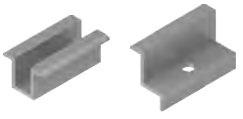
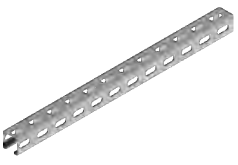
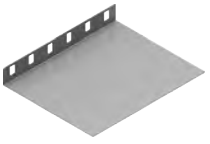
Mounting structures for the installation of photovoltaic panels on flat roofs, building elevations and balcony railings

Structure systems for flat roofs, building elevations and balcony railings:
- flat roof, System: **DP-DNHBE, DP-DNHKE**
- flat roof, System: **DP-DNHBE-WZ, DP-DNHKE-WZ**
- flat roof, System: **DP-DTVKN, DP-DTVBN**
- flat roof, System: **DP-DTAVKN, DP-DTAVBN**
- building elevation, System: **E-VKRN, E-VKTN, E-HKRN**
- balcony railing, System: **B-VPN, B-HPN**

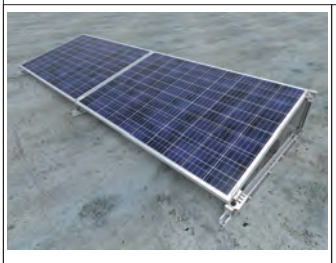
Examples of system components:

 **Angle Profile KT...A**	 **Panel's Bottom Holder UPDCNMC**	 **Panel's Top Holder UPGC...NMC**	 **Middle and Side Holders PUF and BUF...**
 **Support Channel CMP41H41...MC**	 **Sleeper Padding PDOP300MC**	 **Wind Shield OWP...NMC**	 **Sleeper Padding SBR...**

Advantages of the structures for mounting photovoltaic panels on flat roofs, building elevations and balcony railings

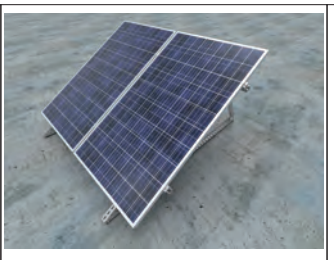
- structures available in steel in Magnelis® coating and aluminium
- universal structures for flat roofs that can be fixed directly to the roof plating or used as ballast structures
- variable adjustment and longitudinal profile perforation allows for trouble-free and quick installation of the structure even in case of unevenness on the roof
- perforation in the wind shields allows for easy and quick installation even after the photovoltaic panels have been installed
- specially designed profile of the wind shields ensures stable adhesion to the structure, and after using additional pressure plates, even strong wind does not cause resonance
- the dimensions of the wind shields are adapted to various types of panels, thanks to which their installation does not require drilling
- triangular structures made of channels allow the panels to be mounted to steel profiles in the Magnelis® coating and aluminium profiles
- products made in Poland!

Systems:

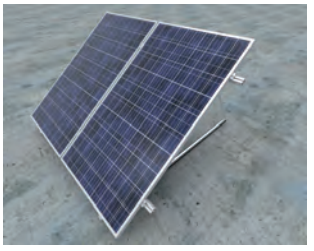


DP-DNHBE

DP-DNHBE-WZ (east-west)

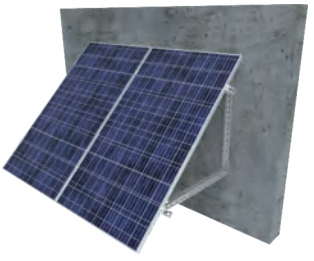


DP-DTVKN-30°

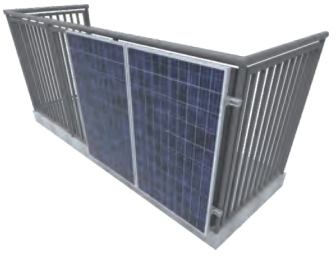


DP-DTAVKN-30°

E-VKRN



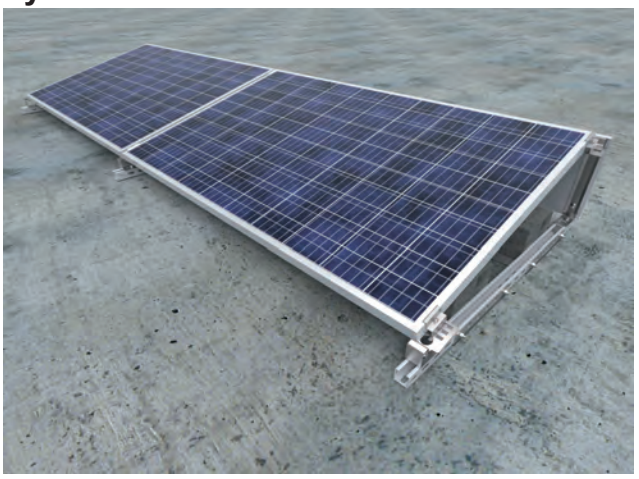
E-VKTN

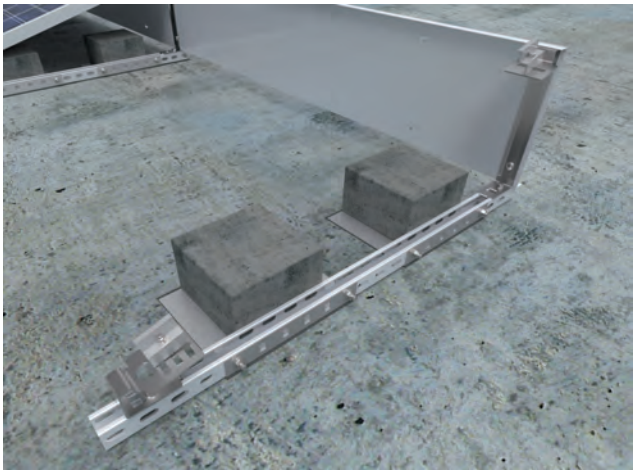


B-VPN

Mounting structure for the installation of photovoltaic panels
on flat roofs

System: **DP-DNHBE**





Structure description
Complete support system for fixing the panels horizontally at angles of 10°, 15° and 20° on a flat roof. The DP-DNHBE system enables the panels to be installed without disturbing the roof plating thanks to the ballasting of the structure with concrete blocks (use blocks made of B20 concrete, and protect them from soaking in rainwater).

Technical description:
Materials of the support system:
MC- constructional steel in Magnelis® coating
A- Aluminium
E- Stainless steel
F- Steel in zinc flake coating
Structure tested for strength.

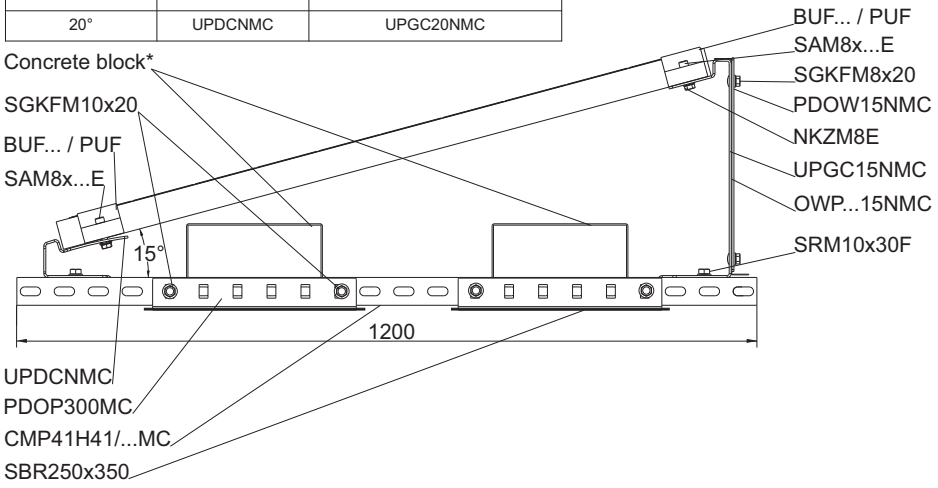
Structure assembly variants:
• anchored to the roof
• ballast (after using sleeper paddings and ballast bases)

Advantages:
- quick installation and low price,
- strength tested structure
- Magnelis®-coated sheet metal structure guarantees very high corrosion resistance
- fixing the panel holders to the main profile with one screw and rhomboid nut
- variable adjustment of the spacing of holders in the main profile
- longitudinal holes for mounting photovoltaic panels with possibility of adjustment when mounting panel holders
- bottom holder for setting three angles: 10°, 15° and 20°
- possibility of mounting panels with a length of ~ 2 m

Warranty
BAKS provides a 10 year warranty period for the components included in the support structure only if all conditions of the manufacturer's warranty are met

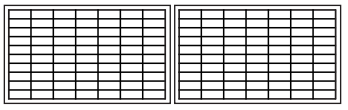
The table below allows you to select a set of holders (bottom + top) in order to obtain a structure with an appropriate angle of inclination of the panels.

inclination angle of the panels	Panel's Bottom Holder	Panel's Top Holder
10°	UPDCNMC	UPGC10NMC
15°	UPDCNMC	UPGC15NMC
20°	UPDCNMC	UPGC20NMC



*To ballast the structure, use 75 kg ballast per panel for panels located at the edge of the roof, for the other panels 50 kg per panel (the given loads apply to installations in 1 and 3 wind zones up to 300 m above sea level).

Arrangement of the modules:
· horizontal - H



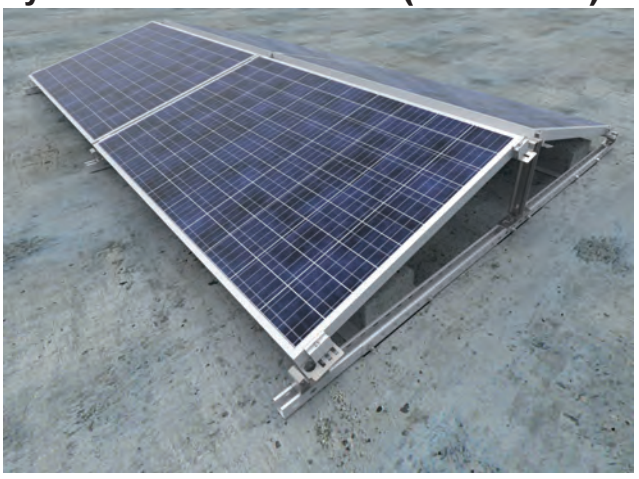
Component list for (DP-DNHBE)

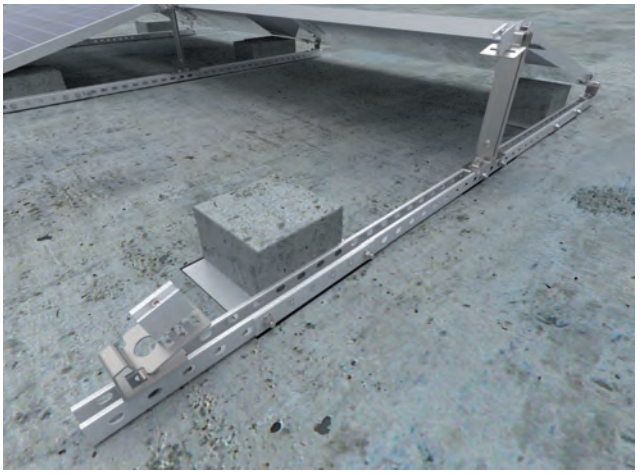
CODE	4 panels (~1700/1000 mm)
	pcs
CMP41H41/1,2MC	5
UPDCNMC	5
UPGC15NMC	5
SRM10x30F	10
PDOP300MC	10
SGKFM10x20	20
SBR250x350	10
SGKFM8x20	10
OWP...15NMC	4
PDOW15NMC	5
BUF...	4
PUF	6
SAM8x...E	10
NKZM8E	10

Detailed information on the products can be found on pages 47-75

Mounting structure for the installation of photovoltaic panels
on flat roofs

System: **DP-DNHBE-WZ (east-west)**





Structure description
Complete support system for fixing the panels horizontally at angles of 10°,15° and 20° on a flat roof. The DP-DNHBE (W-Z) system enables the panels to be installed without disturbing the roof plating thanks to the ballasting of the structure with concrete blocks (use blocks made of B20 concrete, and protect them from soaking in rainwater).

Technical description:
Materials of the support system:
MC- constructional steel in Magnelis® coating
A- Aluminium
E- Stainless steel
F- Steel in zinc flake coating
Structure tested for strength.

Structure assembly variants:
• anchored to the roof
• ballast (after using sleeper paddings and ballast bases)

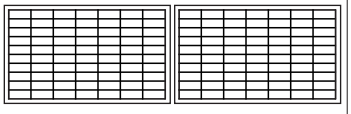
Advantages:
- quick installation and low price,
- strength tested structure
- Magnelis®-coated sheet metal structure guarantees very high corrosion resistance
- fixing the panel holders to the main profile with one screw and rhomboid nut
- variable adjustment of the spacing of holders in the main profile
- longitudinal holes for mounting photovoltaic panels with possibility of adjustment when mounting panel holders
- bottom holder for setting three angles: 10°, 15° and 20°
- possibility of mounting panels with a length of ~ 2 m

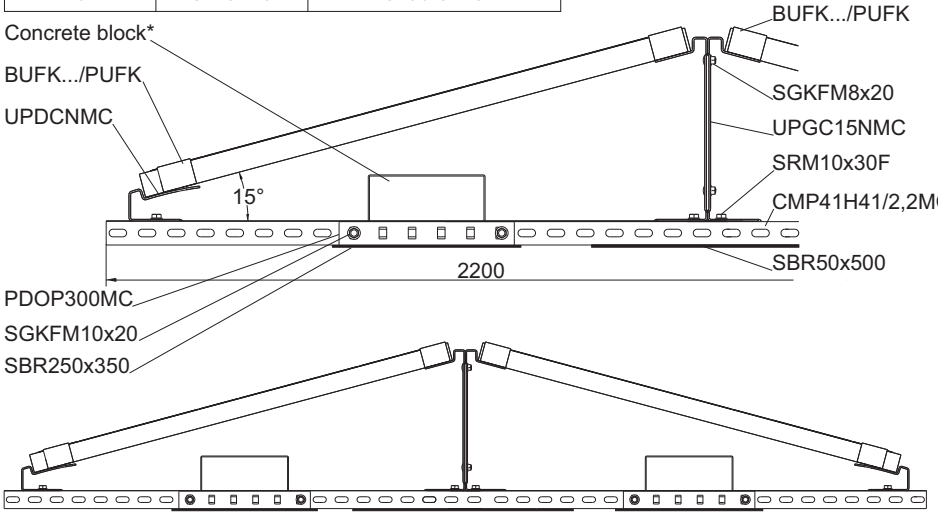
Warranty
BAKS provides a 10 year warranty period for the components included in the support structure only if all conditions of the manufacturer's warranty are met

The table below allows you to select a set of holders (bottom + top) in order to obtain a structure with an appropriate angle of inclination of the panels.

inclination angle of the panels	Panel's Bottom Holder	Panel's Top Holder
10°	UPDCNMC	UPGC10NMC
15°	UPDCNMC	UPGC15NMC
20°	UPDCNMC	UPGC20NMC

Arrangement of the modules:
· horizontal - H





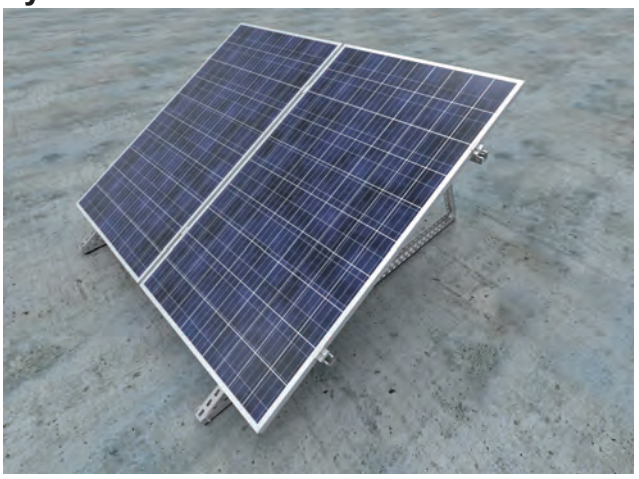
Component list for (DP-DNHBE-WZ)

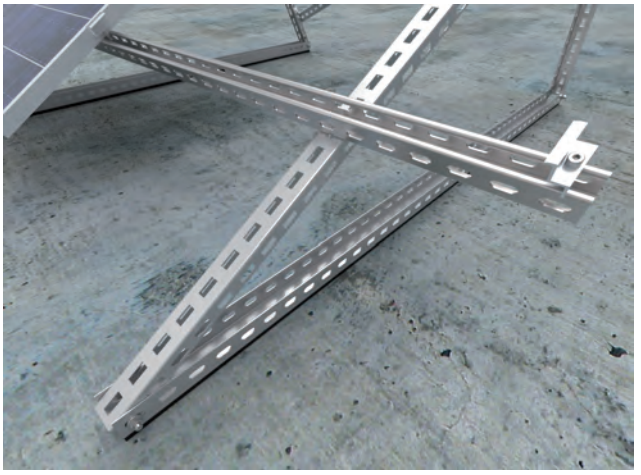
CODE	4 panels (~1700/1000 mm)
	pcs
CMP41H41/2,2MC	3
UPDCNMC	6
UPGC15NMC	6
SRM10x30F	12
PDOP300MC	6
SGKFM10x20	12
SBR250x350	6
SBR50x500	3
SGKFM8x20	6
BUFK...	8
PUFK	4

Detailed information on the products can be found on pages 47-75

Mounting structure for the installation of photovoltaic panels
on flat roofs

System: **DP-DTVKN-30°**





Structure description
Complete support system for fixing the panels vertically at angles of 25°, 30° and 35° on a flat roof.
Anchored structure.

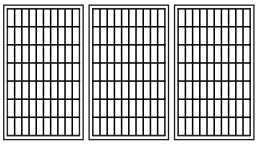
Technical description:
Materials of the support system:
MC- constructional steel in Magnelis® coating
A- Aluminium
E- Stainless steel
F- Steel in zinc flake coating
Structure tested for strength.

Structure assembly variants:
• anchored to the roof
• ballast (after using sleeper paddings and ballast bases)

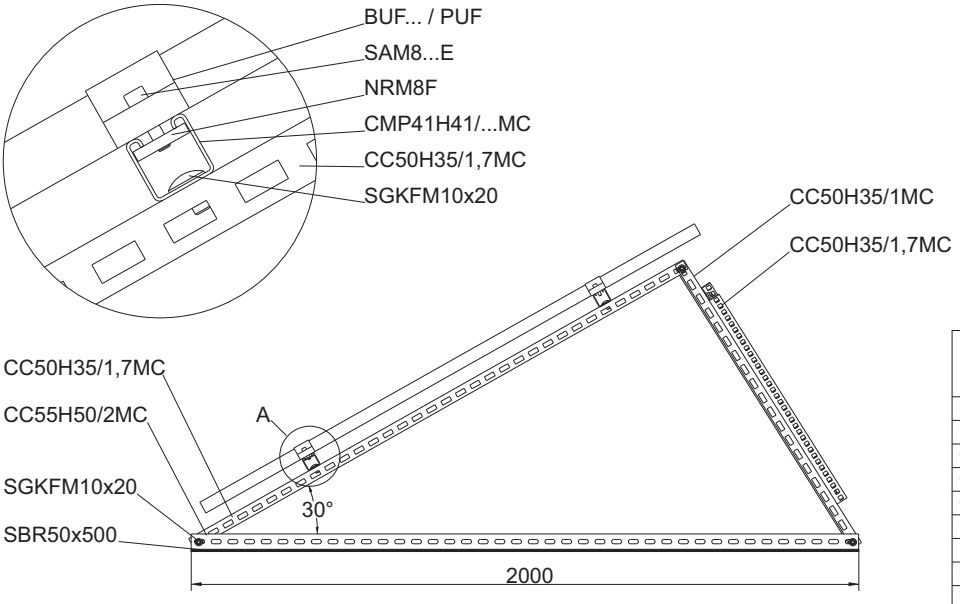
Advantages:
- quick installation
- low price
- strength tested structure
- high stability of the structure
- Magnelis®-coated sheet metal structure guarantees very high corrosion resistance
- possibility of fixing the panels on aluminium and steel profiles in Magnelis® coating
- possibility of setting three angles: 25°, 30° and 35°
- possibility of mounting panels with a length of ~ 2 m

Warranty
BAKS provides a 10 year warranty period for the components included in the support structure only if all conditions of the manufacturer's warranty are met

Arrangement of the modules:
· vertical - V



Detail A



*For ballasting the structure, use a minimum of 195 kg of ballast per panel (depending on the wind zone)

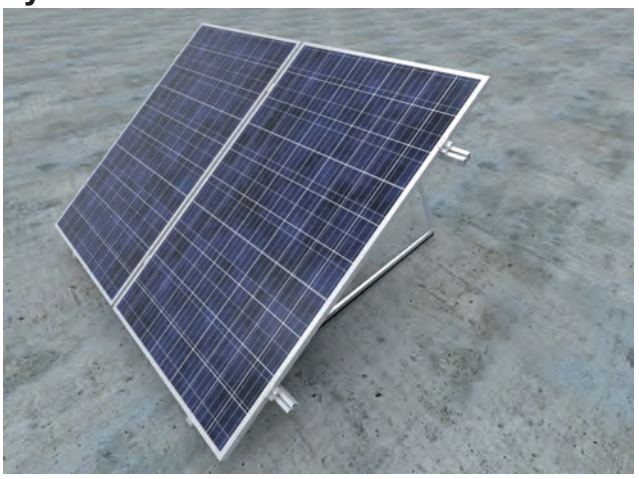
Component list for (DP-DTVKN-30°)

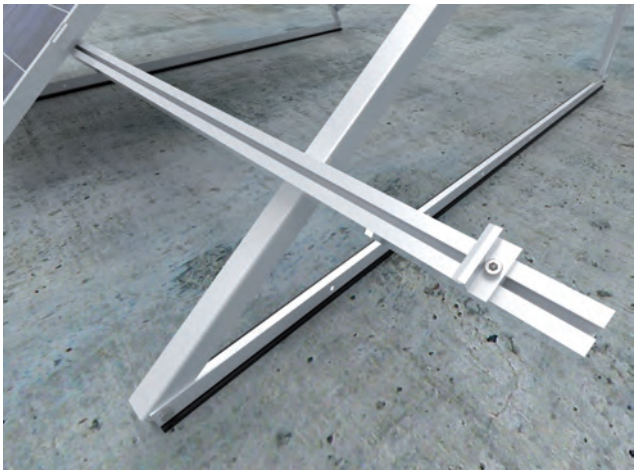
CODE	4 panels (~1700/1000 mm)
	pcs
CMP41H41/2,2MC	4
LC41H41MC	2
CC50H35/1MC	3
CC50H35/1,7MC	4
CC55H50/2MC	3
BUF...	4
PUF	6
SAM8x...E	10
NRM8F	10
SGKFM10x20	34
SBR50x500	12

Detailed information on the products can be found on pages 47-75

Mounting structure for the installation of photovoltaic panels
on flat roofs

System: **DP-DTAVKN-30°**





Structure description
Complete support system for fixing the panels vertically at angles of 25°, 30° and 35° on a flat roof.
Anchored structure.

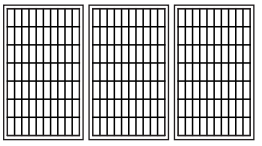
Technical description:
Materials of the support system:
MC- constructional steel in Magnelis® coating
A- Aluminium
E- Stainless steel
F- Steel in zinc flake coating
Structure tested for strength.

Structure assembly variants:
• anchored to the roof
• ballast (after using sleeper paddings and ballast bases)

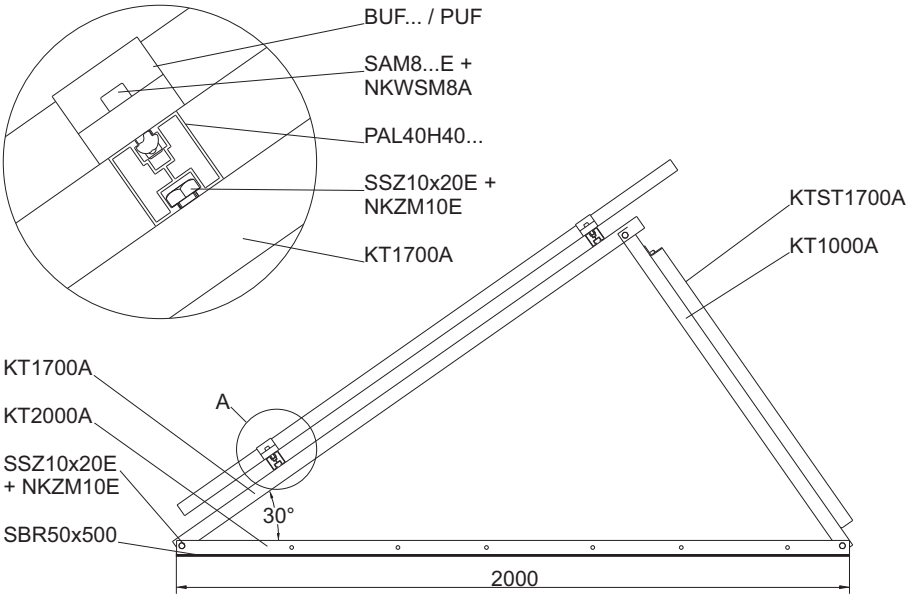
Advantages:
- quick installation
- low price
- strength tested structure
- high stability of the structure
- aluminium structure guarantees very high corrosion resistance and lowers the weight of the support structure
- possibility of setting three angles: 25°, 30° and 35°
- lightweight constructions, dedicated to roofs with low load capacity
- possibility of mounting panels with a length of ~ 2 m.

Warranty
BAKS provides a 10 year warranty period for the components included in the support structure only if all conditions of the manufacturer's warranty are met

Arrangement of the modules:
· vertical - V



Detail A



*For ballasting the structure, use a minimum of 195 kg of ballast per panel (depending on the wind zone)

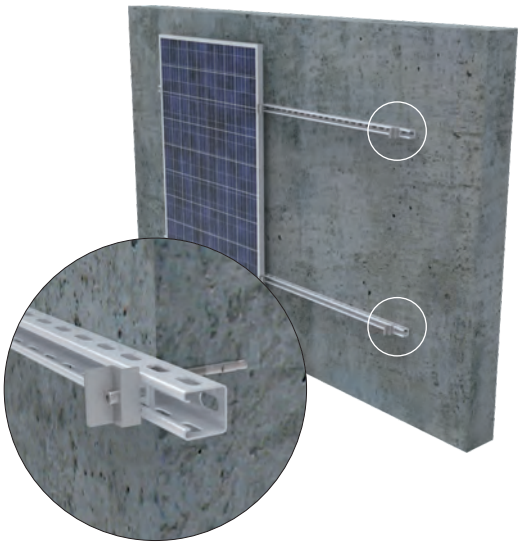
Component list for (DP-DTAVKN-30°)

CODE	4 panels (~1700/1000 mm)
	pcs
PAL40H40/2,1	4
PLPAN40	4
KT1000A	5
KT1700A	5
KT2000A	5
KTST1700A	1
BUF...	4
PUF	6
SAM8x...E	10
NKWSM8A	10
SSZ10x20E	17
NKZM10E	17
SBR50x500	12

Detailed information on the products can be found on pages 47-75

Mounting structure for the installation of photovoltaic panels
on walls

System: E-VKRN



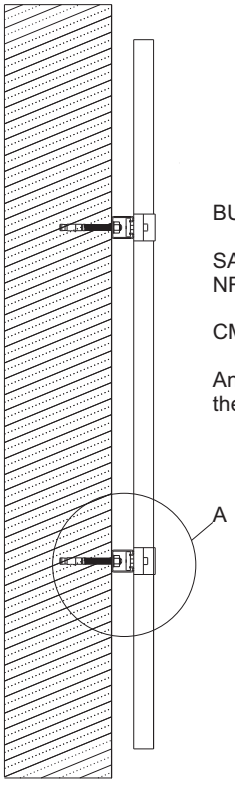
Structure description
Support system for quick installation of PV panels to building elevations.

Technical description:
Materials of the support system:
MC- constructional steel in Magnelis® coating
A- Aluminium
E- Stainless steel
F- Steel in zinc flake coating
Structure tested for strength.

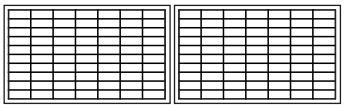
Structure assembly variants:
- Anchored with anchors for concrete
- Anchored with chemical anchors for concrete
- Anchored through with threaded rods (sandwich panel)

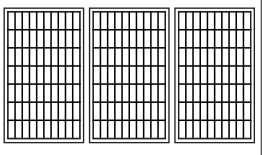
Advantages:
- quick installation
- low price
- high stability of the structure
- strength tested structure
- Magnelis®-coated sheet metal structure guarantees very high corrosion resistance

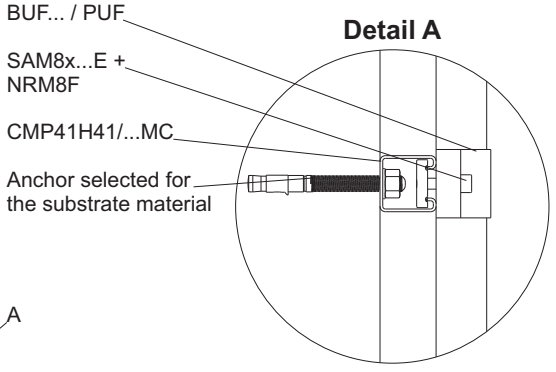
Warranty
BAKS provides a 10 year warranty period for the components included in the support structure only if all conditions of the manufacturer's warranty are met



Arrangement of the modules:
· horizontal - H
· vertical - V







Component list for (E-HKRN) and (E-VKRN)

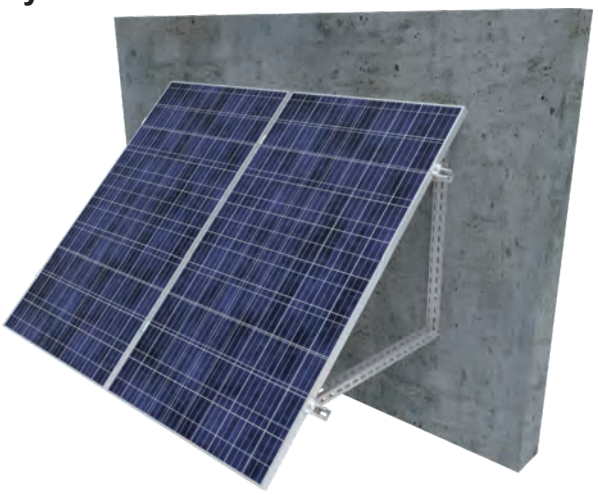
CODE	4 panels (~1700/1000 mm) (E-HKRN)	4 panels (~1700/1000 mm) (E-VKRN)
	pcs	pcs
CMP41H41/3,0MC	2	-
CMP41H41/2,2MC	4	4
BUF...	4	4
PUF	6	6
SAM8x...E	10	10
NRM8F	10	10
*Anchor selected for the substrate material	8 *	8 *

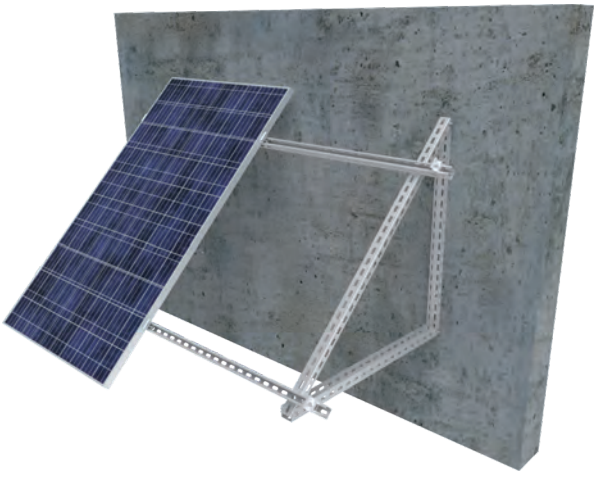
* quantity depends on the substrate material

Detailed information on the products can be found on pages 47-75

Mounting structure for the installation of photovoltaic panels
on walls

System: **E-VKTN**





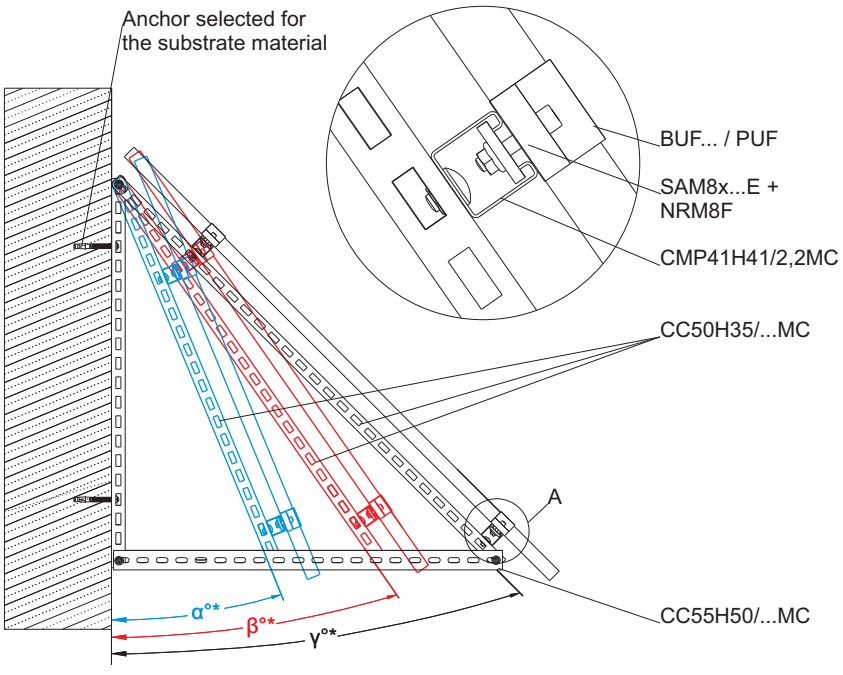
Structure description
Support system for quick installation of PV panels to building elevations.

Technical description:
Materials of the support system:
MC- constructional steel in Magnelis® coating
A- Aluminium
E- Stainless steel
F- Steel in zinc flake coating

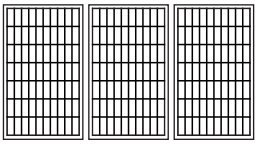
Structure assembly variants:
- Anchored with anchors for concrete
- Anchored with chemical anchors for concrete
- Anchored through with threaded rods (sandwich panel)

Advantages:
- quick installation
- low price
- high stability of the structure
- adjustable inclination angle
- Magnelis®-coated sheet metal structure guarantees very high corrosion resistance

Warranty
BAKS provides a 10 year warranty period for the components included in the support structure only if all conditions of the manufacturer's warranty are met



Arrangement of the modules:
· vertical - V



*Adjustable inclination angle depending on the lighting conditions.
Changing the inclination angle is connected with changing the length of profiles.

Component list for (E-VKTN)

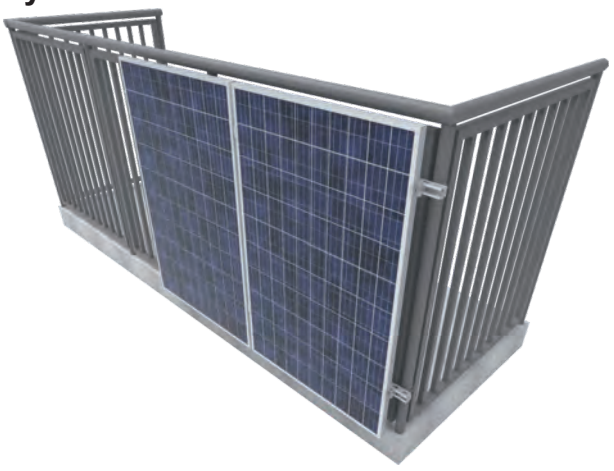
CODE	4 panels (~1700/1000 mm) (E-VKTN)
	pcs
CMP41H41/2,2MC	4
LC41H41MC	2
CC50H35/...MC	3
CC50H35/...MC	3
CC55H50/...MC	3
BUF...	4
PUF	6
SAM8x...E	10
NRM8F	10
SGKFM10x20	32
*Anchor selected for the substrate material	8

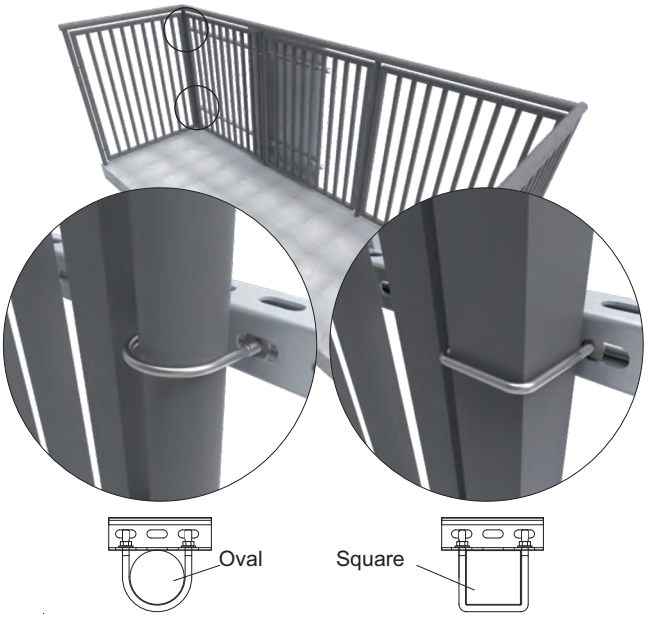
* quantity depends on the substrate material

Detailed information on the products can be found on pages 47-75

Mounting structure for the installation of photovoltaic panels
on balcony railings

System: **B-VPN**





Structure description
Support system for quick installation of PV panels to balcony railings.

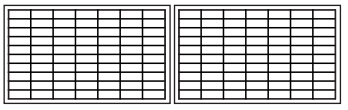
Technical description:
Materials of the support system:
MC- constructional steel in Magnelis® coating or steel, hot-dip galv. to PN-EN ISO 1461:2011
A- Aluminium
E- Stainless steel
F- Steel in zinc flake coating
Structure tested for strength.

Structure assembly variants:
- screwed to balcony railings of round of square section with u-bolts

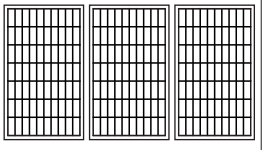
Advantages:
- quick installation
- low price
- high stability of the structure
- strength tested structure
- Magnelis®-coated sheet metal structure guarantees very high corrosion resistance

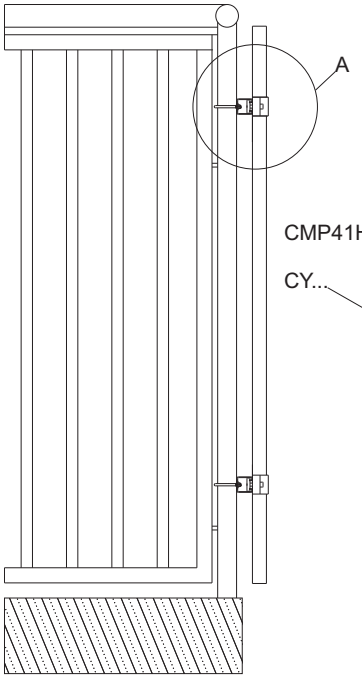
Warranty
BAKS provides a 10 year warranty period for the components included in the support structure only if all conditions of the manufacturer's warranty are met

Arrangement of the modules:
· horizontal - H

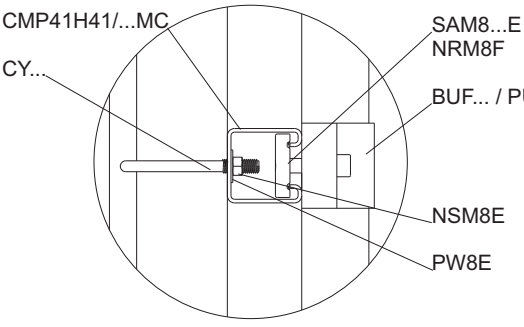


· vertical - V





Detail A



Component list for (B-HPN) and (B-VPN)

CODE	4 panels (~1700/1000 mm) (B-HPN)	4 panels (~1700/1000 mm) (B-VPN)
	pcs	pcs
CMP41H41/3,0MC	2	-
CMP41H41/2,2MC	4	4
LC41H41MC	4	2
SGKFM10x20	16	8
BUF...	4	4
PUF	6	6
SAM8x...E	10	10
NRM8F	10	10
CY...	10	10
PW8E	20	20
NSM8E	20	20

Detailed information on the products can be found on pages 47-75