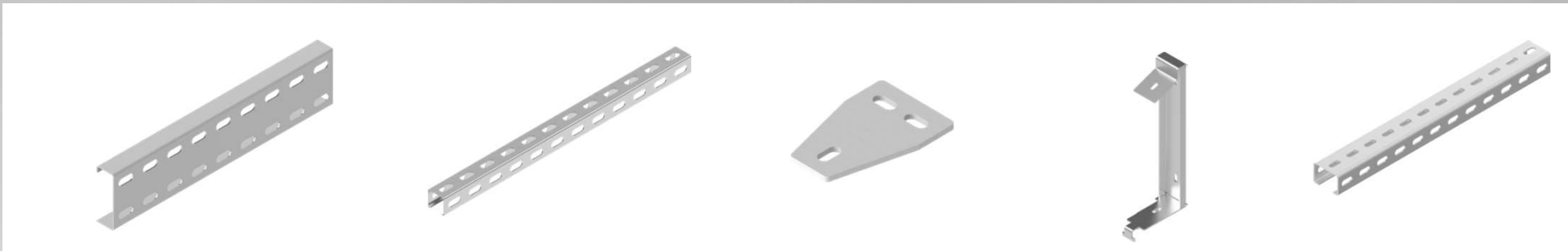


Lubaczów 50kW





MAGNELIS COATING acc. To PN-EN 10346:2015-09 VERY good anticorrosion properties



MAGNELIS COATING is featured with:

- innovative chemical composition (aluminium, magnesium, zinc)
- very good corrosion resistance
- reduced price in relation to hot dip galvanized products
- the ability to self-regenerate cut or damaged areas



Aluminium PN-EN 485-2

Grades: EN-AW 6063 lub EN AW-6005



Flake Zinc PN- EN ISO 10683:2014-09

Despite the small thickness of the coating, very good anti-corrosion properties!



Stainless steel PN-EN 10088

Grades : 1.4301; 1.4404; 1.4571; H17



Hot dip galvanized PN-EN ISO 1461:2011

Average coating thickness: 55µm





Construction warranty

Time of validity of the warranty depends on:

- Type of material or thickness of zinc coating
- Corrosivity category at the place of installation of the structure

Construction warranty for a period of 10 years (it is possible to extend the warranty up to 25 years) if the conditions are met.



Element before testing in the salt chamber



Element after 800 hours in the salt chamber

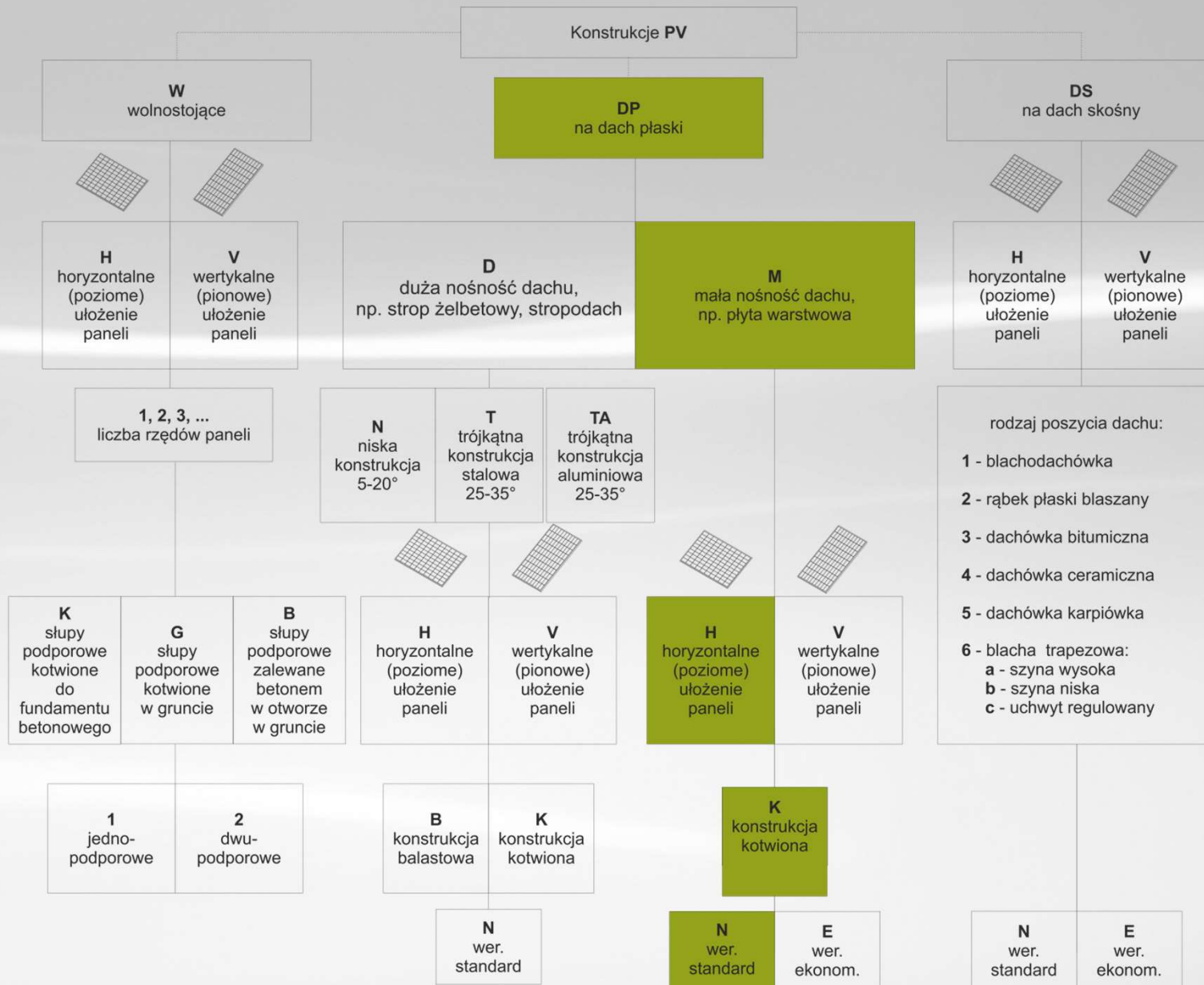
Construction types:

- free-standing
- roof:
 - for sloping roofs
 - for flat roofs





Symbolika konstrukcji do paneli PV



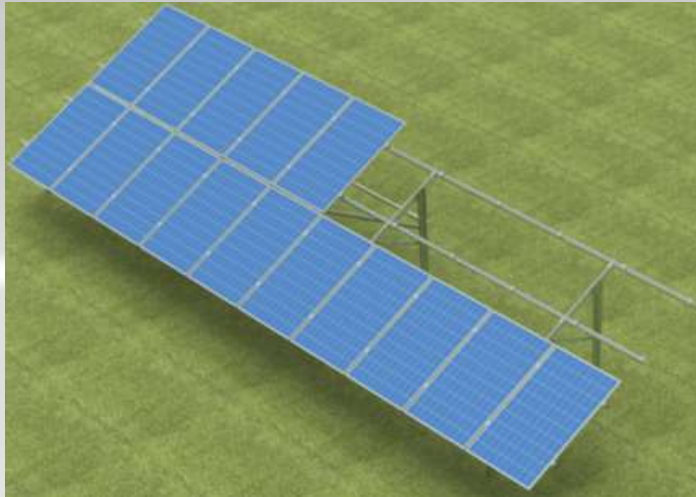


Free-standing constructions

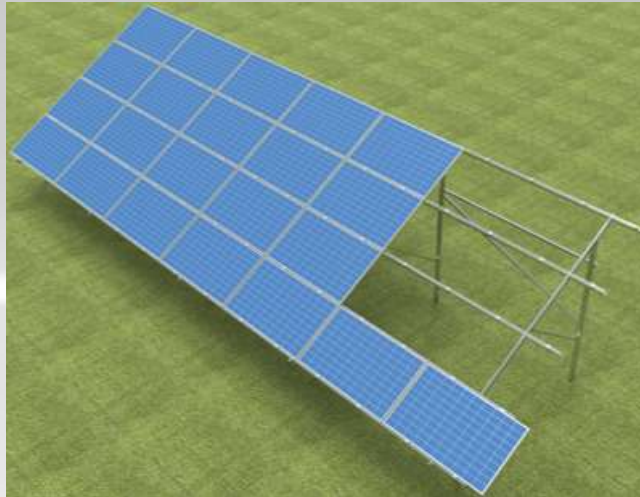


Free-standing constructions

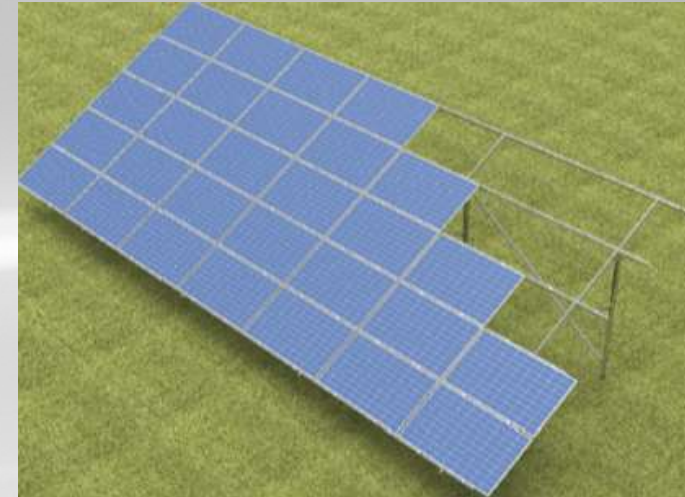
Double support W-V2G2



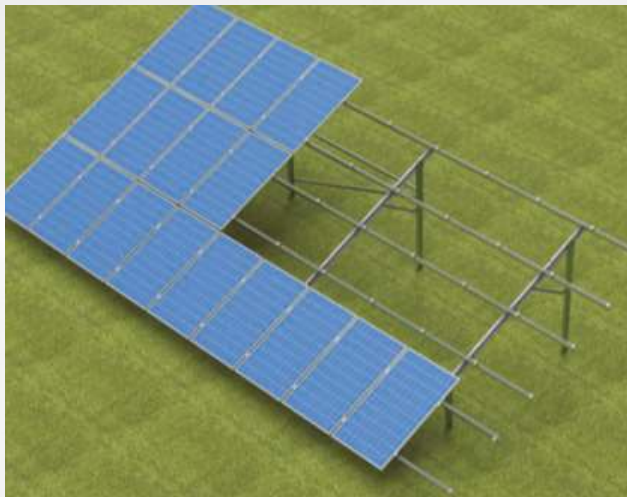
Double support W-H4G2



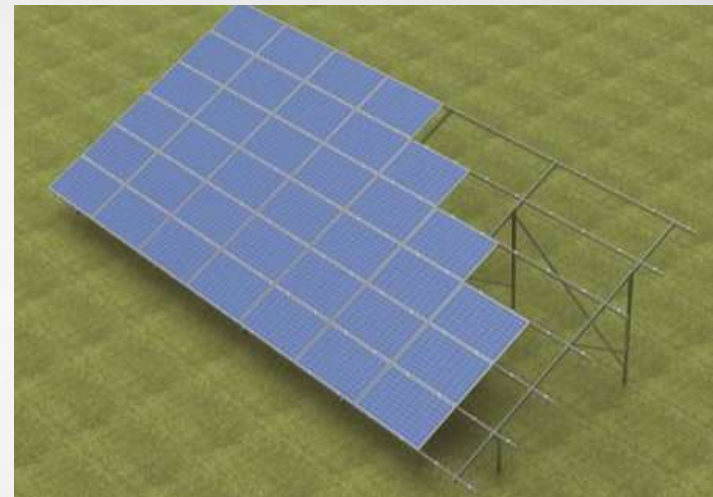
Double support W-H5G2



Double support W-V3G2

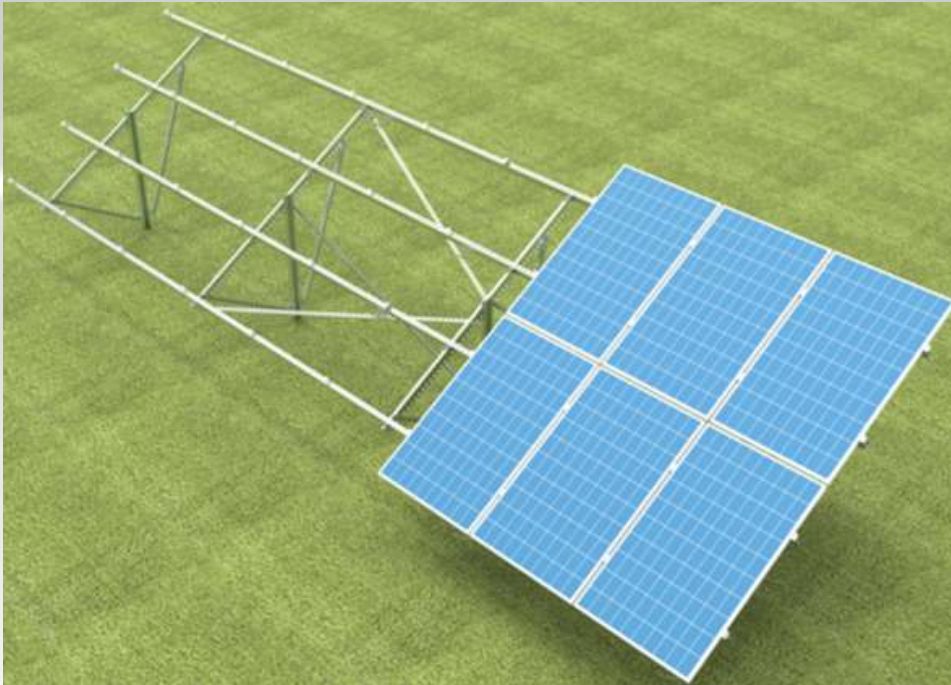


Double support W-H6G2

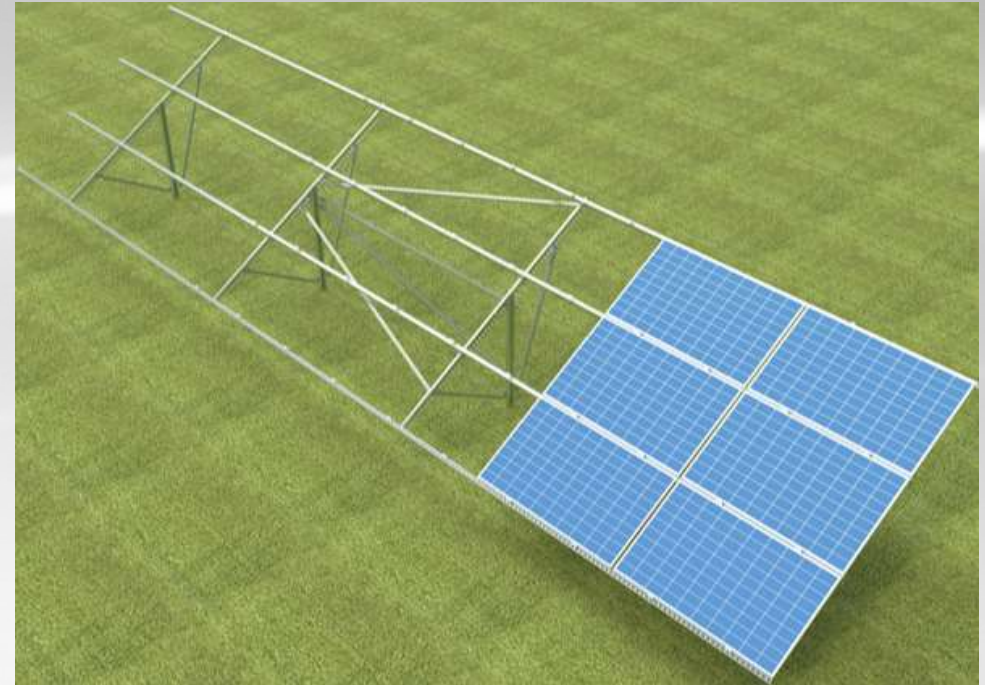


Free-standing construction

Single support W-V2G1

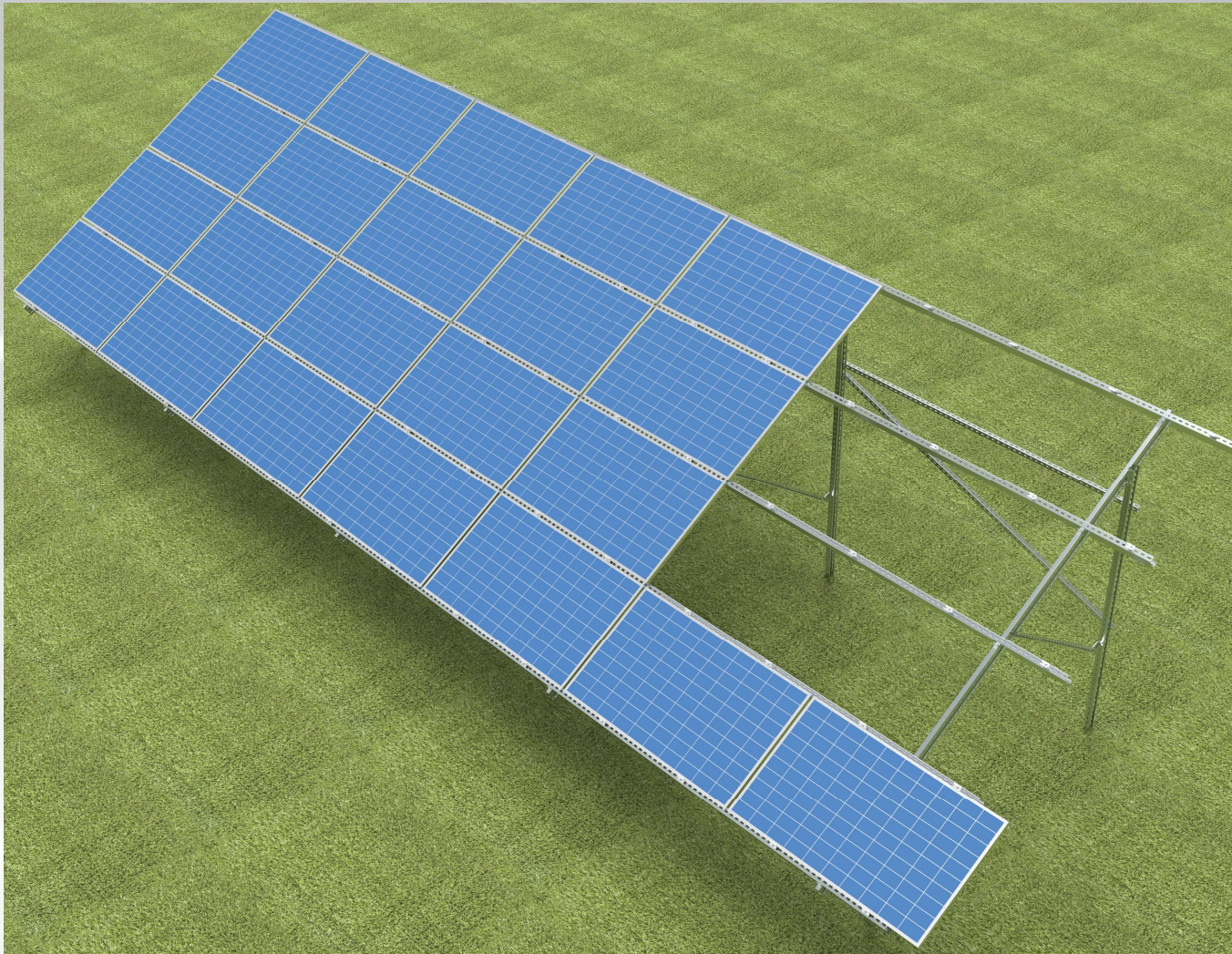


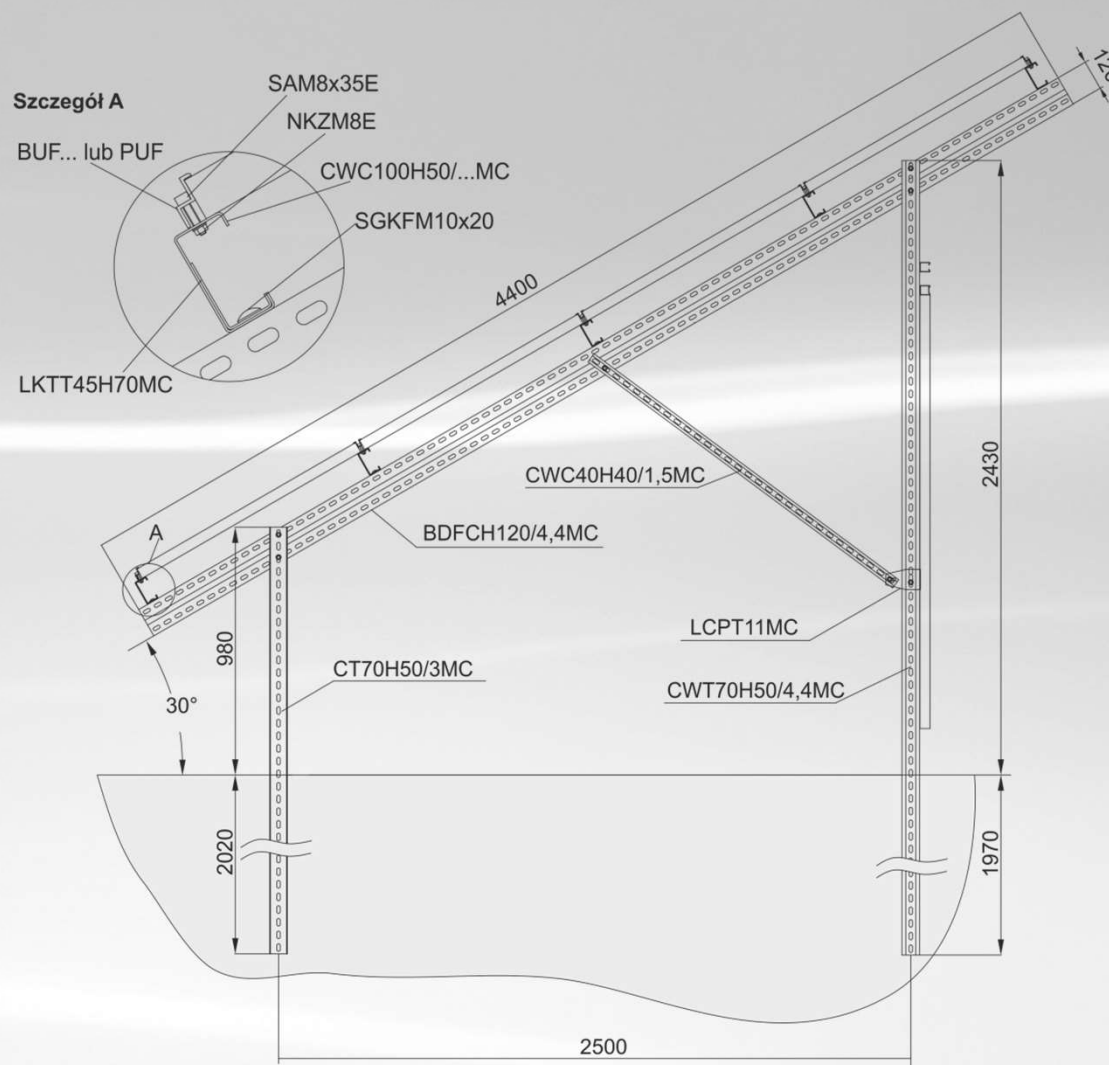
Single support W-H3G1



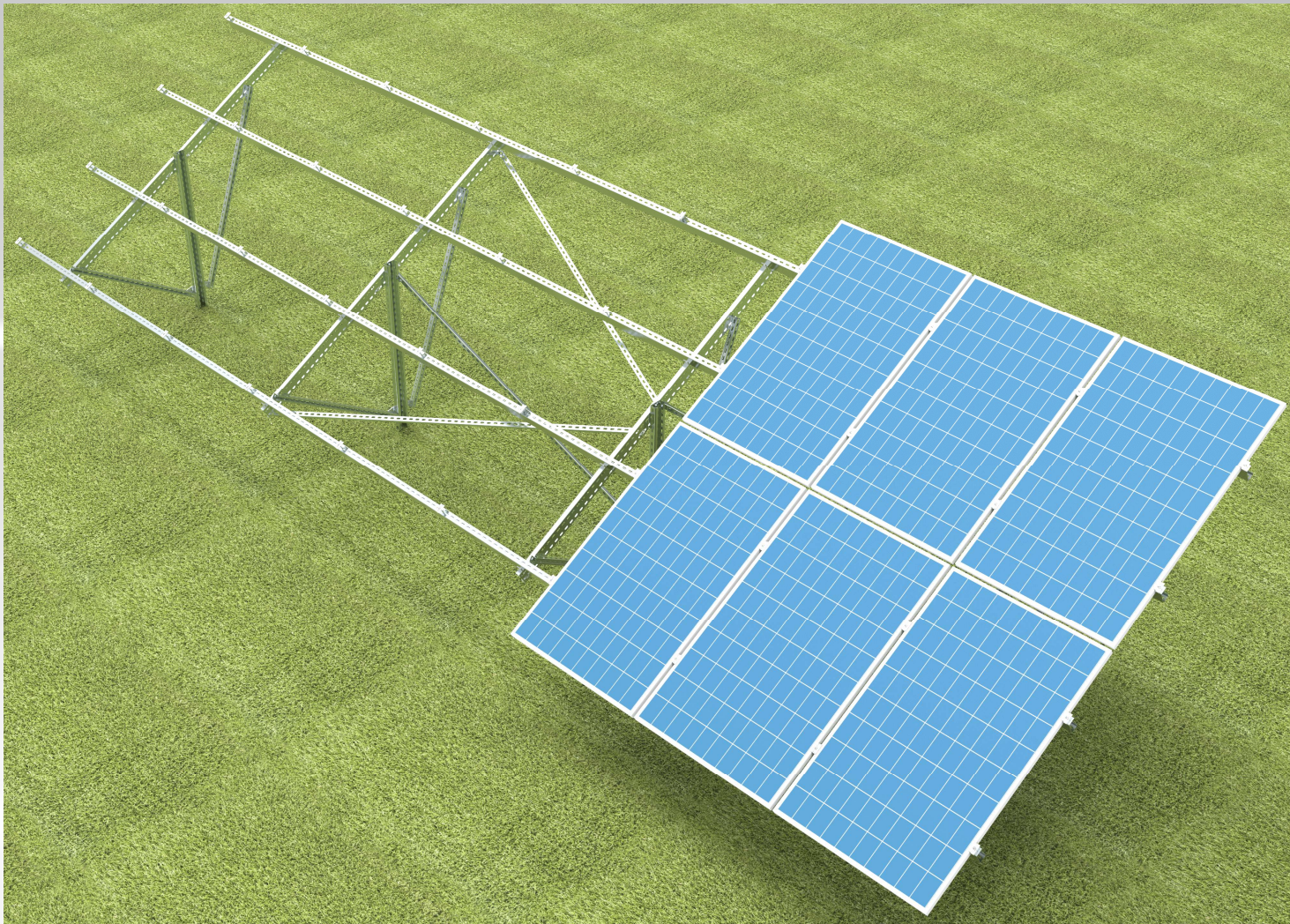


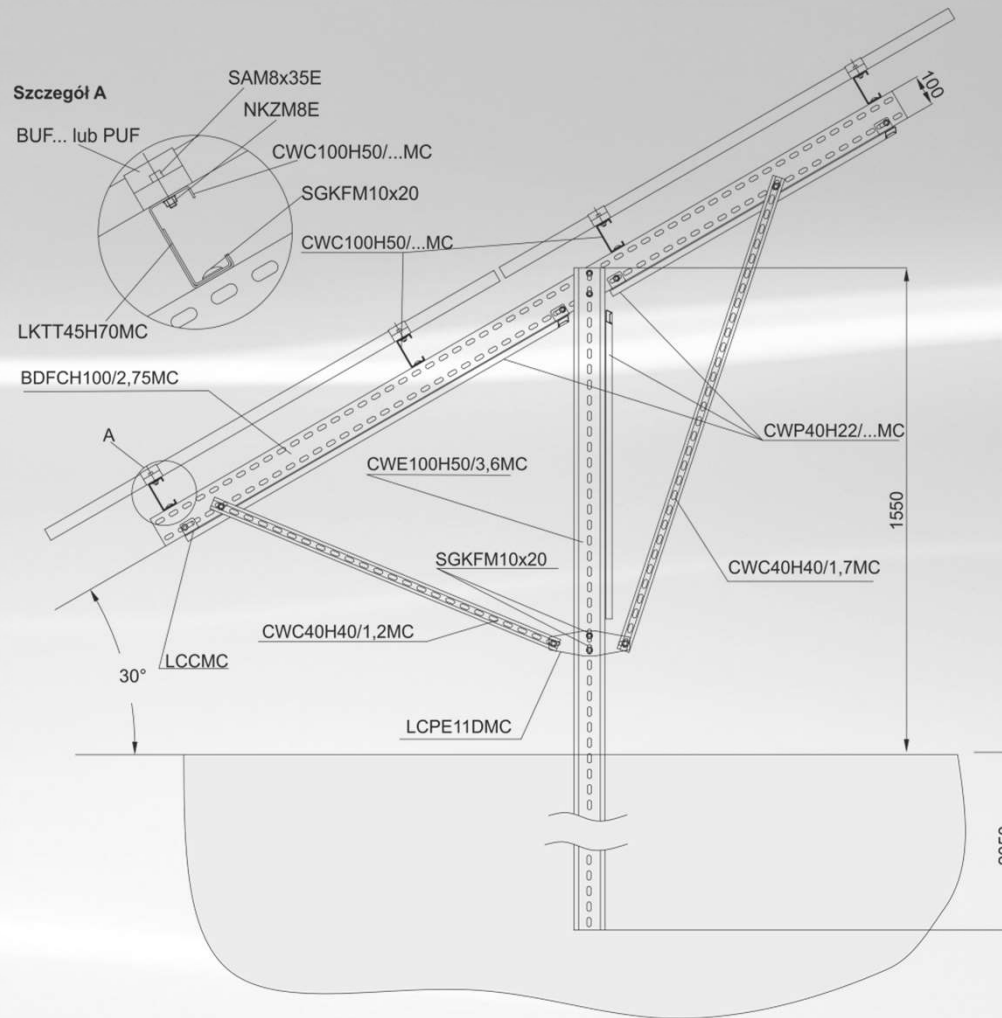
Double support construction W-H4G2





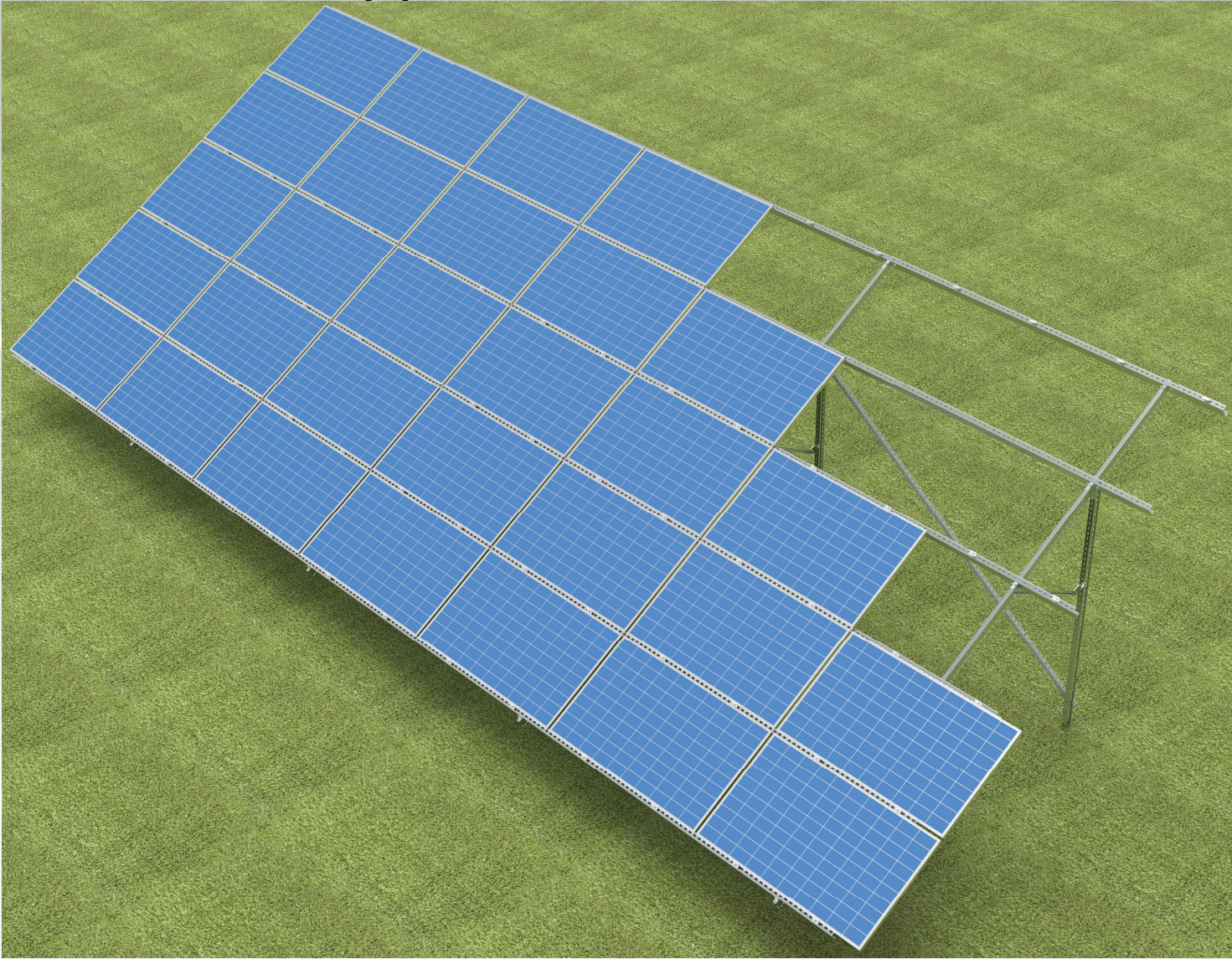
Single support construction W-V2G1

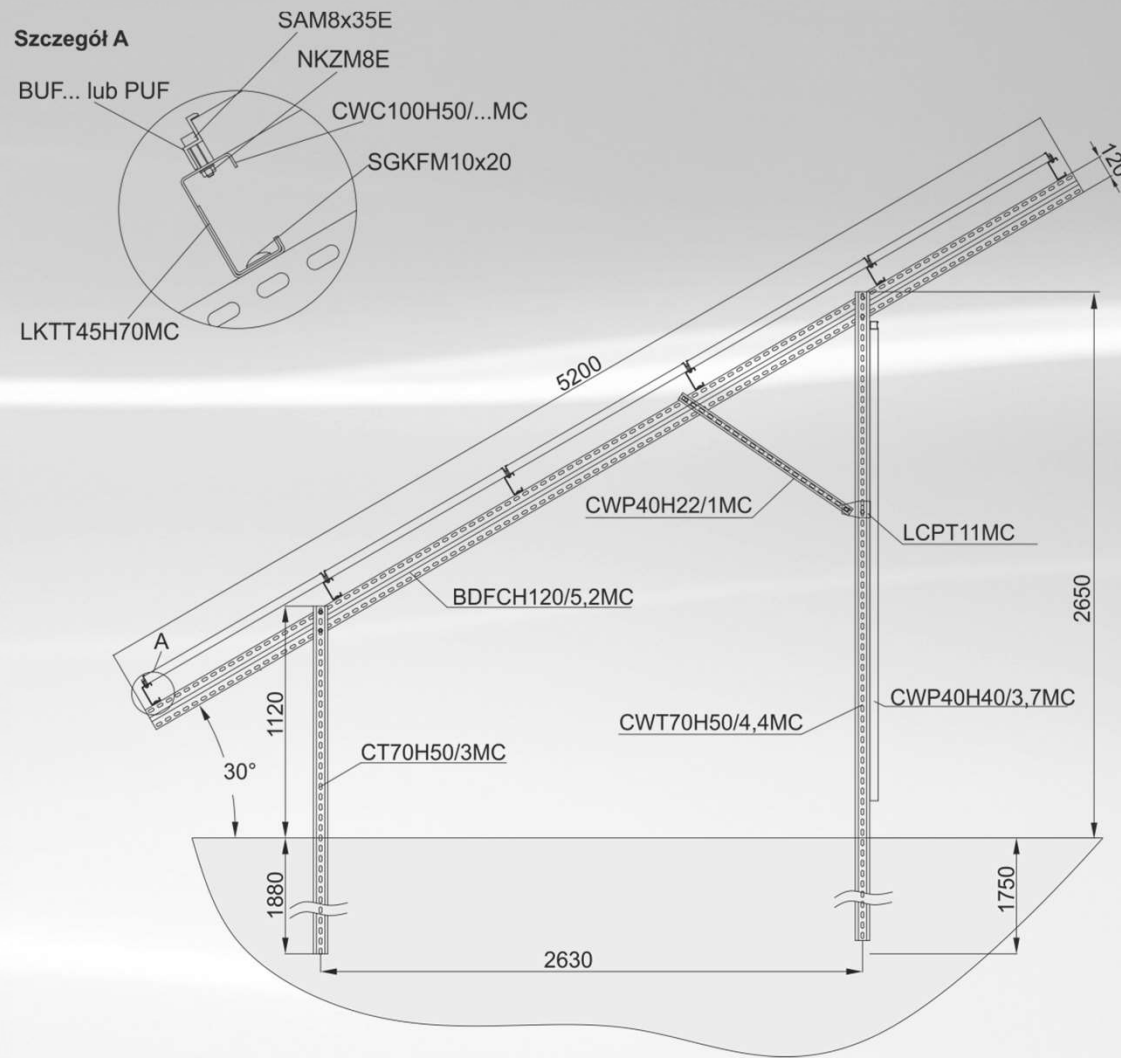




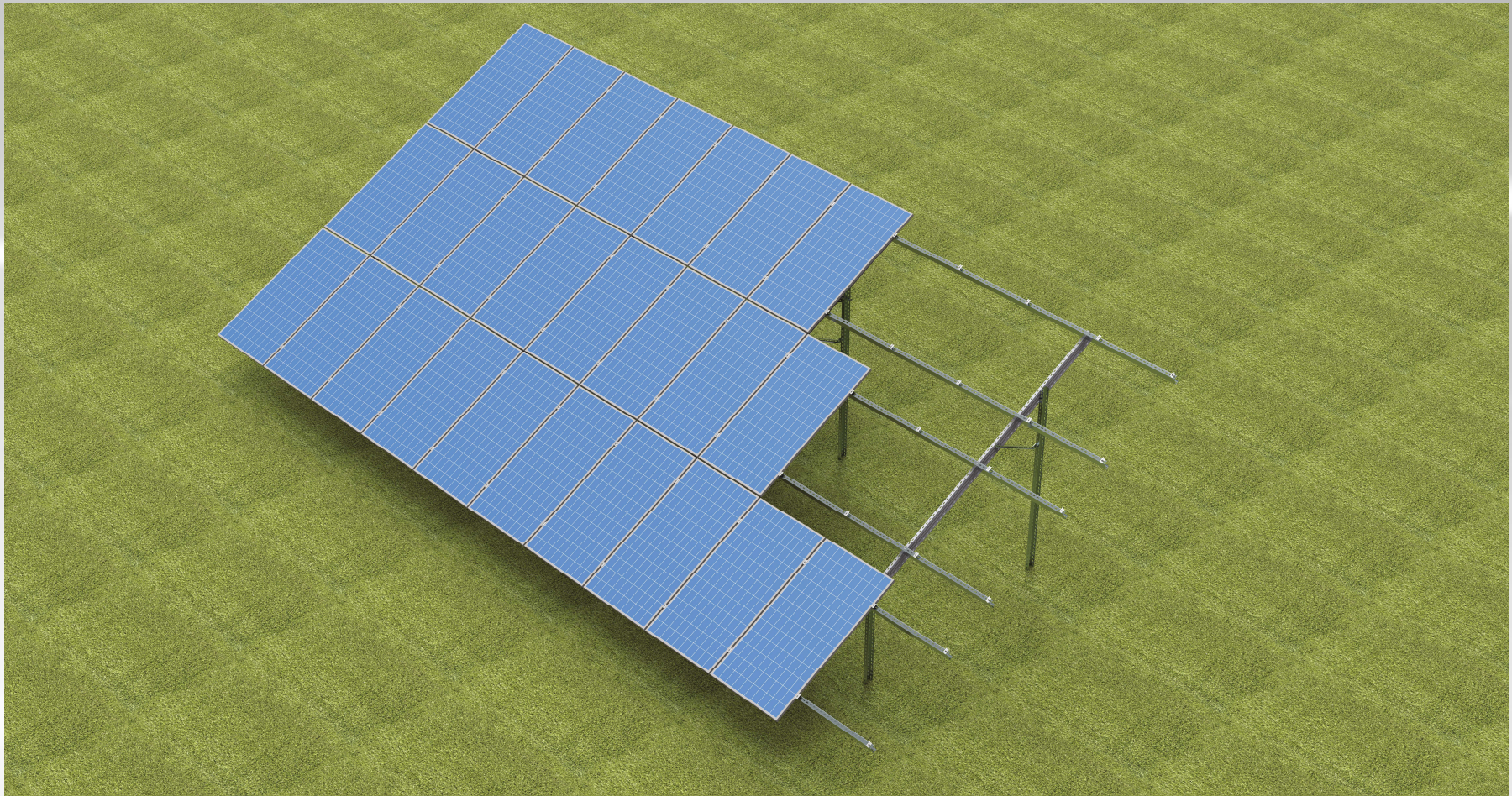


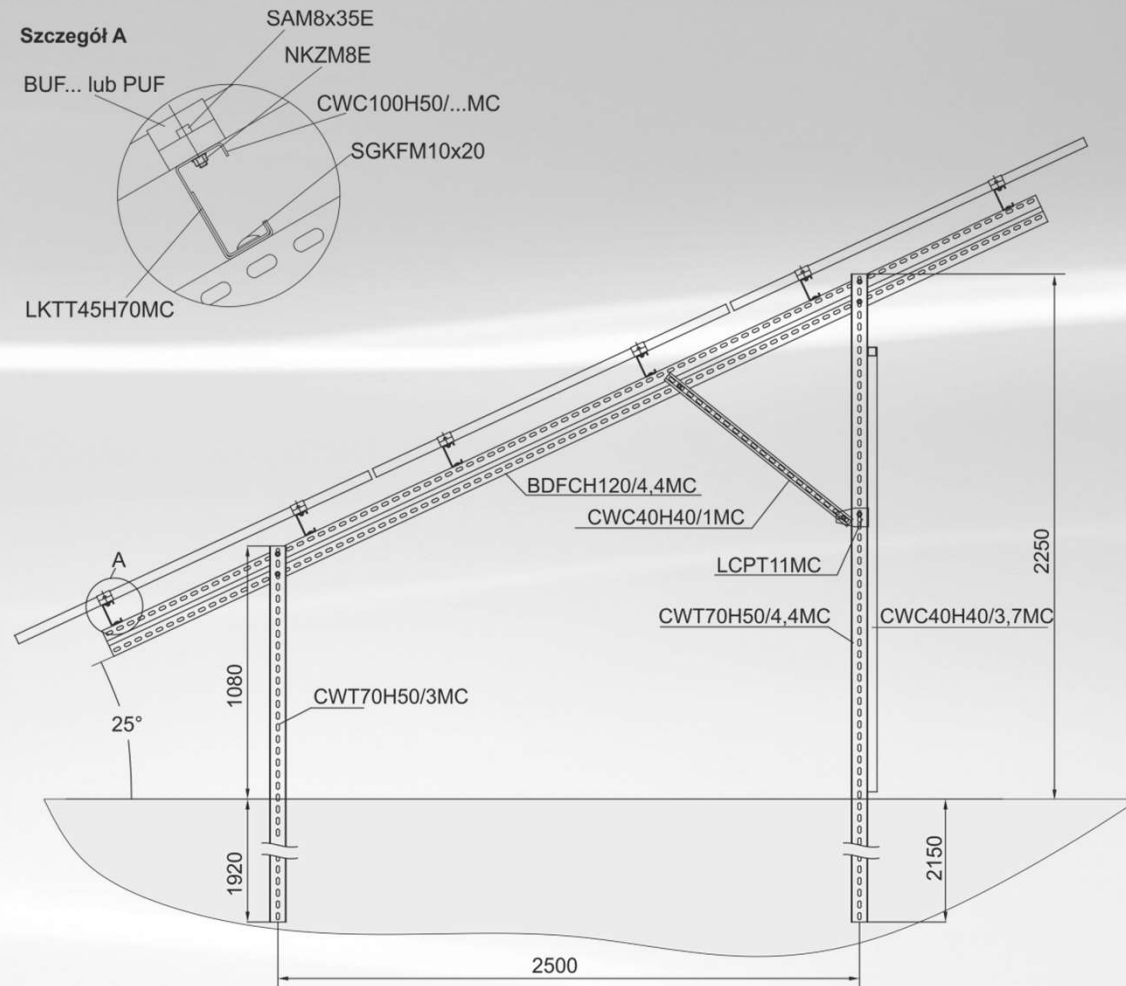
Double support construction W-H5G2





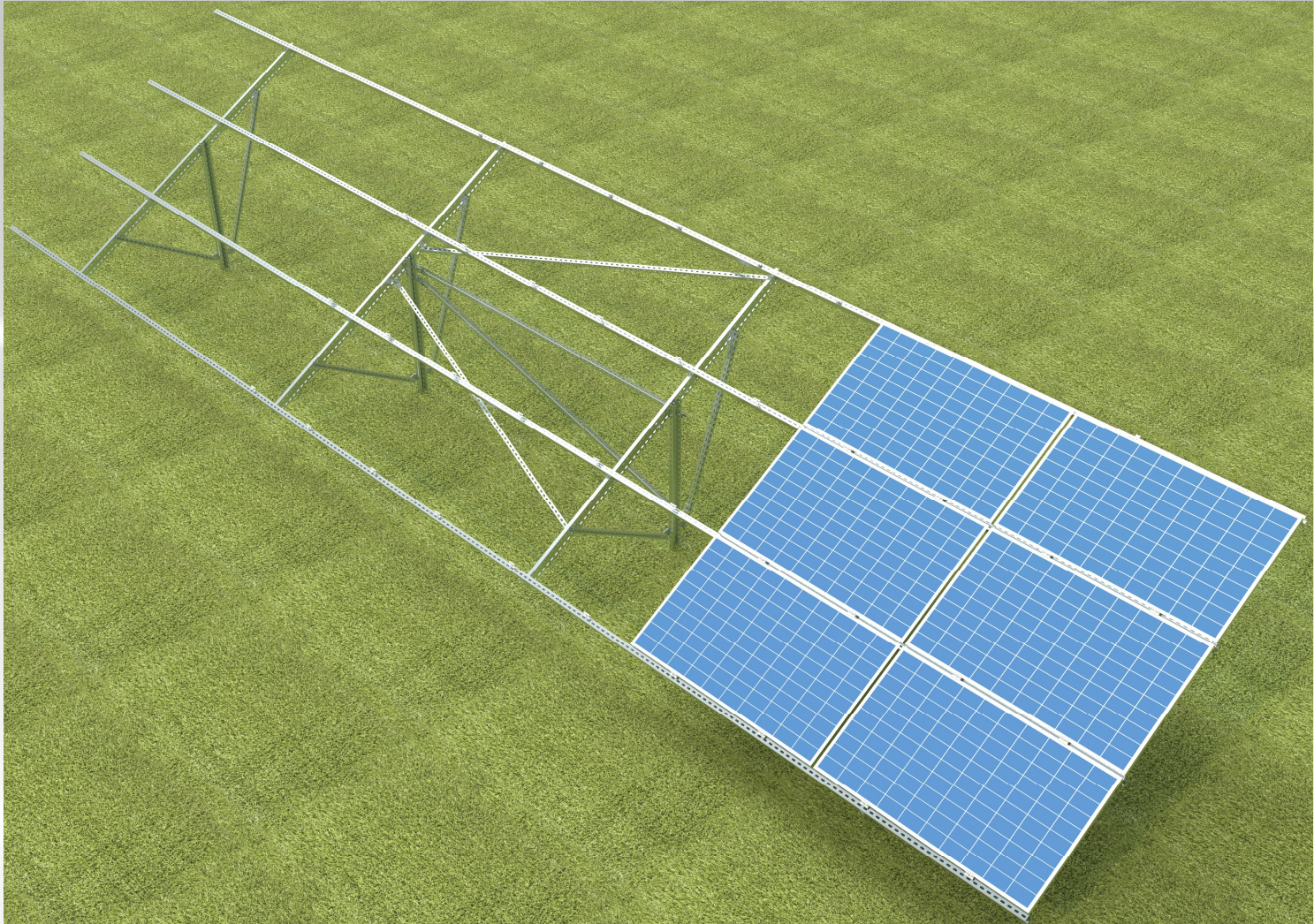
Konstrukcja dwupodporowa W-V3G2

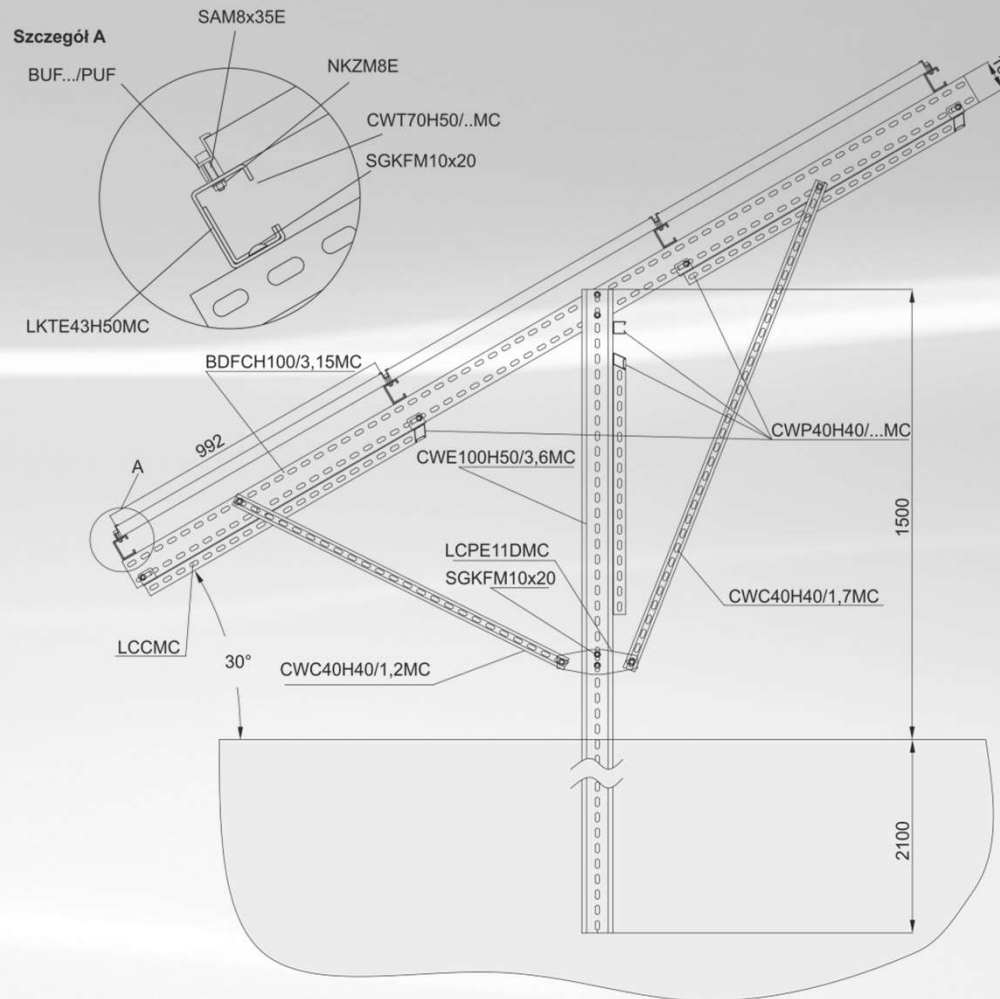




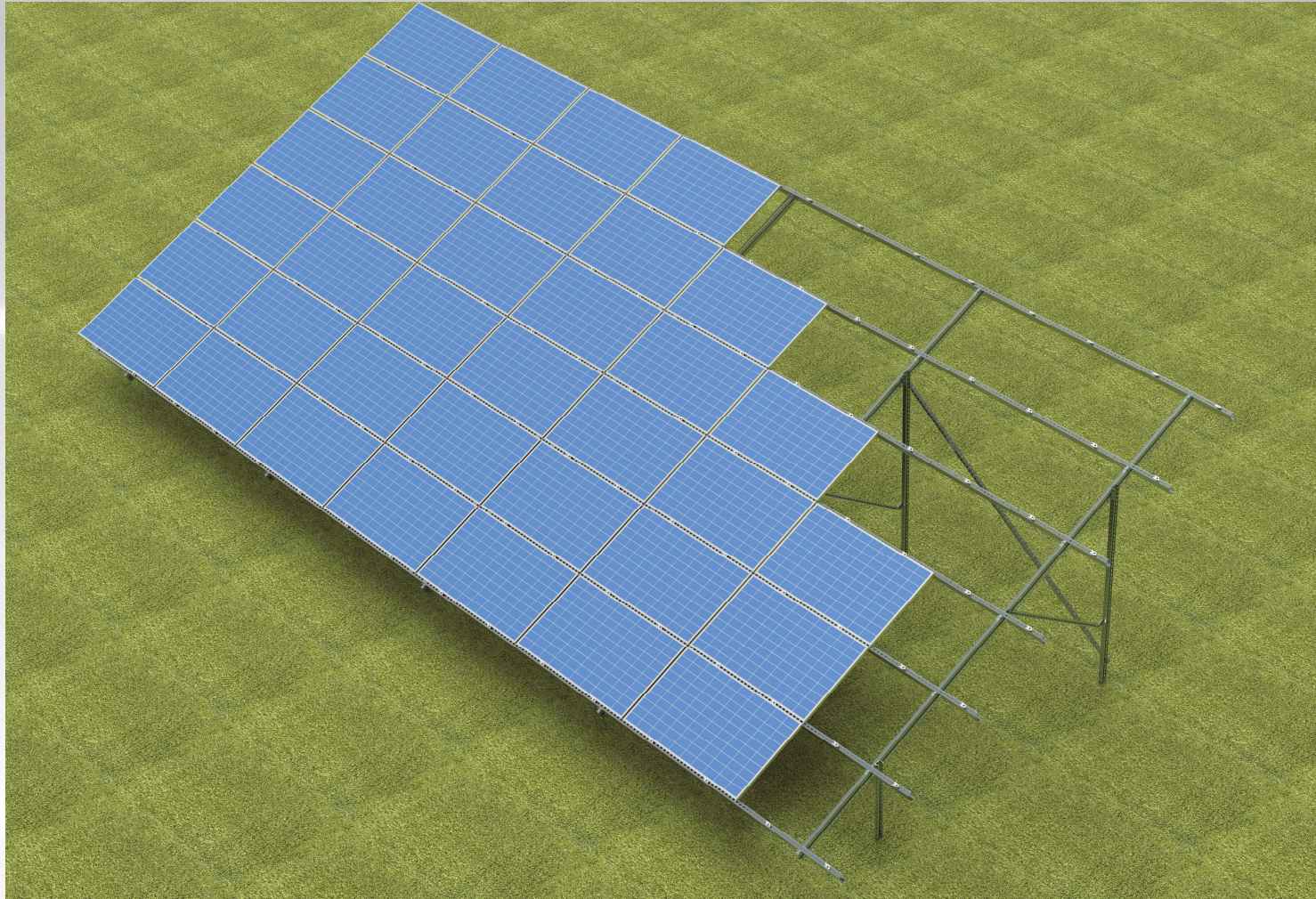


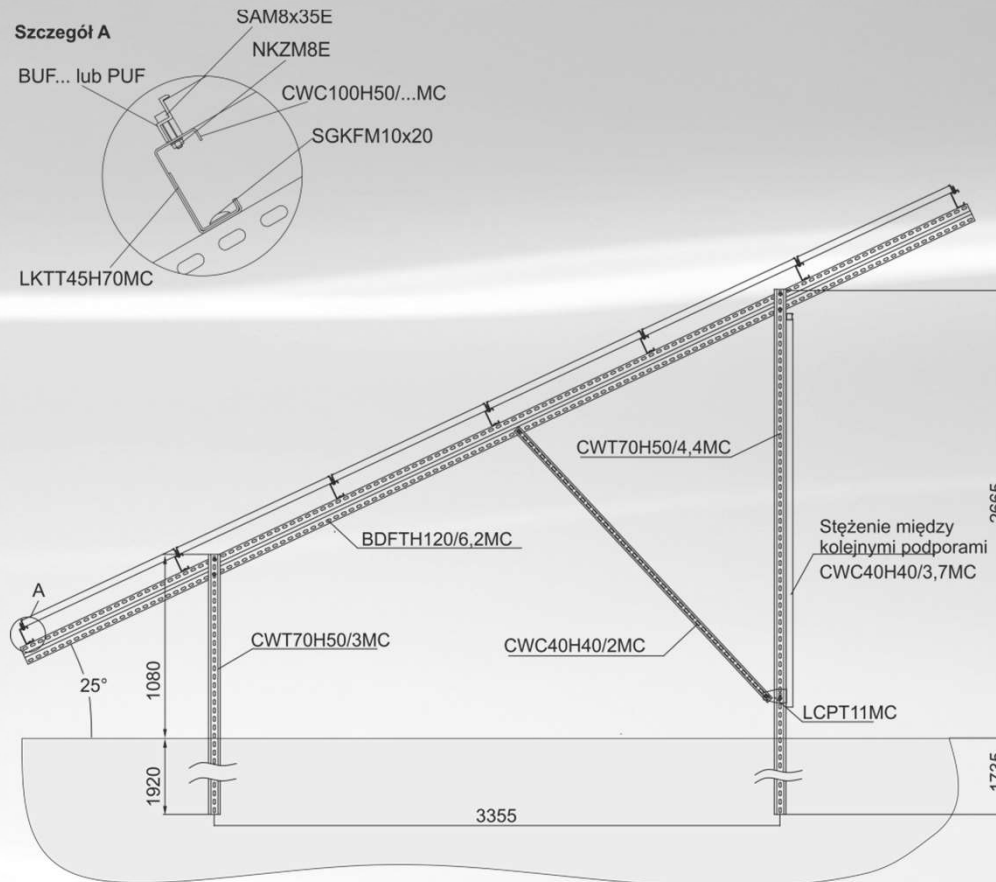
Single support W-H3G1





Single support W-H6G2





Cable management solutions dedicated to freestanding constructions

- Safe electrical installation
- Easier cable access
- Cable protection against UV radiation, rodents and other damage
- Fire safety
- Guidance of a cable route in any part of the supporting pole
- Possibility to use snap – in extension arm quick assembly
- Electrical continuity guaranteed - ITB, TÜV and VDE certificates
- High corrosion resistance



Sloping roof constructions



Constructions dedicated to various roofing materials

Corrugated steel sheet

Standing seam steel sheet

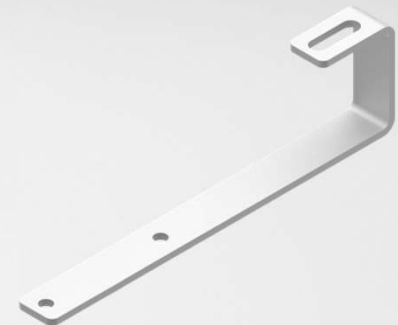
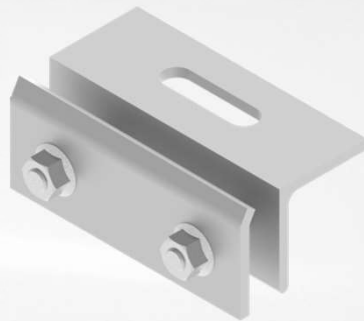
Bituminous shingle



Double threaded screw SWDM....

Holder UBZRE

Holder DUF60E



Constructions dedicated for various roofing materials

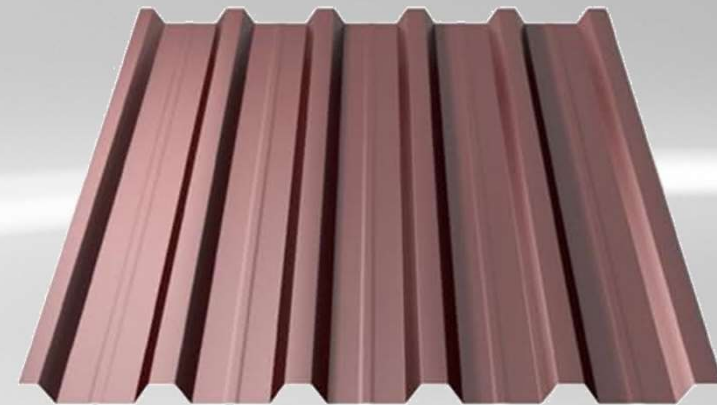
Ceramic tiles



Plain tile



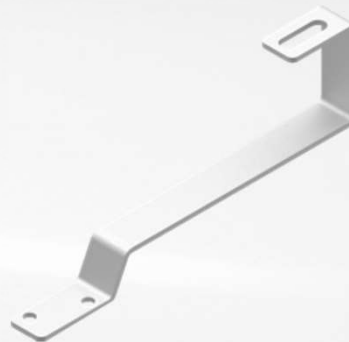
Trapezoidal metal sheet



Holder DUR40E



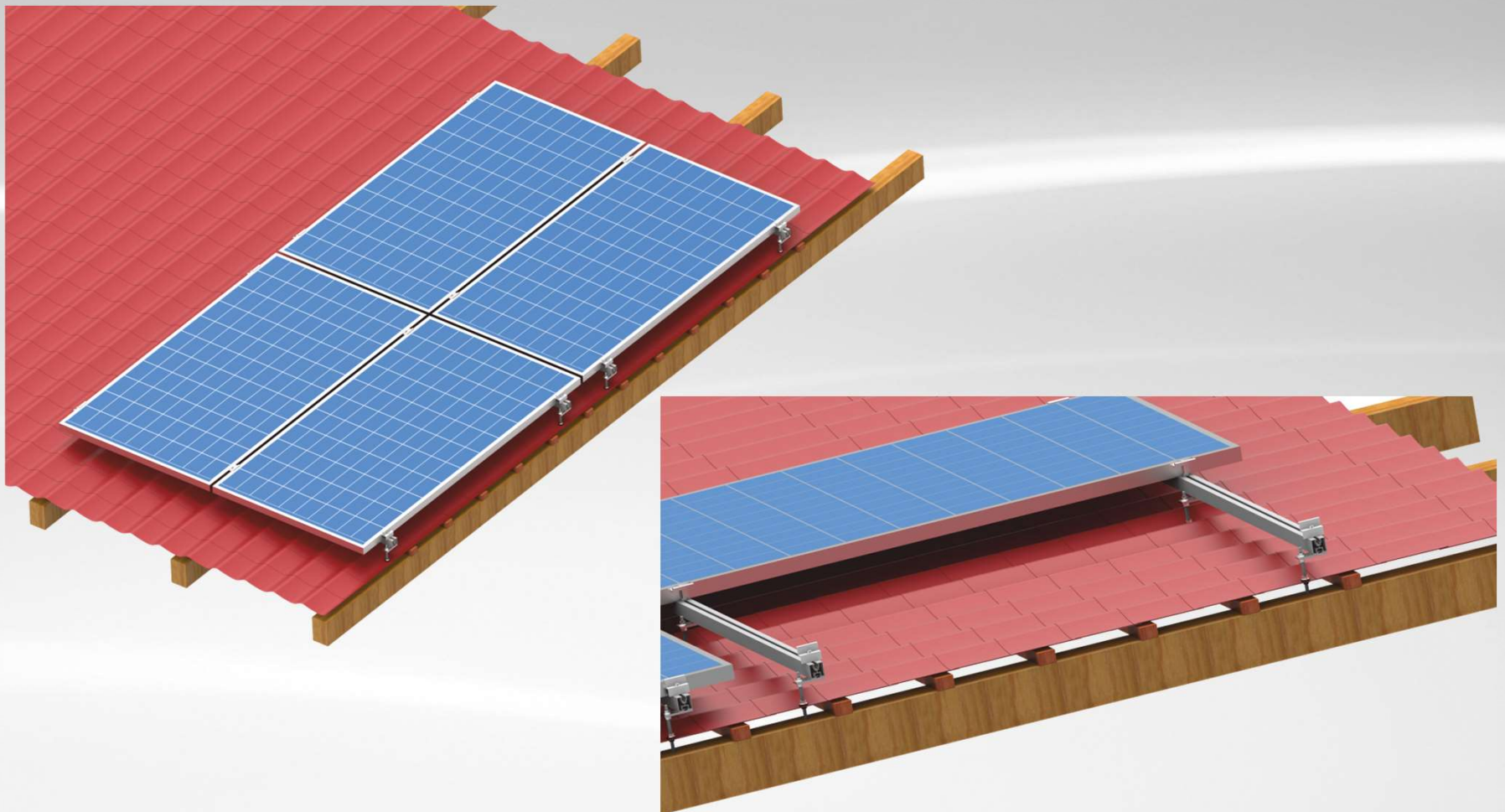
Holder DUF75E

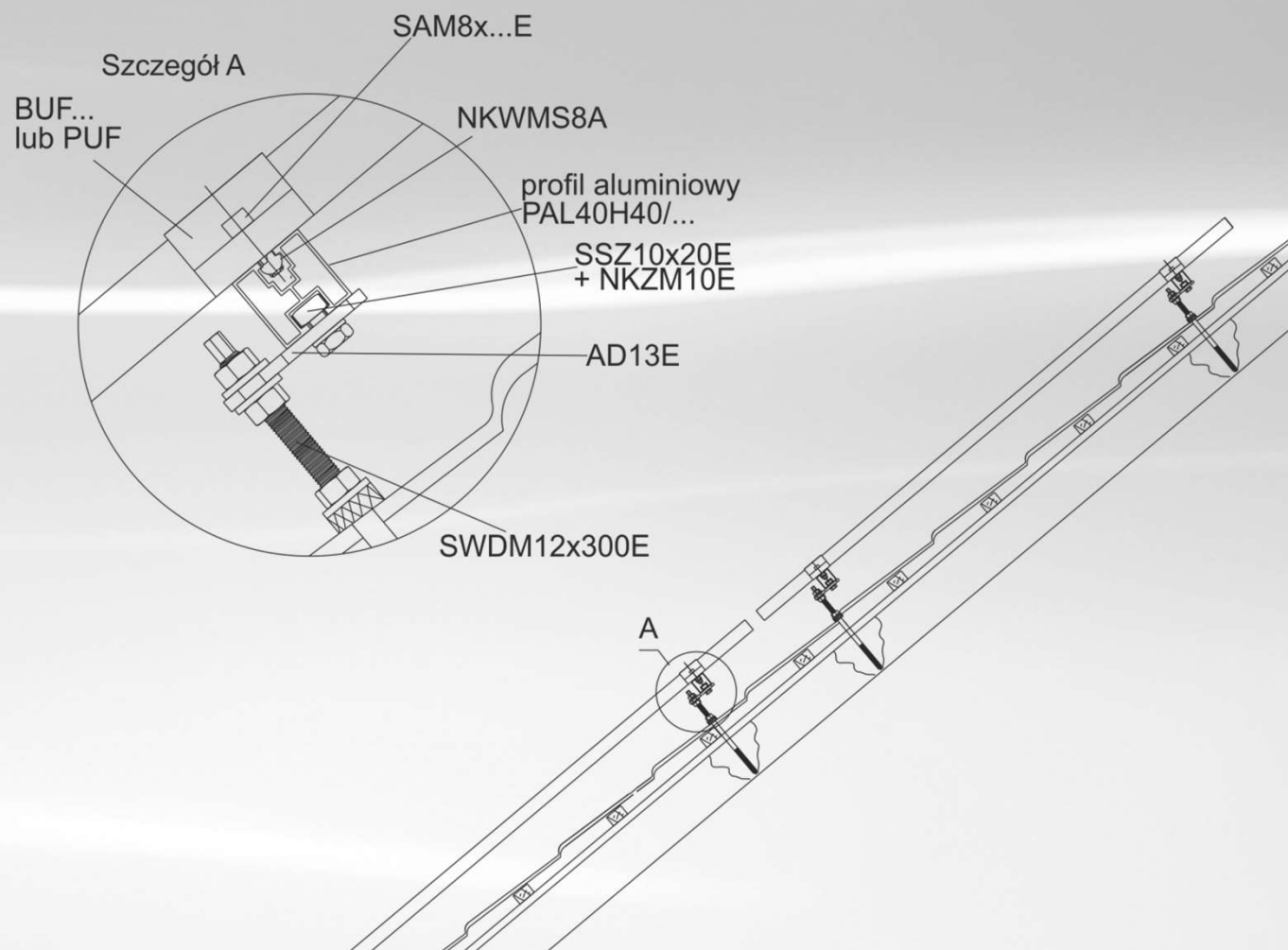


Aluminium rail SMA70



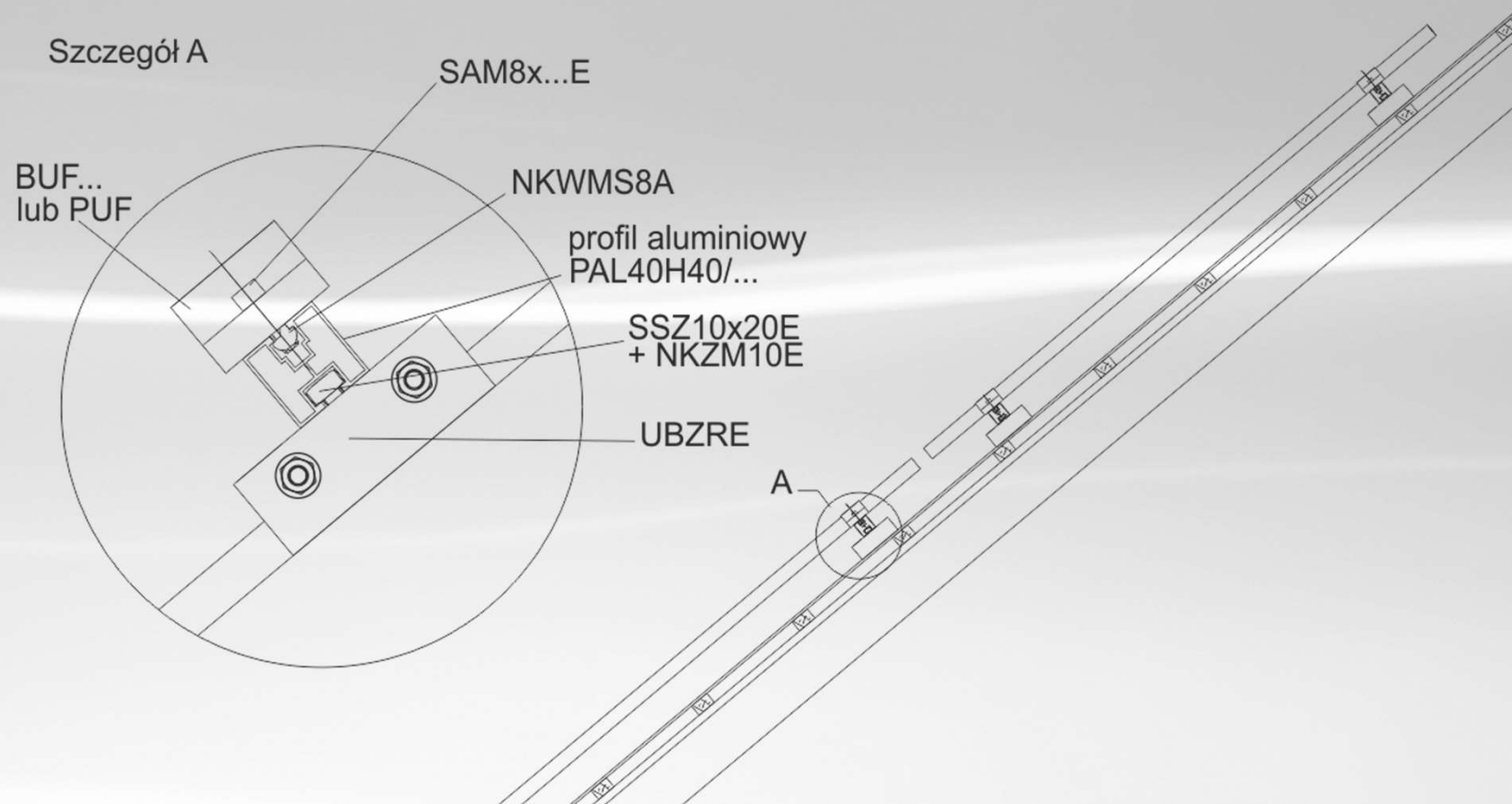
Construction DS-V1N- assembly to the roof covered with metal roof tiles



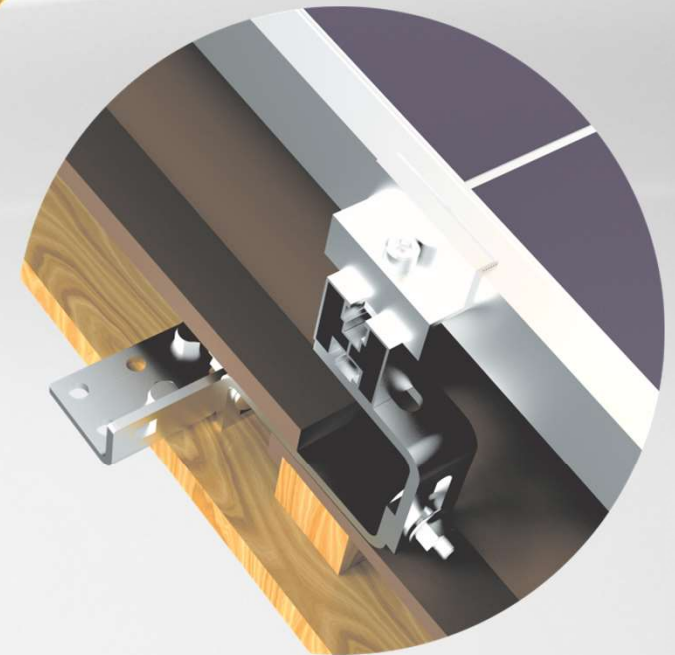
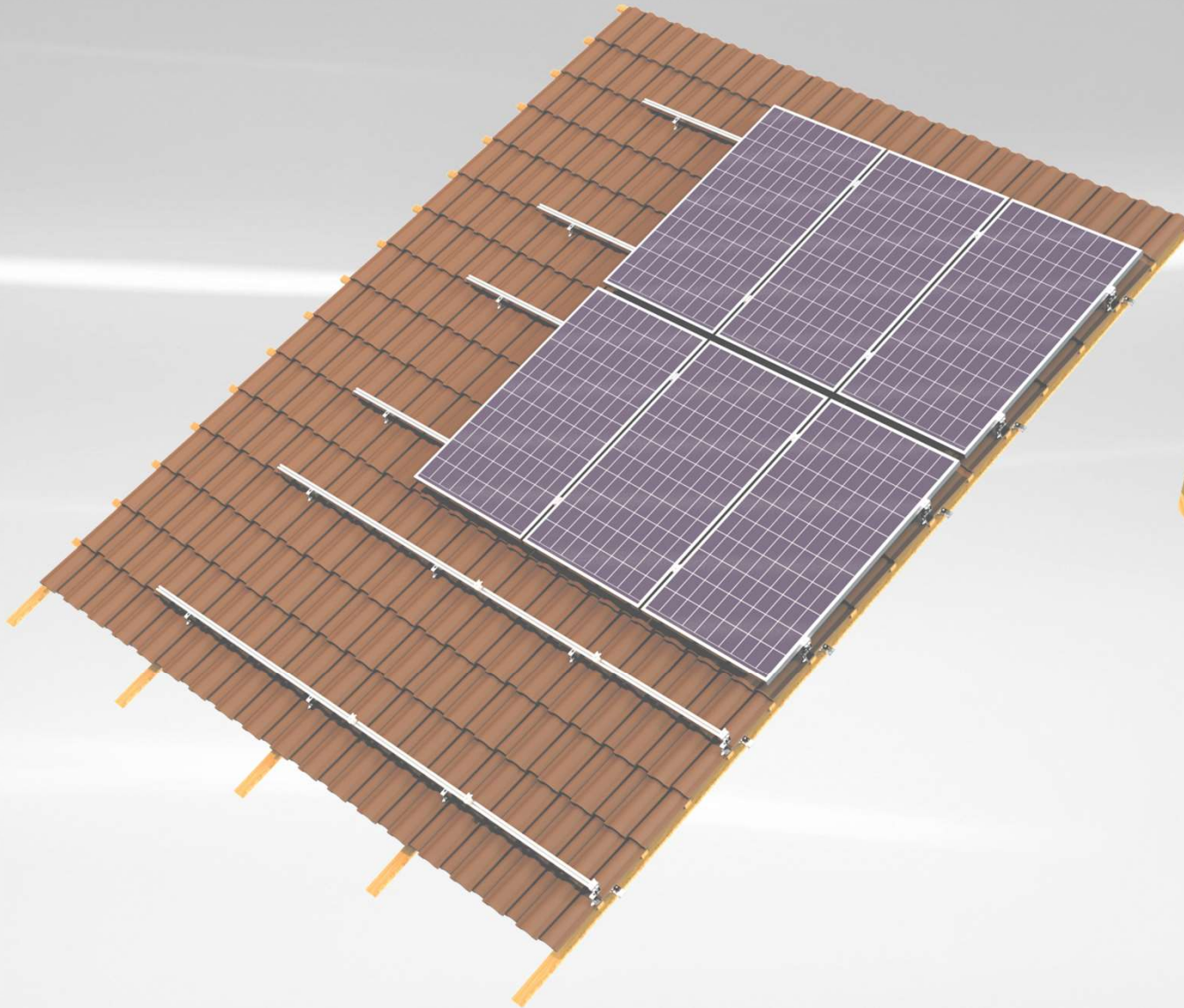


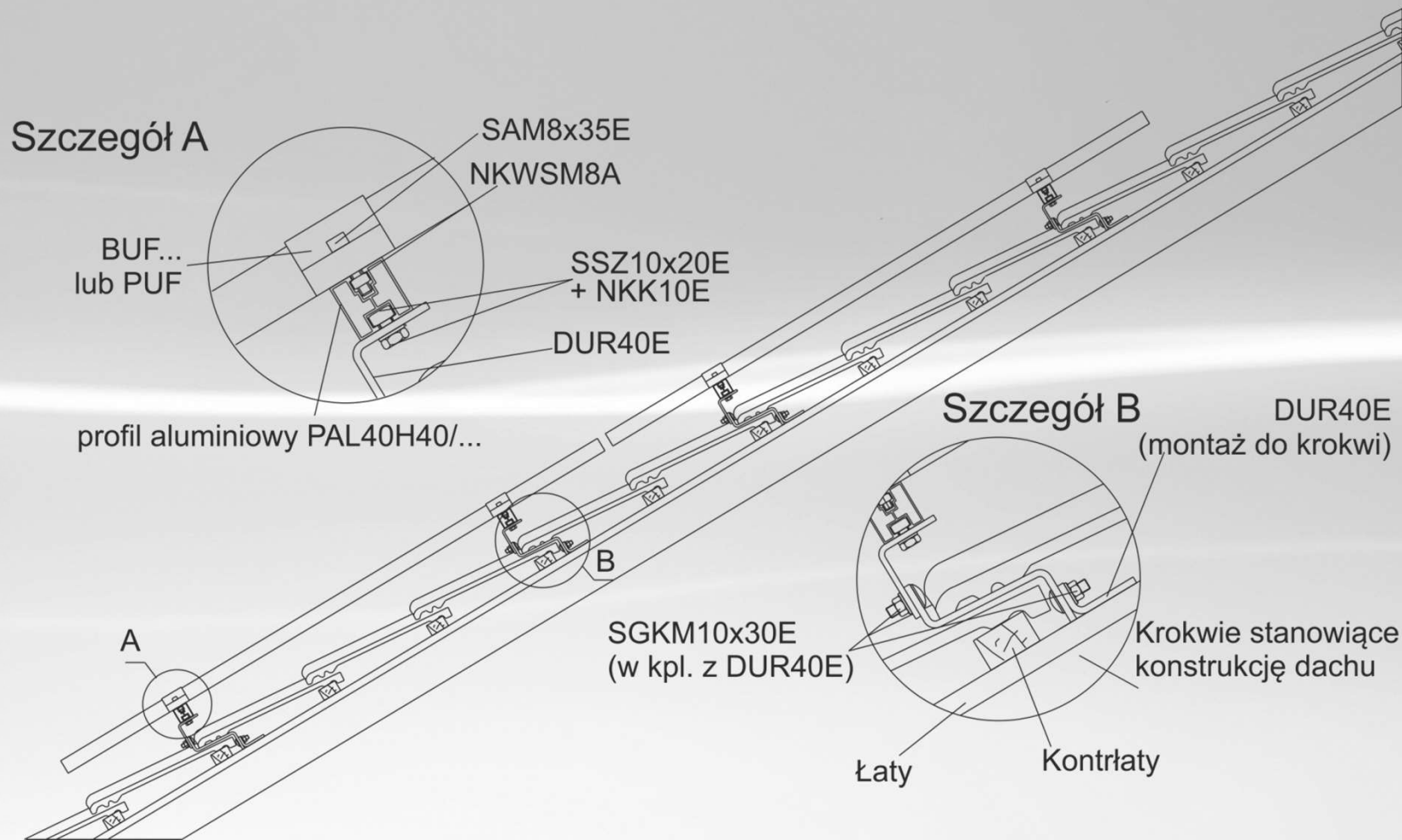
Construction DS-V2N-assembly to the roof covered with standing seam metal sheet



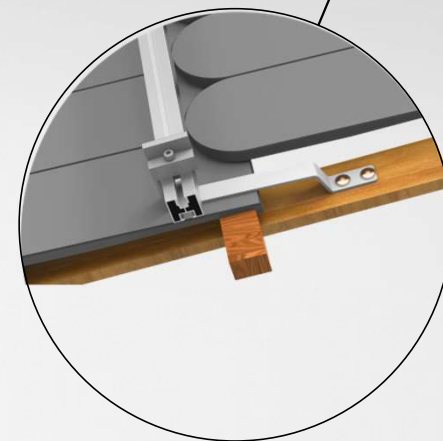
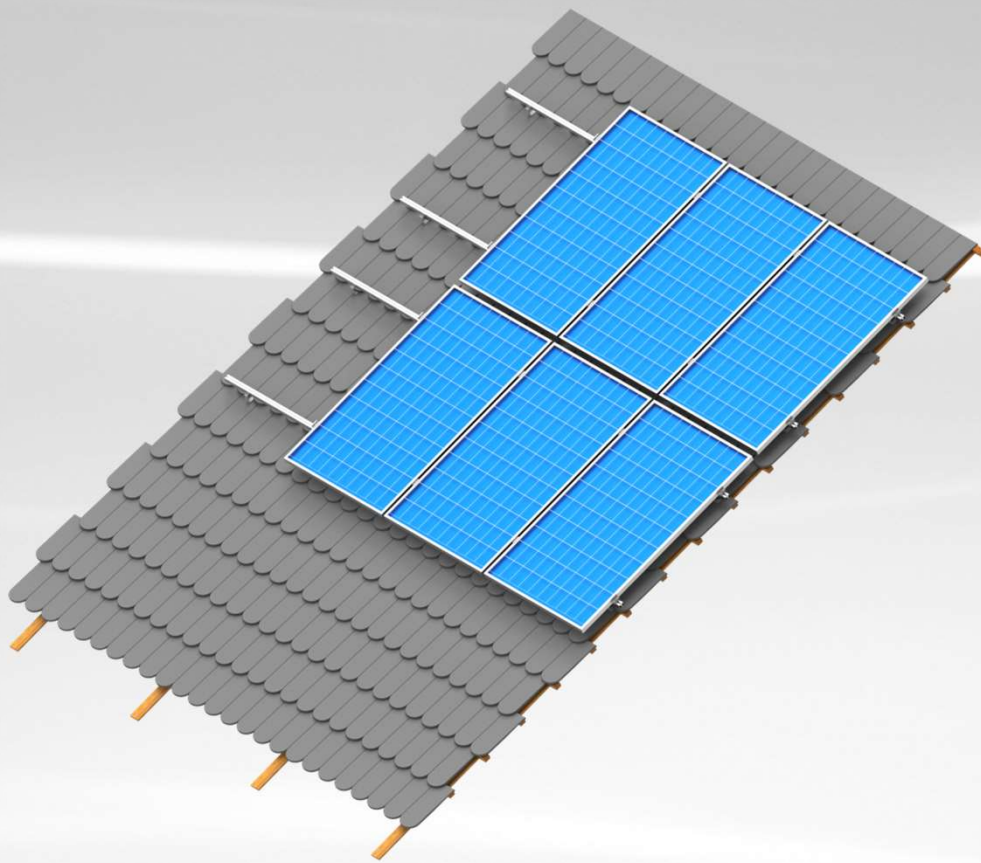


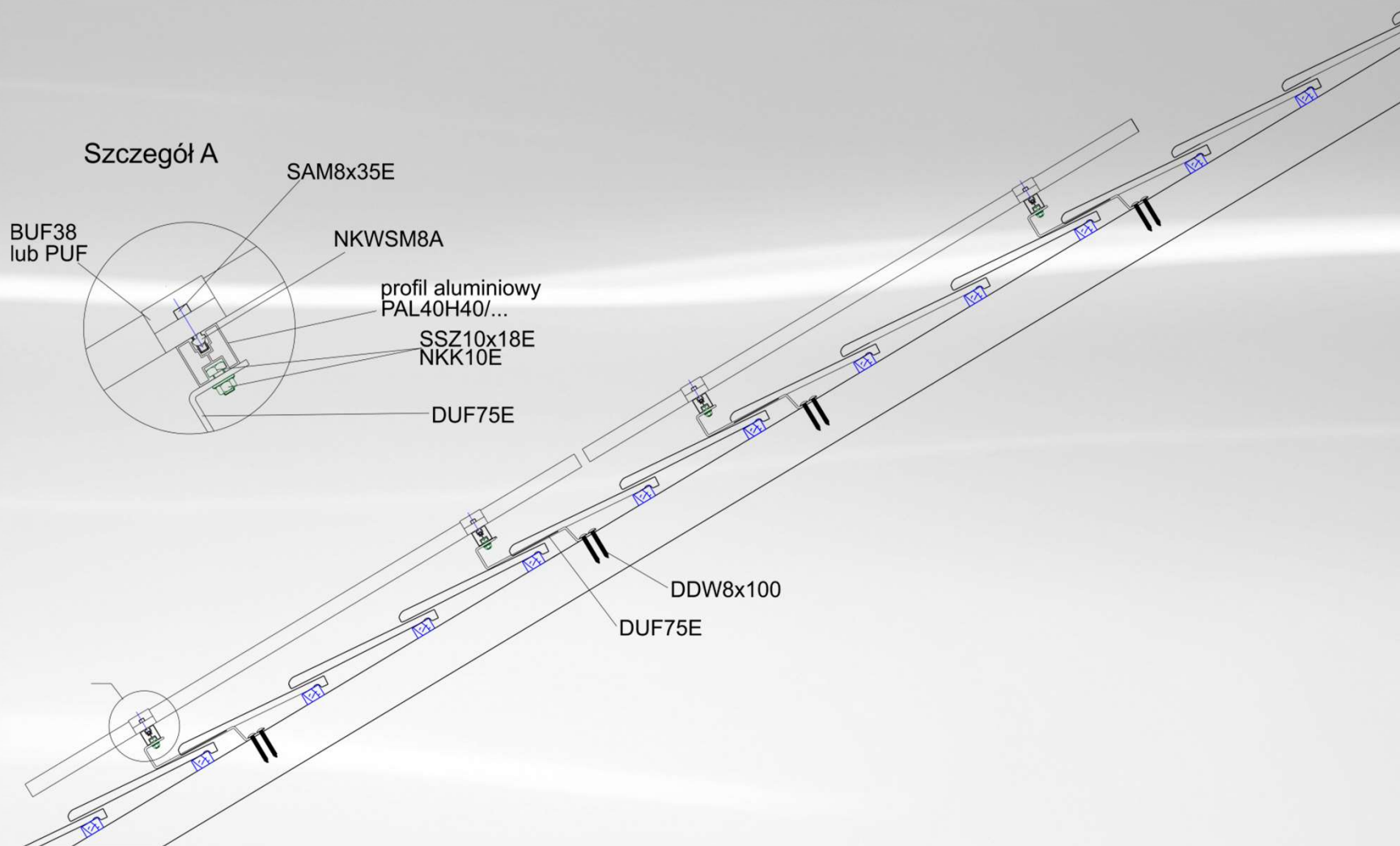
Construction DS-V4N- assembly to the roof covered with ceramic roof tiles



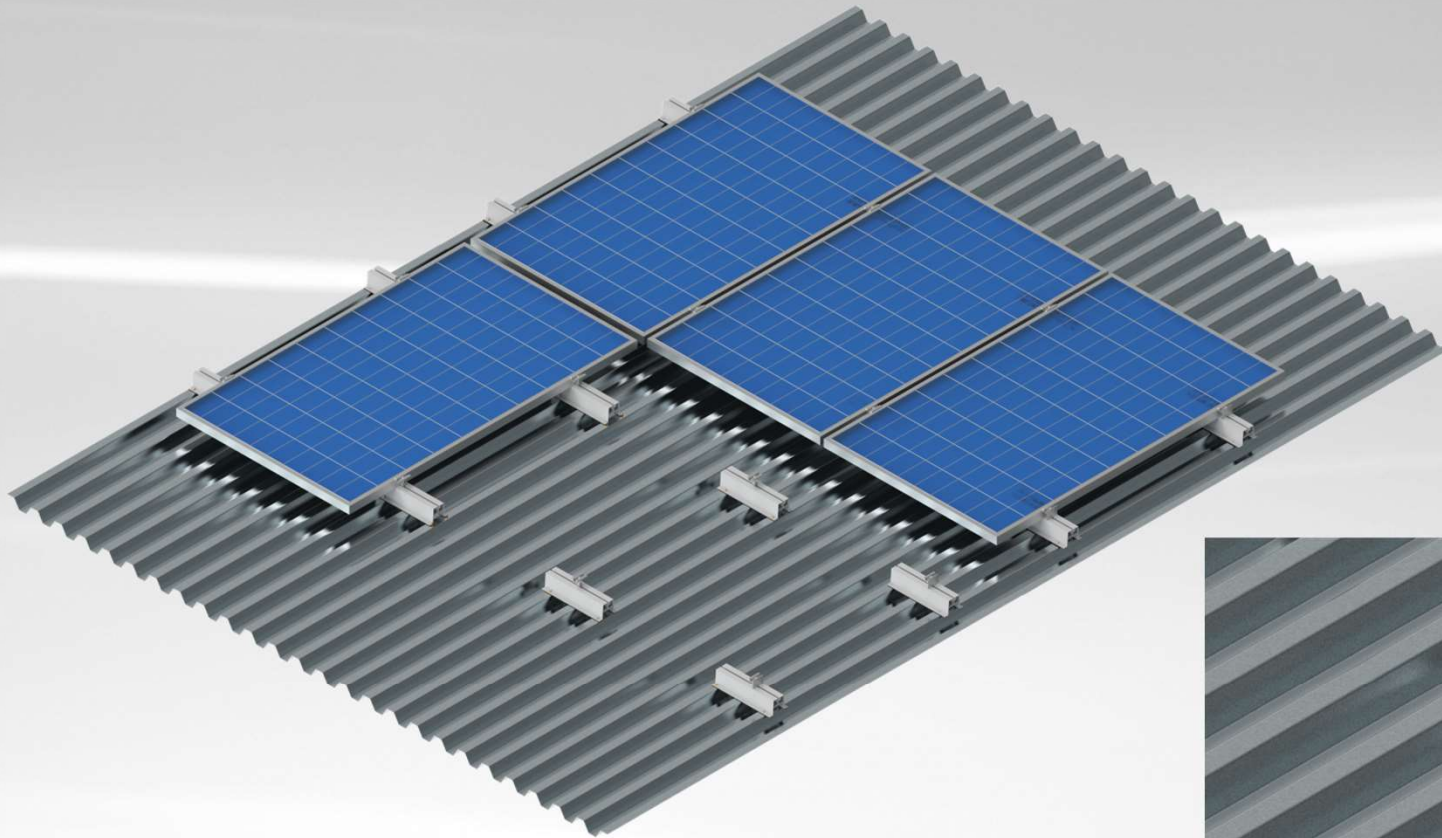


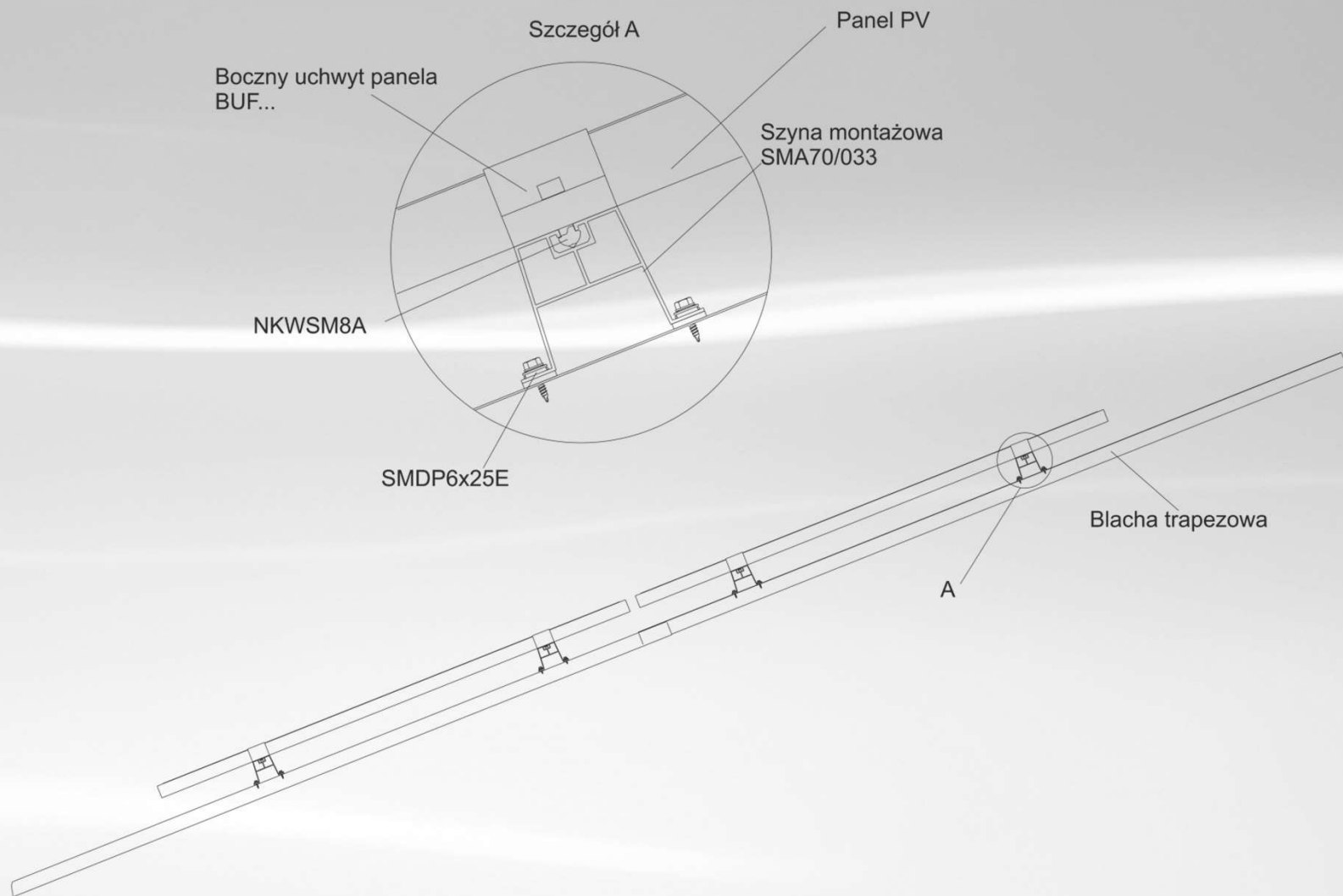
Construction DS-V5N- assembly to the roof covered with plain ceramic roof tiles





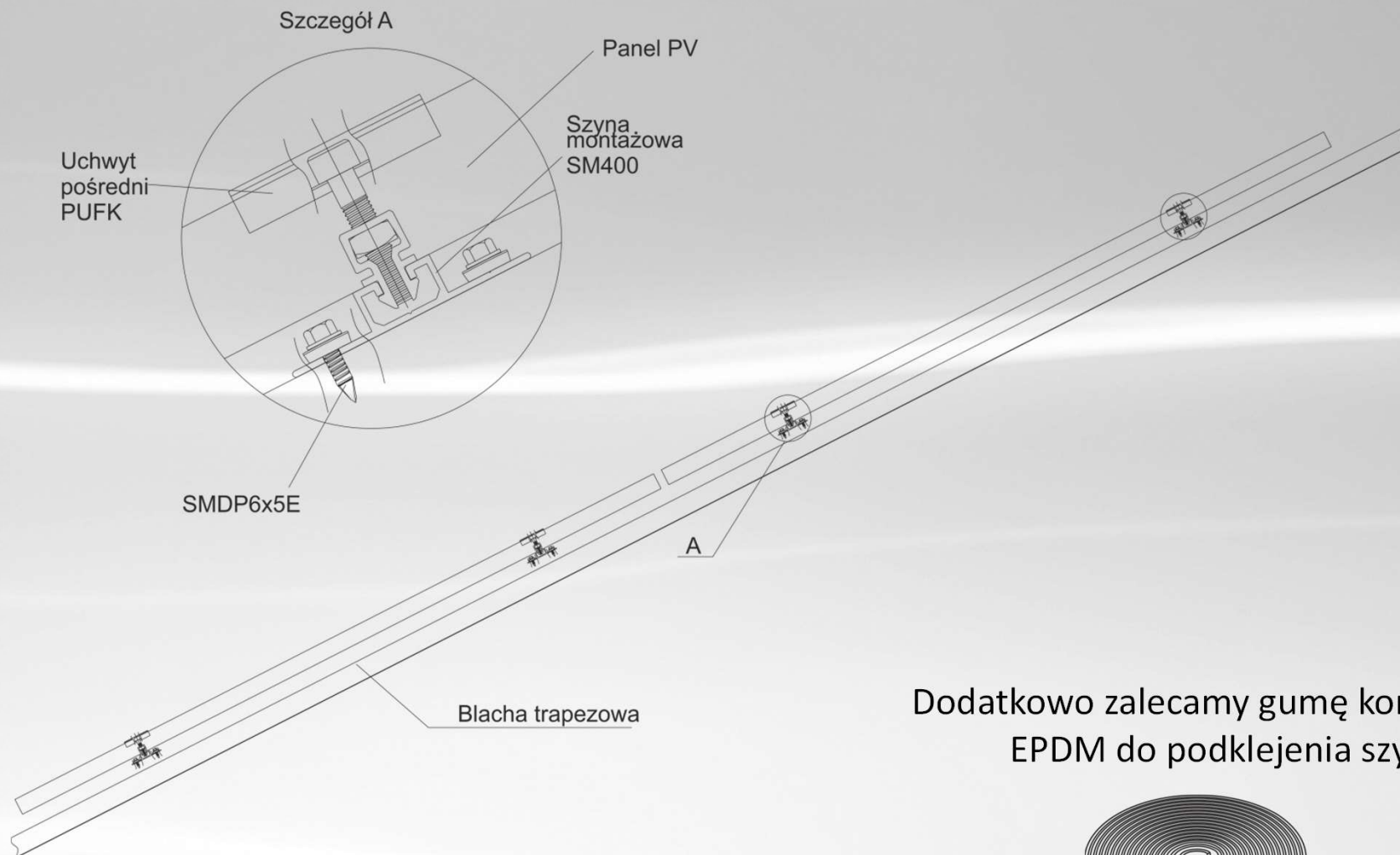
Construction DS-V6aN- assembly to the roof covered with trapezoid steel sheet



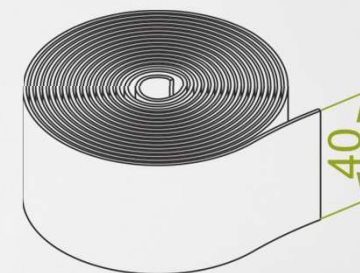


Construction DS-V6bN- assembly to the roof covered with trapezoid steel sheet

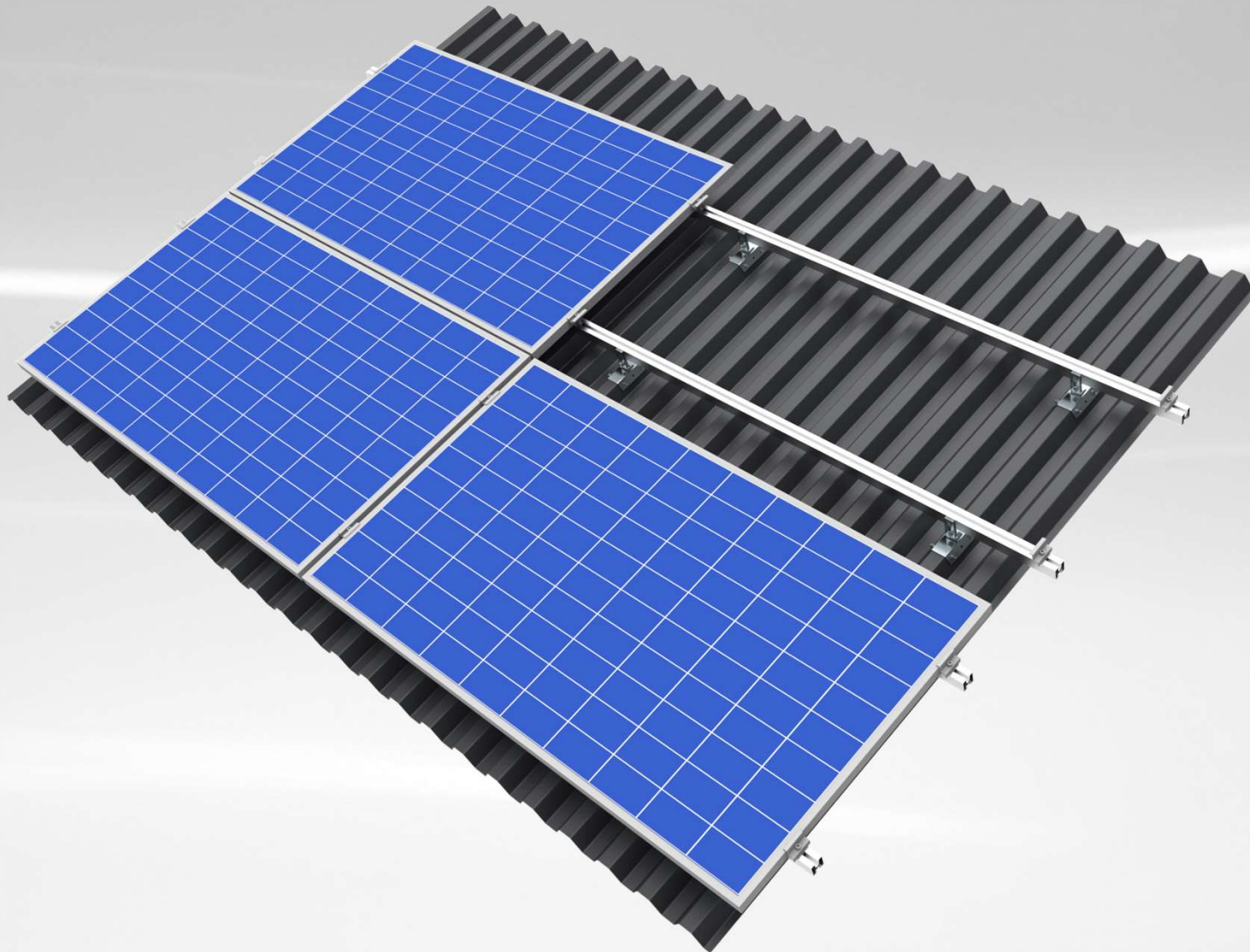




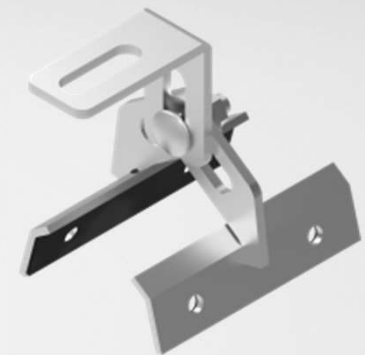
Dodatkowo zalecamy gumę komórkową EPDM do podklejenia szyny



Construction DS-V6cN- assembly to the roof covered with trapezoid steel sheet



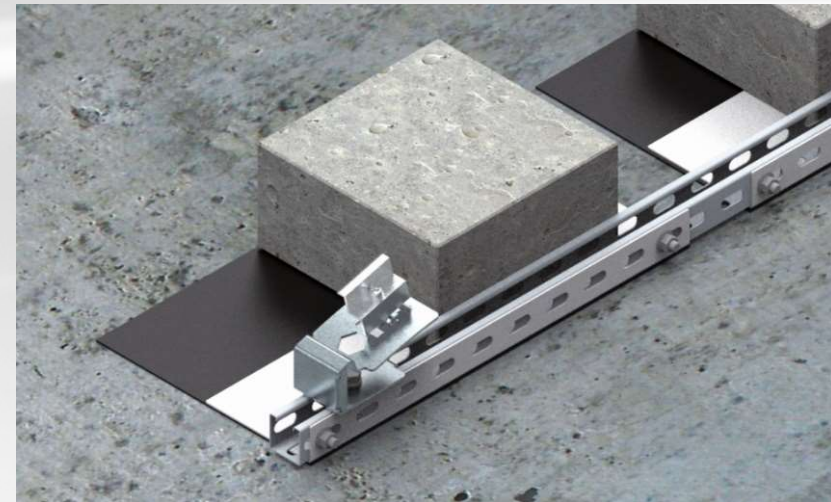
RUBTE lub RUBTF



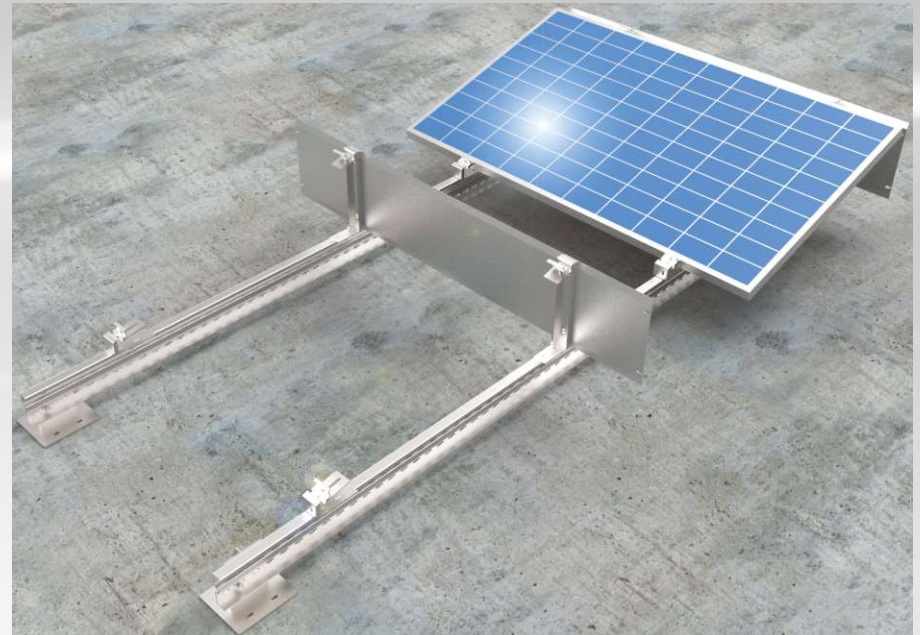
Flat roof constructions



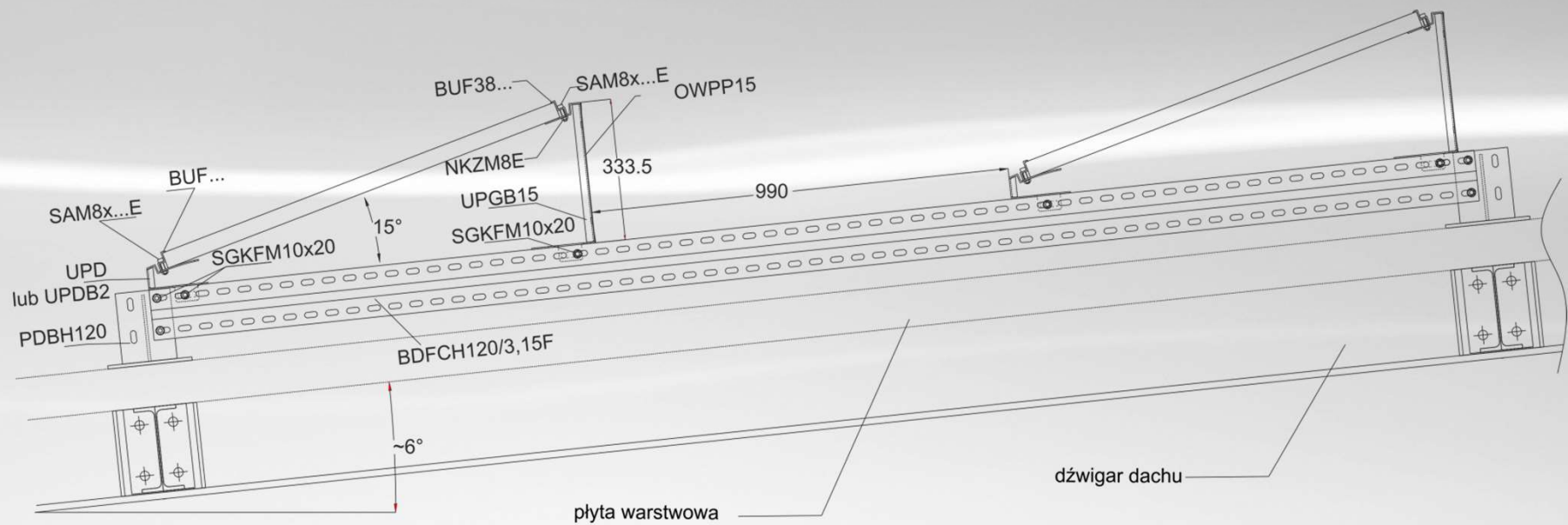
Construction DP-DNHBE (5°-20°)



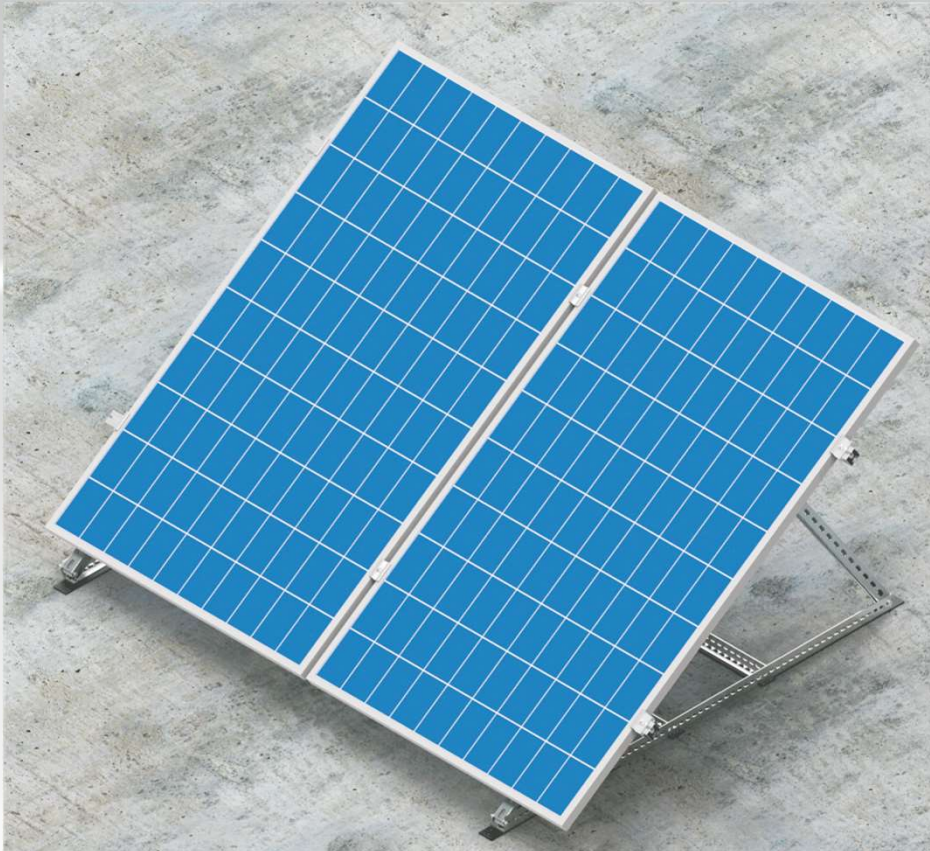
Construction DP-MHKE (5°-20°)



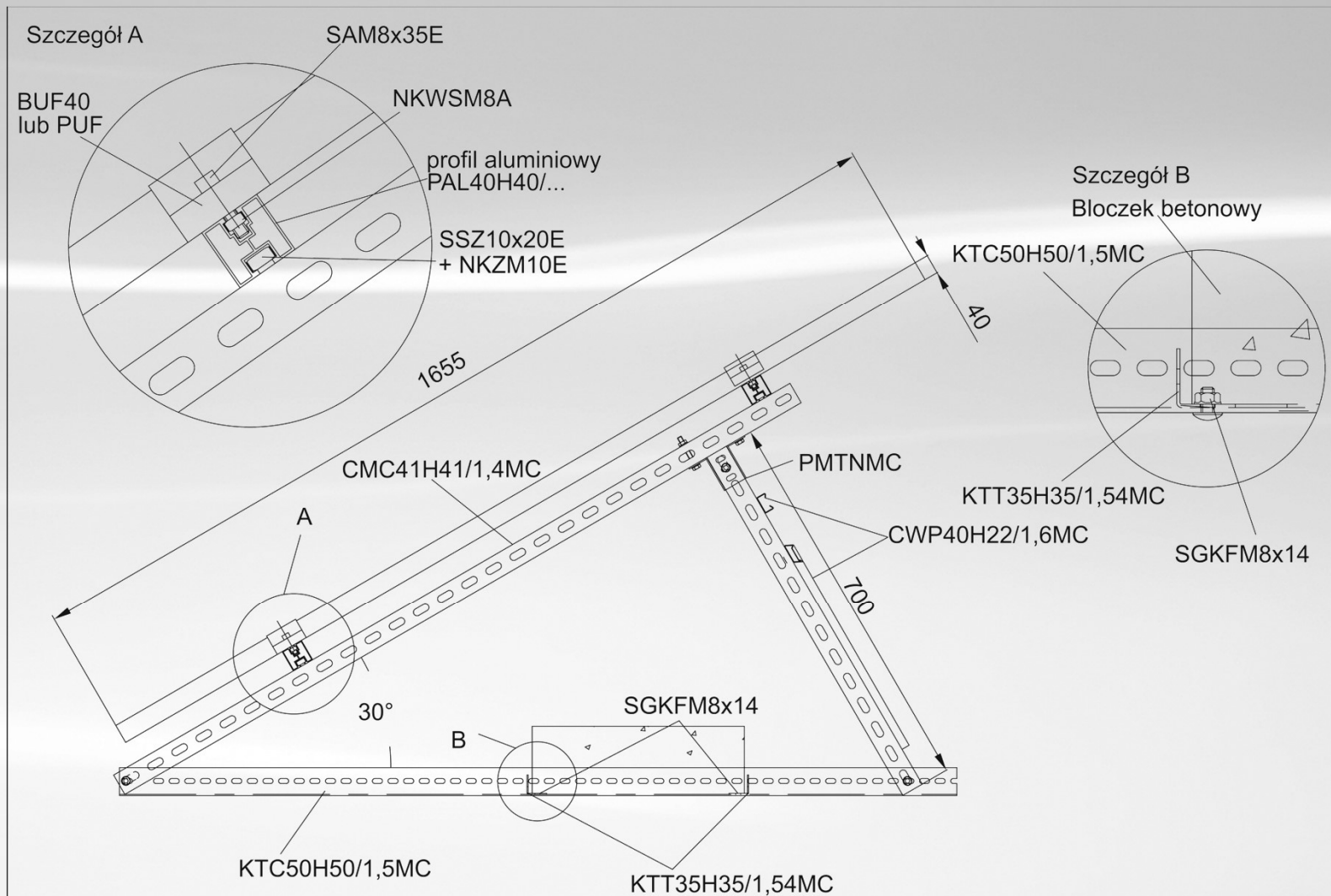
Construction DP-MHKE (5°-20°)



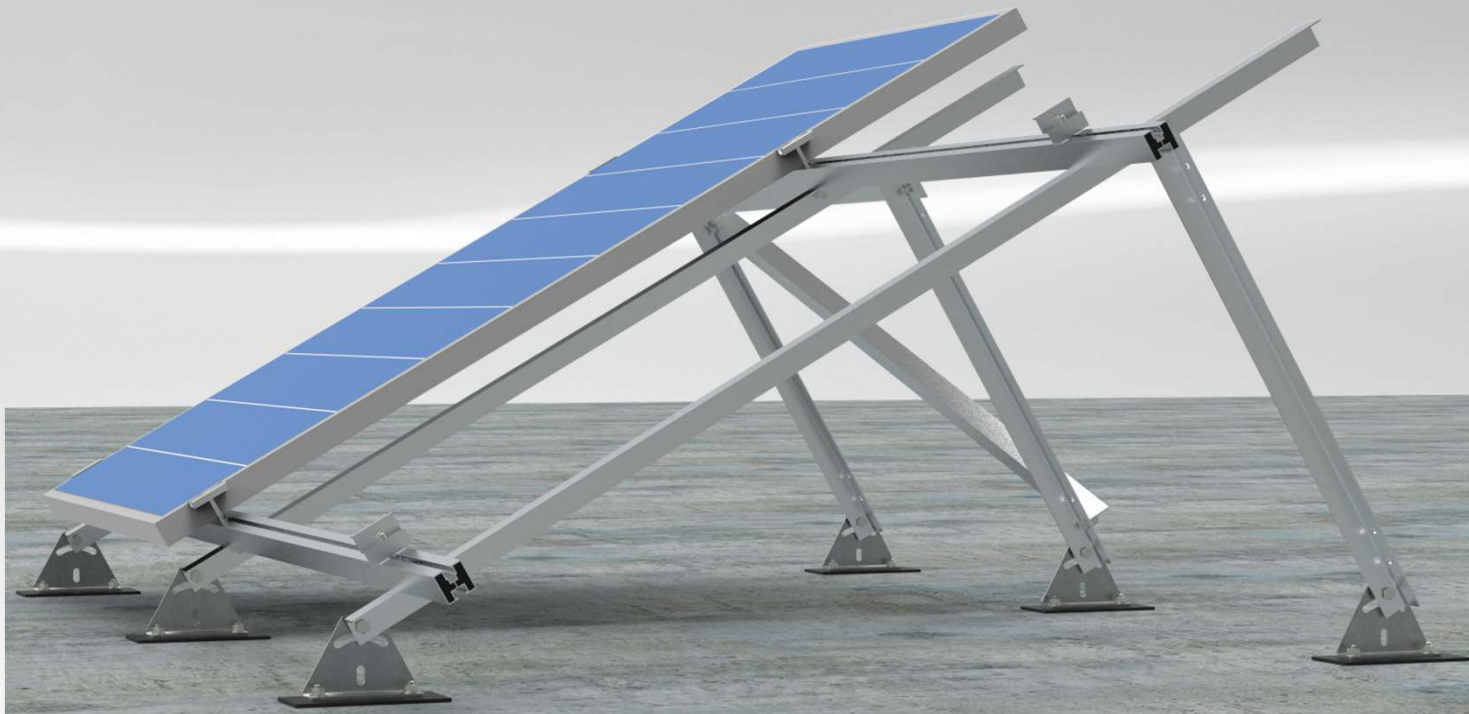
Construction DP-DTVBN



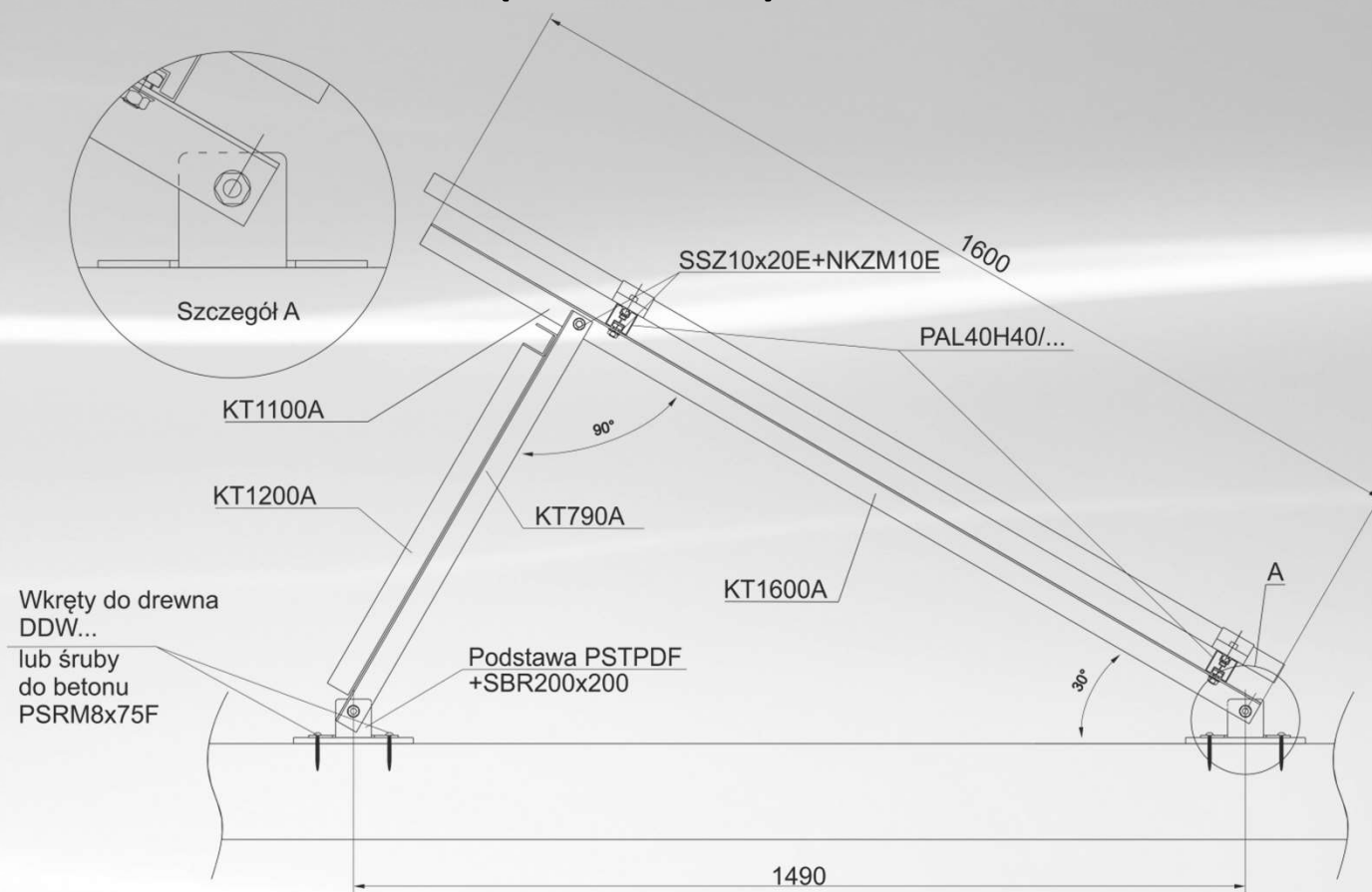
Construction DP-DTVBN (25°-35°)



Construction DP-DTAVKN
(25°-35°)



Construction DP-DTAVKN aluminium (25°-35°)





Advantages of BAKS constructions for solar panels:

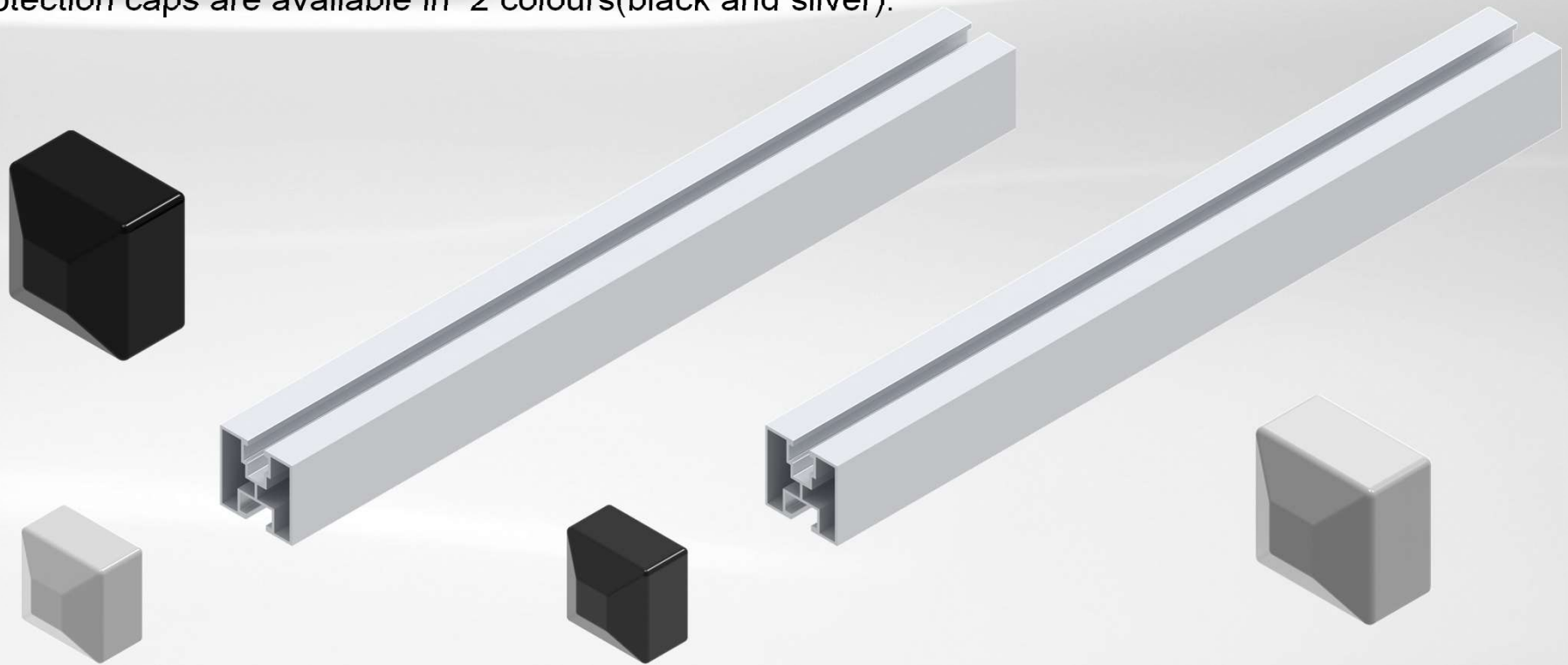
- Construction strength approved by tests
- All constructions are certified
- Magnelis steel with very good corrosion resistance
- Constructions easy for assembling
- One type of screw is used to screw free-standing structures
- High structural stability
- Possibility to use cable trays to protect the cabling
- Thanks to the use of perforated elements, we can adjust the structure
- Perforation reduces the weight of profiles and makes the assembly easy
- High quality of manufactured elements reduces the risk of injury during assembly
- In case of large investments we offer free of charge gauge for assembly
- Optimized number of screwing points
- Possibility to run cable pipes in C-profiles (chanells) and fastening to perforations
- Perforation allows free drainage of water

Protection caps for aluminium profiles

Protection caps are dedicated to aluminium profiles for constructions on sloping roofs.

In order to improve the aesthetics of our constructions and the safety of our assembly staff, we have introduced protective pads for aluminium profiles.

The protection caps are available in 2 colours (black and silver).





Ballast calculator

We have developed an advanced calculator for calculations of the necessary ballast load for structures dedicated to flat roofs, depending on the wind zone and the size of the installation.

2. Obciążenie wiatrem

Strefa obciążenia wiatrem: **3**
 Wysokość n.p.m. A=: **300** m
 Kategoria terenu: **III**
 Obszary regularnie pokryte roślinnością albo budynkami lub z pojedynczymi przeszkodami oddalonymi od siebie na odległość nie większą niż 20 ich wysokości (jak wsie, tereny podmiejskie, stałe lasy)
 Wartość szczytowa ciśnienia prędkości $q_p(z_e)=$ **0,88** kN/m²

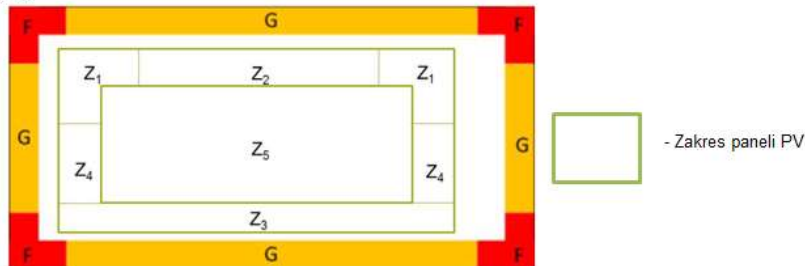
Mapa obciążenia wiatrem:



3. Obciążenie wiatrem połaci ze względu na strefy budynku

Zakres strefy

Schemat:



Zadane położenie wraz z zarysem paneli PV:

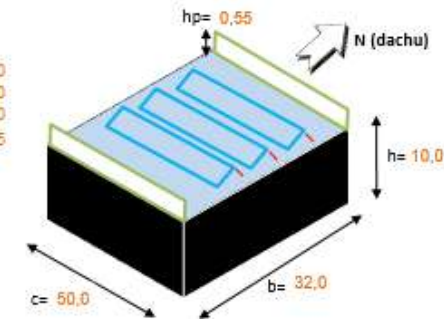
Kalkulator do wyliczenia dążenia konstrukcji pod panele PV - dach prostokątny

BAKS- Kazimierz Sielski	
Data: 2019-12-10	Obiekt: Konstrukcja wsporcza Nr 1
Konstrukcja DP-DNHBE	

1. Definicja konstrukcji:

1A. Budynek:

długość b = 32,0
 bok c = 50,0
 wysokość h = 10,0
 wys. atyki h_p = 0,55

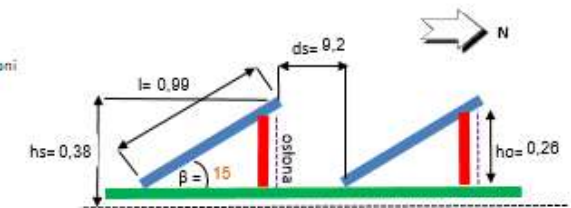


1B. Schemat konstrukcji paneli fotowoltaicznych

Panel PV wymiar:
 wysokość: 0,99 m
 szerokość: 1,65 m
 układ: poziomy
 kąt nachyl. β = 15 stopni

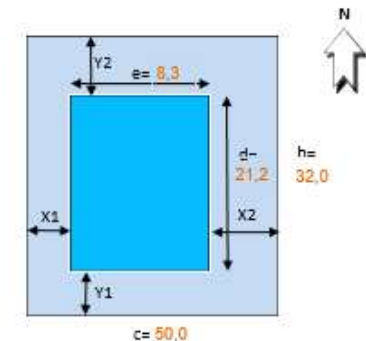
Typ konstrukcji DP-DNHBE

Czy jest tylna osłona wiatrowa? **tak**
 Liczba połączonych rzędów: **3**



1C. Układ paneli fotowoltaicznych

Liczba paneli w rzędzie: **5** szt
 Długość rzędu e: **8,3** m
 Liczba rzędów paneli: **3** szt
 Długość ptn-płd d: **21,2** m
 Odległość od lewej ściany X1: **16,0** m
 Odległość od prawej ściany X2: **25,8** m
 Odległość od południowej ściany Y1: **5,0** m
 Odległość od północnej ściany Y2: **5,8** m
 Odległość między rzędami paneli ds: **9,2** m



Obszar uważa się za nie połączony z innymi obszarami (wpływem wiatru), jeżeli ds > 2*hs, czyli gdy ds > 0,75 m



National Technical Assessment 2020.

We have applied to the Institute of Building Technology for a National Technical Assessment for freestanding structures for photovoltaic modules. The National Technical Assessment will confirm that BAKS structures comply with current building regulations and standards and are therefore safe to install and use. Documentation is scheduled to be obtained in January 2020.

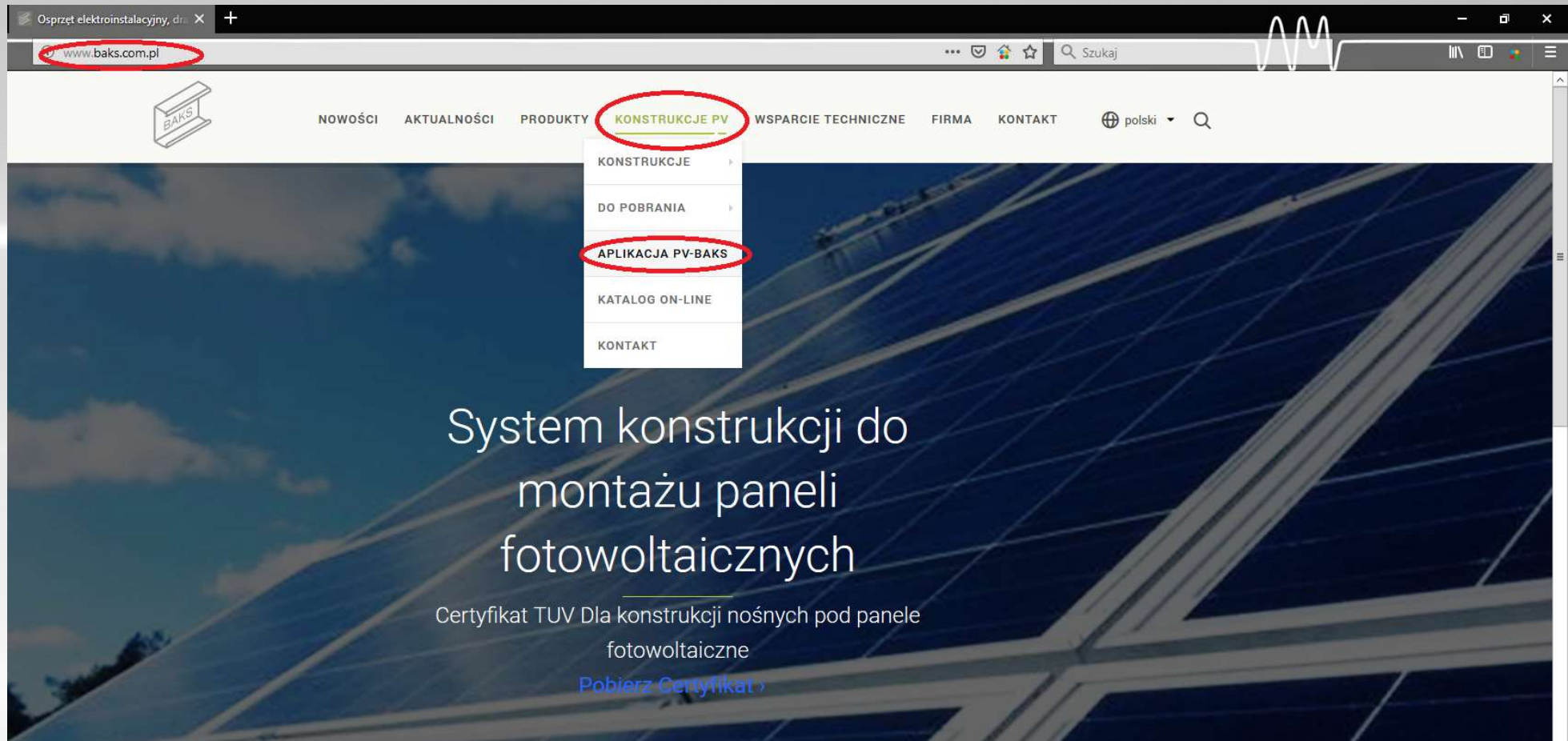
Certyfikat TÜV Rheinland
dla systemowych konstrukcji
do mocowania paneli PV



Krajowa Ocena Techniczna



Access to apps

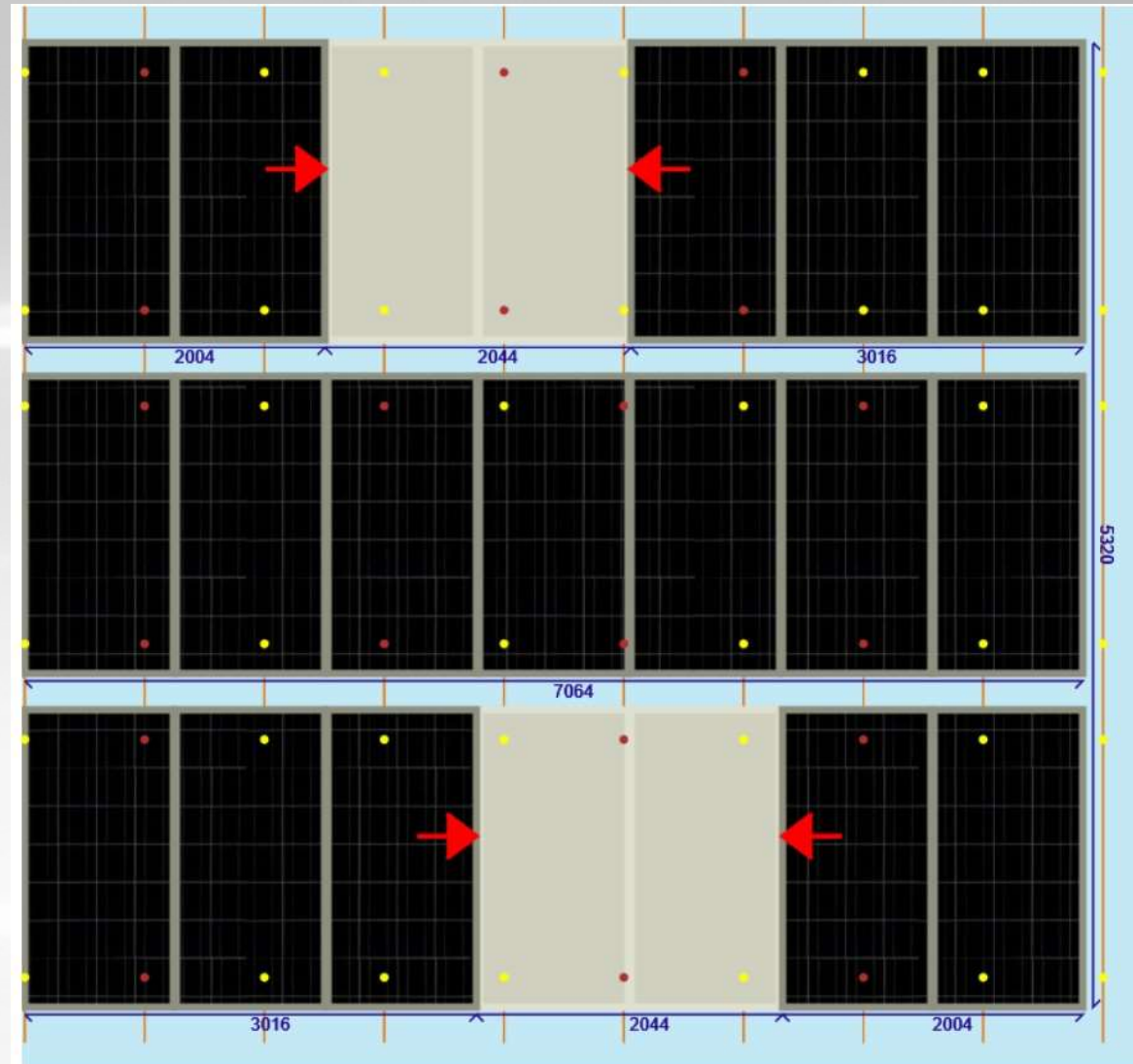


<http://baks.vectorsoft.pl/>



Application for designing support structures for PV panels

- Wide base of PV panels (AEG, BRUK-BET SOLAR, CANADIAN SOLAR, IBC, KYOCERA, LG, Q-CELLS, RENESOLA, SHARP, SOLAR WORLD, SUNPOWER, TRINA SOLAR, YIUNGLI SOLAR)
- Constructions for flat and sloping roofs
- Free-standing constructions
- (possibility of moving (to any place), switching on /switching off)
- Choice of wind and snow zones
- Automatic selection of assembly points
- Intuitive service
- Creation of complete material lists ready for an offer
- Dimensional drawing with arrangement of PV panels
- Free access requiring registration only



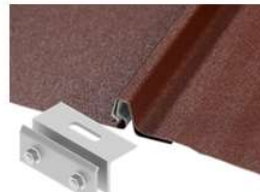


Mounting calculator

- Possibility of evaluation of the PV construction cost including due discounts
- Fully independent and quick proces of completing the assembly elements of the PV construction
- Calculator is adopted to various types of roofs and free-standing constructions

KONSTRUKCJA DS-V1N- ROZSTAW KROKWI 0,8M								
SYMBOL ELEMENTU	NR. KAT.	J.M.	ILOŚĆ	CENA KAT. NETTO	CENA KAT. NETTO	RABAT	CENA NETTO PO RABACIE	WARTOŚĆ NETTO PO RABACIE
PAL40H40/1,1	0	SZT.	0	0,00	0	0	0,00	0,00
PAL40H40/2,1	0	SZT.	0	0,00	0	0	0,00	0,00
PAL40H40/3,15	0	SZT.	0	0,00	0	0	0,00	0,00
PLPAN40	0	SZT.	0	0,00	0	0	0,00	0,00
SWDM10x250E	0	SZT.	0	0	0	0	0,00	0,00
AD11E	0	SZT.	0	0	0	0	0,00	0,00
SSZ10x20E	0	KPL	0	0,00	0	0	0,00	0,00
NKZM10E	0	KPL	0	0,00	0	0	0,00	0,00
BUF35	0	SZT.	0	0,00	0	0	0,00	0,00
PUF	0	SZT.	0	0,00	0	0	0,00	0,00
SAM8X30E	0	SZT.	0	0,00	0	0	0,00	0,00
NKWSM8A	0	SZT.	0	0,00	0	0	0,00	0,00
rozstaw krokwi 0,8m								
ILOŚĆ MODUŁÓW W RZĘDZIE								

KONSTRUKCJA DS-V2N- ROZSTAW UCHWYTÓW 0,8M								
SYMBOL ELEMENTU	NR. KAT.	J.M.	ILOŚĆ	CENA KAT. NETTO	CENA KAT. NETTO	RABAT	CENA NETTO PO RABACIE	WARTOŚĆ NETTO PO RABACIE
PAL40H40/1,1	0	SZT.	0	0,00	0	0	0,00	0,00
PAL40H40/2,1	0	SZT.	0	0,00	0	0	0,00	0,00
PAL40H40/3,15	0	SZT.	0	0,00	0	0	0,00	0,00
PLPAN40	0	SZT.	0	0,00	0	0	0,00	0,00
UBZRE	0	SZT.	0	0	0	0	0,00	0,00
SSZ10x20E	0	KPL	0	0,00	0	0	0,00	0,00
NKZM10E	0	KPL	0	0,00	0	0	0,00	0,00
BUF35	0	SZT.	0	0,00	0	0	0,00	0,00
PUF	0	SZT.	0	0,00	0	0	0,00	0,00
SAM8X30E	0	SZT.	0	0,00	0	0	0,00	0,00
NKWSM8A	0	SZT.	0	0,00	0	0	0,00	0,00
rozstaw krokwi 0,8m								
ILOŚĆ MODUŁÓW W RZĘDZIE								



RABAT

- ZAŁOŻENIA:**
1. KALKULATOR POD PANELE O WYMIARACH 1600-2050mm/900-1000mm
 2. ROZSTAW UCHWYTÓW MONTAŻOWYCH WYNOŚI 800mm
 3. PANELE W UKŁADZIE WERTYKALNYM



RABAT



Equipment for the assembling team

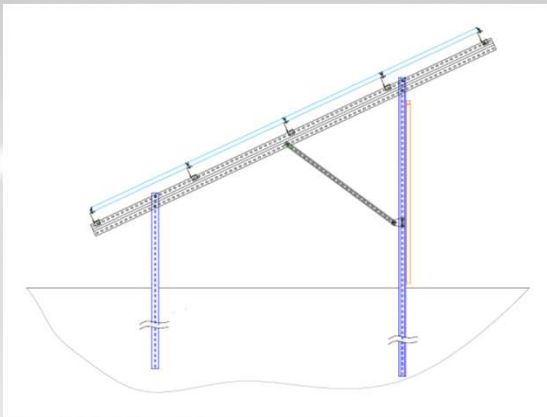
- Screwdriver with adjustable torque
- Screwdriver bits (cross like , torx T40, torx T25, with the inner hexagonal head sizes 7 and 8, imbus like with size 6)
- Angle grinder + discs for stone and metal (aluminium and stainless steel)
- Ratcheting wrench with head sizes 10, 13, 15, 17 10, 13, 15, 17
- combination (open-ended + box-ended) wrench size 10, 13, 15, 17
- Metal drill bits dia 13,, dia 11, dia 13
- Wood drill bits dia 8 and dia 10
- Level – about 2 metre long
- Hammer – about 2 kg weight
- Rope or string 20-30 metre length on a spool or laser level
- Bituminous mass, bituminous tape in colours following roof colours, (red, black, graphite)
- Suction cups, magnets or strong tape for mounting the strings specifying the assembly line of the holders
- Suction cups to compensate dents, for instance, in steel tiles or in standing seam steel sheets





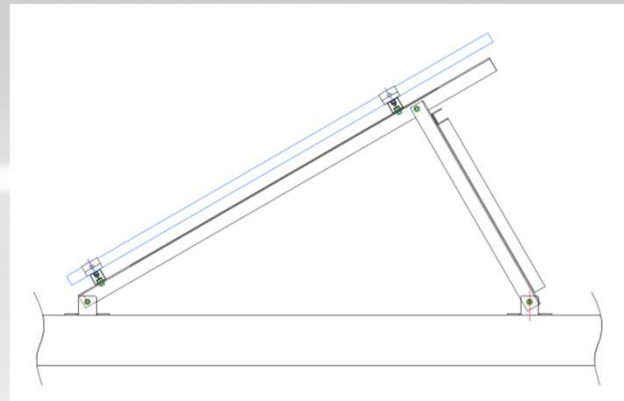
Standard order delivery time

Freestanding constructions



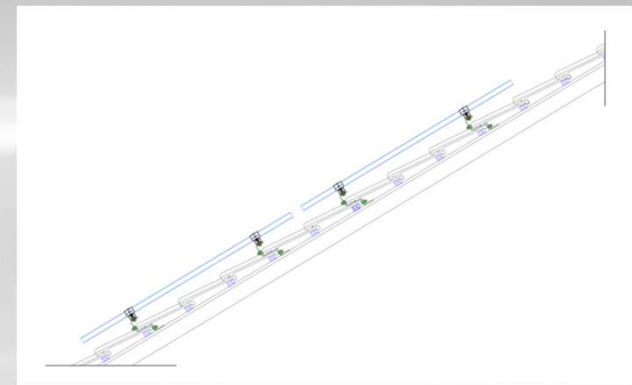
Time of execution
7-9 working days

Construction for flat roofs



Time of execution
7-9 dni working days

Construction for sloping roofs



Time of execution
**Available at our
warehouse**



Possibility to order the construction with the assembly service





THANK YOU FOR YOUR ATTENTION !!!
