The BAKS company was established in 1986. We are now a leading manufacturer of support systems for power and telecommunications industry as well as pneumatic and water cables, and other sectors, active in Poland and throughout Europe. Due to the increasing demand in the RES sector, BAKS company also offers a wide range of solutions for the installation of photovoltaic panels, both for free-standing structures and for flat and sloping roofs. Systems mounted directly to the building elevation and balcony railings are available as well. Using the latest technology, an experienced a team of specialists and investments in modern machines and equipment (punching machines, profiling lines, welding robots, specialist laser cutting machines, bending brakes, powder paint shop, hot dip galvanizing plant) allowed us to achieve the highest standards.

Our products quality is confirmed by following certificates and reports:
- Certificate for mounting systems for photovoltaic panels, certificate no.: TM61000362.001 issued by TÜV Rheinland
- The product certificate in accordance with PN-EN 61537:2007 issued by TÜV Rheinland, concerns product safety and the strength of the cable tray systems in the catalogue (the strength values given in the catalogue contain a safety factor of 70%, which means that they are 70% stronger than the strength values given in the catalogue). It also confirms the electrical continuity of the cable tray system. This standard is harmonised with the EU Low Voltage Directive up to 1 kV.
- National Technical Assessment of the ITB Institute for mounting systems for photovoltaic panels (under certification)
- Reports from strength calculations of available PV structures made by authorized construction offices
- VDE certificates confirming electrical continuity of BAKS systems
- TÜV ISO 9001:2015 certificate confirming that the quality of products designed and produced by BAKS comply with ISO 9001:2015
- Certificate confirming the implementation of the environmental management system - ISO 14001:2015
- TÜV certificate for Factory Production Control in compliance with EN 1090 in accordance with system 2+.

We are a recognized and valued partner in our field. Participation in various projects is a proof of that - please find some examples below.

In Poland:
- PV farms throughout Poland within one investment - **33x1 MW**
- PV farms throughout Poland within one investment - **31x1 MW**
- PV farm in Kamienna Góra - **3 MW**
- PV farm in Bierutowo - **2 MW**
- PV farm in Krosno - **1 MW**
- PV farm in Skorowity - **1 MW**
- PV farm in Jarosty (for the IKEA logistics centre) - **0,8MW**
- PV farm in Osiemborów - **0,8 MW**
- PV farm in Kosuty - **0,8 MW**
- PV installations on flat and sloping roofs throughout Poland with a total power of **200 MW**
- PV installations for sloping roofs, including the supply of structures for projects carried out by IKEA
- Investments throughout Poland made through the electric wholesalers cooperating with us.

Abroad:
- PV farm in Novoukrainka (Ukraine) - **5 MW**
- PV farm Marjamma (Estonia) - **3,7 MW**
- PV farm Pussi (Estonia) - **7,62 MW**
- PV farm Vagari Yingli (Estonia) - **5,88 MW**
- PV farm Pussi II (Estonia) - **1,24 MW**
- PV farm Rapla (Estonia) - **5,27 MW**
- PV farm Vagari (Estonia) - **2,78 MW**
- PV farm Rabase (Estonia) - **4,51 MW**
- PV farm Janikese Hundi (Estonia) - **0,56 MW**
- PV farm Joeveere (Estonia) - **1,12 MW**.

In order to meet the needs of our Customers, the production line has been modernized, which makes it possible to realize our Customers' individual projects according to the provided documentation. Caring for the Customers' needs by providing the highest quality products, maintaining low prices, as well as professional logistics have earned BAKS the trust of its Customers.

BAKS elements of PV structure systems are available in electrical wholesalers i.a. all over Poland. We invite you to purchase photovoltaic systems produced by us.

Kazimierz Sielski

I. General Terms and Conditions of the Warranty

1. BAKS („Producer") hereby warrants to the Buyer that the product is free of material and workmanship defects.
2. A defect in the material and workmanship shall be understood as a defect causing the product to operate in a manner which is inconsistent with the Producer's specification.
3. The warranty shall cover in particular: mechanical strength of the goods and corrosion resistance of the zinc coating, the coating of powder-coated components and components made from stainless metal sheets.
4. The warranty covers damage and defects caused by reasons solely attributable to the Producer, such as breaking and bending of the structure, flaking of the protective coating.
5. The Buyer shall be understood as the entity which made a purchase directly from the Producer.
6. The Producer shall remove, free of charge, any defects in the material and workmanship discovered during the warranty period on the terms and conditions stipulated herein, by fixing the product or replacing it with a product which is free of any defect. The Producer has discretion with regard to the choice of the method of repair.
7. The warranty period is 10 years from the date of sale for the corrosiveness class C1, C2 or C3, provided that the user of the PV installation carries out maintenance of photovoltaic components at least once a year. *
8. In justified cases, the period of warranty may be extended by the Buyer's request following the arrangement of the conditions of storage, use and maintenance of the Products with the Producer. Any extension of the warranty period shall be certified in writing, otherwise it shall be null and void.
9. This warranty shall be effective on condition that the product is used for purposes it was designed for, in line with the Producer's specifications, technical and environmental conditions.
10. Neither the Buyer nor any third parties shall have any claims for damages due to any defects arising from a failure of the Product. The only liability of the Producer under this warranty shall be the repair or replacement of the Product for one which is free of any defect, in accordance with the terms and conditions hereof.
11. The Producer shall be liable to the Buyer only for physical defects arising from causes existing in the purchased Product itself.
12. In order for the warranty to be valid and effective, the following conditions must be satisfied:

Transport
Products shall be transported in dry, covered means of transport in such a way that the Products are protected against moving, mechanical damage and exposure to elements. Units of load shall be placed in the means of transport one next to another tightly and fixed to prevent them from moving. The cargo should be fixed with transport belts to prevent damage to the components.

Storage of zinc-coated and painted products as well as products made of stainless steel
Products should be stored in dry, clean, ventilated storage rooms free from any chemically reactive vapours and gases. Products must be secured from getting wet or damp. If zinc-coated elements get wet or damp, remove them from wet packaging as soon as possible, disassemble them and allow them to dry, then re-assemble them and store in a dry and airy room that ensures protection from precipitation. Products must be stored on pallets, in containers or on specially designed bases (they should not be put directly on concrete, floor ot ground).
Storage in inappropriate (humid) conditions may lead to condensation appearing between the surface of zinc coated or painted elements, or ones made from stainless steel. If zinc-coated elements are exposed to humidity, so called white corrosion (white-greyish stains) may appear, which does not affect the quality of the zinc coat and does not provide grounds for claiming the warranty. Products made from stainless steel or painted products may be protected with film, which must be removed without delay upon delivery. Leaving the protective film on products that are painted or made from stainless steel during storage in high temperature and high exposure to sunlight, may lead to chemical reactions causing the film to be embedded in the packaged elements. As a result of such reaction, it will be impossible to remove the film without damaging the surface of the products. For the duration of storage and assembly of the elements, they must be protected against contact with lime, cement and other alkaline construction materials. The products shall be protected from splashes from grinding and welding, repair or construction works as they may leave slight discolourations which may be difficult to remove. The transport, storage and assembly of the products must be performed in an environment consistent with the appropriate corrosiveness class based on the PN EN ISO 12944:2001 standard (info p. 4).

Storage of products made of aluminium
When storing aluminium products packed in cardboard boxes, open the faces, and in the case of foil packaging - cut the foil and store it on its own (profiles only protected from possible damage). The place where aluminium products are stored should be dry, of constant temperature and humidity, without the possibility of dusting the aluminium surface. The room should be well ventilated. The products shall also be protected against splashes from grinding and welding, repair or construction works, as they, in contact with other substances, may leave small discolourations that are dificult to remove. Contact of aluminium products with any chemical substances, such as cleaning agents, greases, oils, which may react chemically with aluminium, should be avoided. Corrosive changes may occur when aluminium products come into contact with moisture or acidic or alkaline substances. In these products crevice corrosion can occur, if during storage and transport the surfaces in contact with each other are exposed to rain or condensation of moisture. This can lead to discolouration of the surface and to flaws that are dificult to remove. This does not affect strength. Do not store aluminium products outdoors. Discoloration may occur when exposed to oxygen or moisture. Aluminium products that have been exposed to moisture should be unpacked and dried immediately. Aluminium products should be stored in a dry room where there is no temperature fluctuation that could cause condensation. Touching these products without gloves can lead to corrosion caused by perspiration (acid reaction), so always use protective gloves when working with aluminium products. The gloves must be clean and dry and free of oil, grease or any other agents that may cause a chemical reaction with aluminium.

In case of not conforming to the regulations, claims shall not be accepted!
The products must be stocked indoors, under roof and in a dry environment.
Do not allow humidity nor wetting the products!

Protection and maintenance of zinc-coated elements
The most frequent cause of defects in zinc coatings is incompetent handling of the product during storage and assembly.
- products in delivery condition (i.e. in original BAKS packaging) should be stored in dry and airy rooms
- during storage, protect against rapid changes in air humidity and temperature that may cause water vapour condensation - if it is necessary to place the products in an open space for a short period of time, it is necessary to ensure the removal of moisture. Use a shield that ensures airiness.
- if zinc-coated elements get wet, they may be subject to the phenomenon called white corrosion, which does not reduce the protective layer and does not deteriorate the anticorrosive properties of the coating, but it significantly deteriorates the aesthetics of the elements. However, over time, if the elements have not been dried out, the zinc coating is completely reduced until corrosion occurs. If the zinc-coated elements get wet and white corrosion occurs, please choose one of the two solutions below:

Solution 1
- unpack products from the film immediately,
- arrange in such a way that the individual elements do not have a direct contact with each other or as small as possible (by spacinfg the layers with narrow profiles made of zinc-coated steel or of plastic, aluminium),
- if there are solid contaminants (soil, soaked cardboard packaging, etc.), wash with water under pressure,
- dry to prevent moisture from sticking to them,
- store in a dry room.

* The warranty period does not apply to plastic and rubber elements. For such elements the three-year warranty period is valid.

Solution 2
- unpack products from the film immediately,
- arrange in such a way that the individual elements do not have a direct contact with each other or as small as possible (by spacing the layers with narrow profiles made of zinc-coated steel or of plastic, aluminium),
- if there are solid contaminants (soil, soaked cardboard packaging, etc.), wash with water under pressure,
- leave it on the air without covering anything.
- cutting and drilling edges that have arisen during assembly must be carefully cleaned of burrs, grease and any dirt (dust, oil, grease, corrosion traces) must be removed. Repairs must be carried out by painting with a zinc primer, zinc paste or a technically equivalent material. The thickness of the paint coating should be at least 30 µm higher than the required local zinc coating thickness.

Protection and maintenance of painted elements

The most frequent cause of defects in paint coatings include: mechanical defects (scratches, chips) and cleaning with chemical agents. Therefore the following rules must be observed:
- pay particular attention during as assembly to avoid scratching and chipping
- use protective tapes (e.g. painter's tapes) when cutting the element to size
- clean the product at least twice a year
- clean with delicate, non-abrasive fabrics and clean water with pre-tested detergent
- do not clean the coating with steam jets
- if you intend to clean the product with other cleaning agents than water, test the effects of the agent before cleaning the surface. If you notice any undesirable effects, do not use the tested cleaning agent.
- do not use any highly-acidic or highly alkaline cleaning agents (including ones containing detergents)
- do not use salt or chemical substances meant for removing ice in the vicinity of painted surfaces.

Protection and maintenance of elements made from stainless steel

The method of processing and the proper selection of the grade of the product for the climate conditions are extremely important factors affecting the quality of the surface during application period. Corrosion resistance of stainless steel can be maintained by regular cleaning of the surface and it can be further improved by chemical processing of the surface – passivation.

The most frequent causes of appearing of "corrosion" are:
- surface contamination with particles of iron, black steel (chips resulting from cutting with a grinder, welding) – scratches made in the place of scratching with sharp element made of soft steel
- improper storage and transport
- incorrect selection of the grade of steel for the weather conditions in which it is applied.

Course of action and maintenance if traces of corrosion are noticed:
- mechanical cleaning: clean the spots of corrosion on the surface with abrasive cloth then polish them with a dry and clean cloth.
- chemical cleaning: apply a thin and even coat of an appropriate cleaning agent on the cleaned surfaces, e.g. with a brush. After about 5 minutes (depending on the cleaning agent used) remove the agent with a damp cloth. The cloth must be regularly rinsed in clean water or replaced with a clean one. Make sure not to splatter any other components located near the cleaned structure. Next, dry the damp surface with e.g. paper towel.
- passivation: preserve the cleaned, dry surfaces with passivation agent applying it by means of sponge or spray, creating a thin and even protective coating.

The above operations should be carried out manually without the use of power tools. If there are other elements under the cleaned products and there is a risk of splashing when wiping with a damp cloth, cover them with a thick cover foil. Do NOT use the following for cleaning stainless steel: products for removing mortar or substances that contain chlorine, hydrochloric acid, bleach, silver cleaners. For mechanical removal of corrosion marks use a stainless steel brush. **Do not use** carbon steel wire **brushes**, steel cleaning wool, steel scouring pads. When using caustic chemicals, using protective gloves and goggles shall be mandatory.

Warranty Forfeiture

1. The warranty does not cover:
- mechanical damages and defects resulting from them, in particular damage to protective coatings
- any defect resulting from product installation and use in conditions or in a manner inconsistent with the Producer's specification (incorrect installation, excess of permitted load, damage caused by weather conditions, etc.)
- any damage to the product caused as a result of improper storage (decolouring, stains, white corrosion)
- any damage in the product caused by the use of salt and chemicals to remove icing in the vicinity of zinc-coated or painted elements, or ones made from stainless steel
- any damage arising as a result of changes in the construction or the use of the products for purposes they were not designed for
- any damage arising due to the user's fault or ignorance
- any damage occurring during transportation involving third-party means of transport
- failure to observe the duty to perform periodic maintenance, if required
- any damage caused by force majeure (fire, flooding, damage caused by terrorist acts or war, etc.)
- any delay in payment for the Product in excess of 90 days of the invoice payment date.

2. The warranty does not cover normal maintenance, such as cleaning and preservation. The entity responsible for the operation of the structure should carry out maintenance inspections at intervals not exceeding 12 months, consisting in the removal of dirt (chemical residues, grease and oil residues and any other dirt which could damage the anti-corrosion layer) and the replenishment of coating defects. After performing the maintenance, the entity responsible for product operation is obliged to send the Manufacturer a report with complete photographic documentation showing the condition of the installation before and after the completion of works within 30 days from the date of inspection. Places not included in the report, where corrosion appears, cannot be the subject of claims under the guarantee.
3. The guarantee is voided if the products are installed into fresh concrete surfaces before the setting period is completed, 100% strength is achieved and the chemical effluent emissions specified by the manufacturer are ceased.

Exercising of Warranty

1. Defects discovered during the warranty period will be fixed free of charge by BAKS as soon as possible, after the relevant warranty claim is filed.
2. Defects or damage to the product uncovered during the warranty period should be reported to the Producer without delay, in any case not later than 7 days after their discovery.
3. The warranty procedure covers only complete, verifiable products, free of any mechanical defect or damage caused by external factors.
4. The following conditions must be satisfied in order for a claim under the warranty to be handled:

a. the filing of a claim, in writing, by fax or email, specifying:
- the product's name, catalogue number, purchase date, the number of the packing list document or the purchase invoice,
- details of the damage to the products and the surroundings in which it occurred, with further information about the occurrence of defects in the product, including pictures of the defective products and the surroundings in which they are mounted and stored.

5. Having acknowledged the claim, the Producer shall decide how the claim is to be satisfied.
6. The Producer reserves a right to conduct an on-site inspection in the place where the faulty product was mounted.
7. The Producer reserves a right to put the warranty procedure on hold if the Buyer is in arrears with the payment for invoices for longer than 14 days.

II. Information about the materials and protective coatings of materials of which BAKS products are made

Table of corrosivity classes according to PN-EN ISO 12944-2:2018-02

Corrosivity classes	C1 very low	C2 low	C3 medium	C4 high	C5 very high (industry grade)	CX extreme (marine)
Reduction in protective coating [µm/year]	**< 0,1**	**> 0,1 do 0,7**	**> 0,7 do 2,1**	**> 2,1 do 4,2**	**> 4,2 do 8,4**	**> 8,4 do 25**
Examples of typical environments for moderate climate (for reference only)	**Indoors:** heated buildings with clean atmosphere, e.g. shops, offices, schools, hotels. **Outdoors: –**	**Indoors:** non-heated buildings in which condensation may occur, e.g. sports halls, warehouses. **Outdoors:** atmospheres with a low degree of pollution - mainly rural areas	**Indoors:** manufacturing premises with a high level of humidity and some air pollution, e.g. food processing plants, laundries, breweries, dairies. **Outdoors:** urban and industrial atmospheres, moderate sulfur dioxide pollution; coastal areas with low salinity	**Indoors** chemical plants, swimming pools, ship repair yard. **Outdoors:** industrial zones and littoral areas of medium salinity	**Indoors:** buildings or areas with almost constant condensation and high pollution Outdoors: industrial areas with high . **Outdoors:** industrial areas with high humidity and an aggressive atmosphere as well as littoral areas with high salinity	**Indoors:** industrial areas with extreme humidity and aggressive atmosphere **Outdoors:** coastal areas with high salinity and industrial areas with extreme humidity and aggressive atmosphere and subtropical and tropical atmosphere

Material table

<table>
<tr><th>Material</th><th>Type of coating</th><th>Coating properties</th></tr>
<tr><td rowspan="3">Steel</td><td>MAGNELIS
PN-EN
10346:2015-09

MC</td><td>The innovative MAGNELIS coating is a composition of pure zinc with magnesium and aluminium. Such composition provides excellent corrosion resistance even in harsh environmental conditions (up to 10 times higher than steel galvanized acc. to Sendzimir method). Such coating is less suspectible to white corrosion in comparison to pure zinc.
The Magnelis coating naturally has dark grey colour and smooth unspangled aspect.
Magnelis has the ability to regenerate itself at the cutting edges - in addition to the standard cathodic protection comparable to that of a zinc coating, Magnelis protects the exposed cutting edges from corrosion with a thin zinc coating with magnesium.
Depending on the environment in which Magnelis is used, its use allows a significant, 2-4-fold reduction in coating weight compared to hot-dip galvanizing, additionally providing better anticorrosive properties and cost effectiveness.</td></tr>
<tr><td>Hot-dip galvanized
PN-EN ISO
1461:2011

F</td><td>Completely processed parts (after cutting, bending, welding, etc.) are dipped in molten zinc at a temperature of approx. 450-460 °C. The process protects steel from corrosion. The process involves a complicated technology based on diffusion. The process involves zinc atoms penetrating into the outer steel surface to create a new iron-zinc alloy on the surface. Once the element is out of zinc bath, a coating of pure zinc is obtained on its surface. Depending on conditions during zinc coating (dipping time, cooling, quality of basic material surface, chemical composition of the basic material, etc.), the surface of the zinc coating can range from glossy light grey to matt dark grey; however, this does not affect quality of the protective coating. There may be the effect of humidity resulting in white stains on the surface. This is zinc hydroxide, also known as white corrosion, which does not affect the quality of the protective film, but it has an effect on aesthetic quality of the product. All types of cable trays and cable ladders as well as load bearing elements, which are zinc-coated by hot-dipping, are recommended for outdoor use, where vapours of chemically aggressive substances are present.
Products undergoing hot-dip galvanizing process are mostly used in environments of category C3 and C4, where high humidity is present (basements, garage rooms, boiler rooms, etc.), and corrosion categories C5 and CX, where vapours of chemically aggressive substances occur, e.g. sea water, fumes from coal burning, etc. (shipyards, chemical / oil / gas processing
<table>
<tr><td>Type of environment</td><td>Very low corrosion risk</td><td>Low corrosion risk</td><td>Medium corrosion risk</td><td>High corrosion risk</td><td>Very high corrosion risk</td></tr>
<tr><td>Corrosivity classes</td><td>C1</td><td>C2</td><td>C3</td><td>C4</td><td>C5, CX</td></tr>
<tr><td>Possible warranty extension</td><td>up to 5 years</td><td>up to 5 years</td><td>up to 5 years</td><td>up to 5 years</td><td>up to 2 years</td></tr>
</table>
<table>
<tr><td colspan="3">Table presenting the relationship between zinc coating</td></tr>
<tr><td>Elements and their thickness</td><td>Local thickness of coating minimum value, µM.)</td><td>Average thickness of coating (minimum value, µm)</td></tr>
<tr><td>Steel > 6 mm</td><td>70</td><td>85</td></tr>
<tr><td>Steel > 3 mm to < 6</td><td>55</td><td>70</td></tr>
<tr><td>Steel > 1,5 mm to < 3</td><td>45</td><td>55</td></tr>
<tr><td>Steel < 1,5 mm</td><td>35</td><td>45</td></tr>
</table></td></tr>
<tr><td>Zinc flake coating
PN-EN ISO
10683:2014-09
F</td><td>The base coating is applied in the form of zinc and aluminium flakes. The flakes react with the steel surface to form a well-adhering, conductive and non-toxic zinc-aluminium coating after heat holding. This method is characterised by very high corrosion resistance – up to 1,000 hours in a salt chamber acc. to ISO 9227, till occurrence of red corrosion. The method is accepted worldwide by leading manufacturers in the automotive industry, power sector and aviation; it is commonly applied for threaded items due to problem-free screwing elements together.</td></tr>
<tr><td>Stopy aluminium</td><td>PN-EN
573-3:2014-02
A</td><td>Aluminium in EN AW-6063 and EN AW-6005A grades is characterized by high strength and good corrosion resistance. It is suitable for anodising, which increases the corrosion resistance even more.</td></tr>
<tr><td>Stainless steel</td><td>E</td><td>For corrosion protection, acid resistant steels prove to be very good materials, e.g. 1.4301 (US Code 304). In a very aggressive environment, acid resistant steels are used as they contain more chemical elements such as nickel, chromium and molybdenum – 1.4401 (US Code 316). Systems made of acid resistant steels very often outclass alternative structures made of plastics. Elements of acid resistant steel are mostly used in highly chemically aggressive environments (refineries, treatment plants, plastic processing plants). Poorly envisaged savings can in time lead to interrupted operation of the PV installation due to the need to replace the load-bearing structure of the installation.

Application of individual grades:
1.4301 (304) – main applications include the food industry, gas tanks, equipment in nuclear power plants, structures operated at low temperatures.
1.4016 (430) - mainly used like the grade described above (steel not suitable for welding)
1.4401 (316) – main applications include sewage treatment plants, sea environments, refining industry.yjny.</td></tr>
<tr><td>Steel
+
Stainless steel
+
Aluminium</td><td>Powder coating

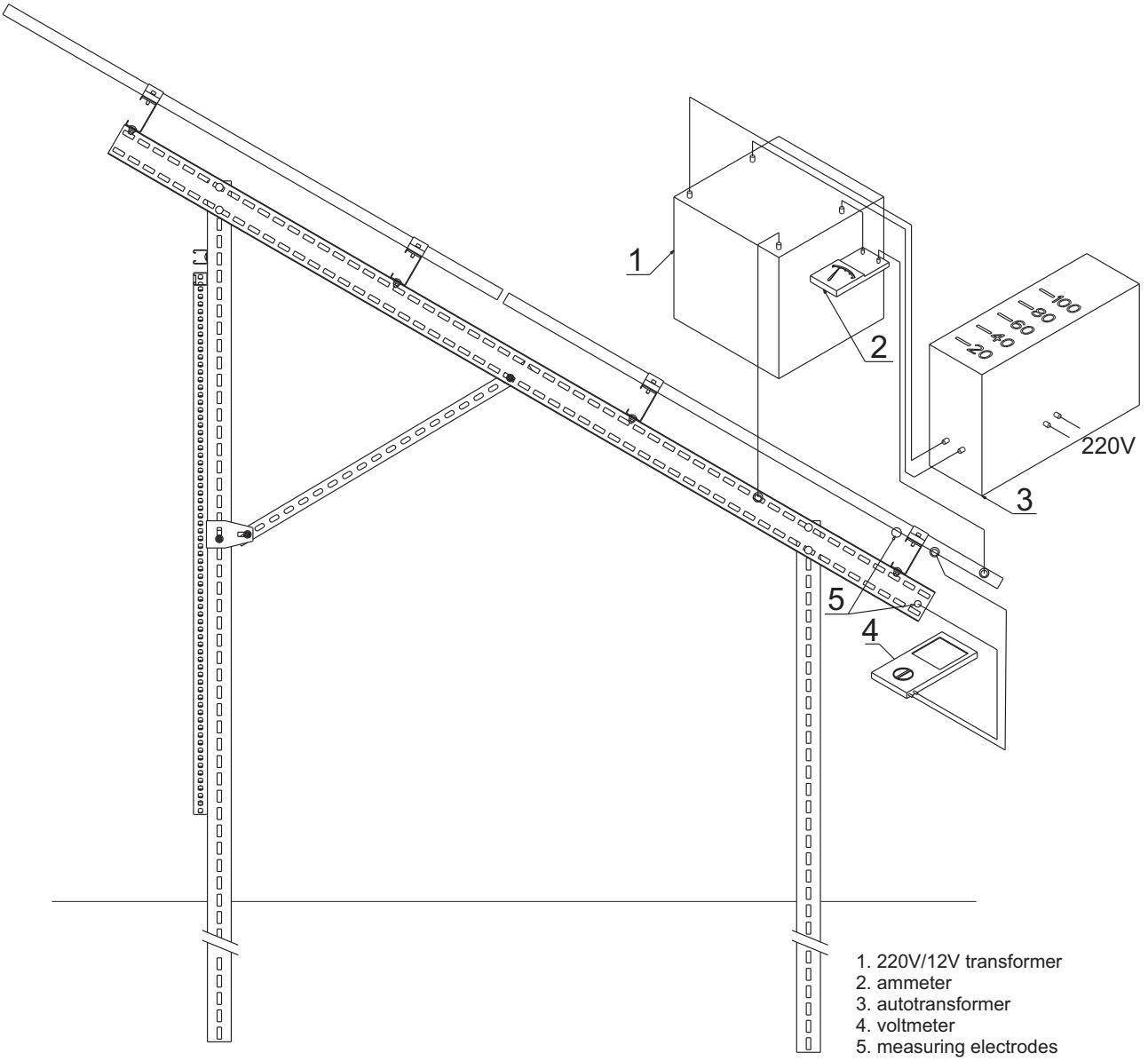
L</td><td>Polyester and epoxy powder coating (for internal coating). Coating thickness ranges from 80 µm to 120 µm; no primer or solvent is used. Powder coating on elements made of steel sheets, which are galvanized acc. to the Sendzimir method, provide smooth surfaces, which are free of cracks, runs and creases. Powder coating on elements made of hot-dip galvanized steel sheets does not provide perfectly smooth surfaces because hot-dip galvanized elements feature increased surface roughness, compared with the elements galvanized acc. to the Sendzimir method. Prior to painting, hot-dip galvanized elements undergo shotblasting to increase possibly adhesion of the paint to walls of the zinc-coated elements and remove zinc oxide, whose presence on the element prior to painting could result in coating spalling. Powder coating is characterised by high corrosion and chemical resistance, very good mechanical properties as well as water resistance. This solution is applied when improvement of corrosion resistance (by powder coating on galvanized sheets) is required. Coating durability depends on compliance with rules relating to transport, storage, installation method, chemical environment, where the structure is to be installed, and maintenance. The standard offer includes 14 colours (please see the pallet below). It is possible to order non-standard colour painting; however, this results in a higher price and longer time for completion of the purchase order. The paint is applied directly on the metal.</td></tr>
</table>

RAL1015 light ivory | RAL1023 traffic yellow | RAL2004 pure orange | RAL5012 light blue | RAL5015 sky blue | RAL7016 anthracite grey | RAL7024 graphite grey | RAL7032 pebble grey | RAL7035 light grey | RAL9002 grey white | RAL9003 signal white | RAL9005 jet black | RAL9006 white aluminium | RAL9010 pure white

Electrical continuity

BAKS PV structures meet the requirements of electrical continuity, which through proper installation and earthing ensure safety in the operation of the PV system including cabling.

Measuring systems for testing electrical circuit continuity



1. 220V/12V transformer
2. ammeter
3. autotransformer
4. voltmeter
5. measuring electrodes

CERTIFICATE

no: TM 61000362.001

Licence holder
BAKS Kazimierz Sielski
ul. Jagodne 5
05-480 Karczew, PL

Manufacturing plant
BAKS Kazimierz Sielski
ul. Jagodne 5
05-480 Karczew, PL

Project number	***Our reference***	***Certificate validity period***
26100380	SD/84932163	from 16.02.2018 to 15.02.2023

Basis of research

PC-TUV-I21 Procedure for the certification of structures for the fitting of photovoltaic panel systems

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. declares that the product described below meets the requirements contained in the reference documents:

Mounting systems for photovoltaic panels

According to the BAKS construction catalogue for the installation of photovoltaic panels 2017/2018 ed. 10.2017

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

TÜV Rheinland Polska Sp. z o.o. TÜVRheinland Product Safety

Certification body

Tomasz Opaszowski

Warsaw, 23.03.2018

CERTIFICATE

conformity of the Factory Production Control

2627-CPR-1090-1.PL0071.TÜVRh.20.01

In compliance with Regulation 305/2011/EU of the European Parliament and of the Council of 9 March 2011 (the Construction Products Regulations - CPR)

This certificate applies to the following construction product:

Construction product	Structural components and kits for steel structures to EXC2 according to EN 1090-2:2018
Intended use	for load-bearing structures in all types of buildings
CE-marking method	ZA.3.2, ZA.3.4 according to EN 1090-1:2009+A1:2011
Manufacturer	**BAKS - Kazimierz Sielski** ul. Jagodne 5 05-480 Karczew Poland
Manufacturing plant Production facility of the manufacturer	ul. Jagodne 5, 05-480 Karczew
Confirmation	This certificate attests that all provisions concerning the assessment and verification of constancy of performance described in Annex ZA of the harmonised standard EN 1090-1:2009+A1:2011 under system 2+ are applied, and that the factory production control fulfills all the prescribed requirements stated therein.
Date of first issue	05.08.2020
Next Surveillance inspection	10.08.2021
Period of validity	This certificate will remain valid as long as the test methods and/or the factory production control requirements included in the harmonised standard used to assess the performance of the declared characteristics do not change, and the product and the manufacturing conditions in the plant are not modified significantly.
Place and date of issue	Zabrze, 10.08.2020

TÜVRheinland 2627 Notified Body

Leszek Zadroga
Notified Body

www.tuv.com

PCA
AC 141

TÜVRheinland®
Precisely Right.

ZERTIFIKAT
CERTIFICATE

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

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
Category CC4

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

Tel. (+49) (069) 8306-237 · Fax (+49) (069) 8306-745 · e-mail: Reiner.Lehrer@vde.com

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).

Deutscher Akkreditierungs Rat
DAR
DAT-P-024/92-03

ZERTIFIKAT
CERTIFICATE

Auftraggeber / Hersteller *Client / Manufacturer*	**BAKS – Kazimierz Sielski** **ul. Jagodne 5** **PL-05-480 Karczew**
Erzeugnis *Product*	**Kabelträgersystem für elektrische Installation** ***Cable tray systems and cable ladder systems***
Prüfbericht Nr. / *Test Report Ref. No.*	**5018795-5430-0001/228892**
Typenbezeichnung *Type designation*	**Siehe Prüfbericht / see Test Report**
Technische Merkmale *Technical characteristics*	**Siehe Prüfbericht / see Test Report**
Angewandte Normen *Applied standards*	**DIN EN 61537 (VDE 0639):2007-9;** **EN 61537:2007**
Geprüfte Abschnitte *Tested clauses*	**Abschnitt 11.1: Elektrische Leiteigenschaften** ***Sub clause 11.1: Electrical continuity***

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
Category CC4

A. Herzog

D-63069 Offenbach am Main, **23. August 2016**
Merianstraße 28

Tel. (+49) (069) 8306-237 · Fax (+49) (069) 8306-745 · e-mail: Reiner.Lehrer@vde.com

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).

Deutscher Akkreditierungs Rat
DAR
DAT-P-024/92-03

Certyfikat ISO 9001:2015

Certificate

Standard **ISO 9001:2015**

Certificate Registr. No. **01 100 1331984**

Certificate Holder:

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

Scope: design and production of METAL support systems for cables, wires, ventilation channels, powder coating, HOT-DIP galvanizing

Proof has been furnished by means of an audit that the requirements of ISO 9001:2015 are met.

Validity: The certificate is valid from 2020-04-19 until 2023-04-18.
First certification 2001

2020-03-11

Grzegorz Grabka

TÜV Rheinland Cert GmbH
Am Grauen Stein · 51105 Köln

www.tuv.com
www.tuv.com

DAkkS Deutsche Akkreditierungsstelle D-ZM-16031-01-00

TÜVRheinland®
Precisely Right.

The BAKS company is aware of its impact on the natural environment and therefore in all its activities is guided by care for natural resources and responsibility for the state of the environment. We operate in accordance with the requirements of ISO 14001:2015, as confirmed by the certificate below.

Certificate

Standard **ISO 14001:2015**

Certificate Registr. No. **01 104 1541861**

Certificate Holder:

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

Scope: design and production of METAL support systems for cables, wires, ventilation channels, powder coating, HOT-DIP galvanizing

Proof has been furnished by means of an audit that the requirements of ISO 14001:2015 are met.

Validity: The certificate is valid from 2020-02-27 until 2023-02-26.
First certification 2017

2020-03-11

Grzegorz Grabka

TÜV Rheinland Cert GmbH
Am Grauen Stein · 51105 Köln

www.tuv.com
www.tuv.com

DAkkS Deutsche Akkreditierungsstelle D-ZM-16031-01-00

TÜVRheinland®
Precisely Right.

KRAJOWA DEKLARACJA WŁAŚCIWOŚCI UŻYTKOWYCH
NR 4/2020

CE

1. Nazwa wyrobu:
   Systemy montażowe do paneli fotowoltaicznych w tym konstrukcje wolnostojące, konstrukcje na dachy płaskie, konstrukcje na dachy skośne, konstrukcje elewacyjne oraz balustradowe, których specyfikacja znajduje się w katalogu firmy BAKS.
   Dachy płaskie: DP-DNH..., DP-DTAV..., DP-DTV...
   Dachy skośne: DS-H1.., DS-H2..., DS-H3..., DS-H4..., DS-H5..., DS-H6..., DS-V1.., DS-V2..., DS-V3..., DS-V4..., DS-V5..., DS-V6...
   Konstrukcje wolnostojące: W-H4...2, W-H5...2, W-H6...2, W-V2...2, W-V3...2, W-H3...1, W-V2...1

2. Zakres stosowania:
   Konstrukcje stosowane są jako konstrukcje nośne dla modułów fotowoltaicznych montownych na dachach skośnych, dachach płaskich oraz na gruncie.
3. Producent:
   „BAKS" Kazimierz Sielski ul. Jagodne 5, 05-480 Karczew
4. Upoważniony przedstawiciel: Nie dotyczy.
5. System oceny i weryfikacji stałości właściwości użytkowych: SYSTEM 2+
   Certyfikat TÜV ZKP/FPC 2627-CPR_1090-1.PL0071.TÜVRh.20.01
   Certyfikat TÜV ZKP/FPC 2627-CPR_1090-1.PL0072.TÜVRh.20.01
   Certyfikat TÜV SZJ ISO 9001:2015 nr 011001331984
   Certyfikat TÜV wyrobu nr TM 61000362.001
6. Norma zharmonizowana: PN-EN 1090-1:2012
7. Deklarowane właściwości użytkowe:

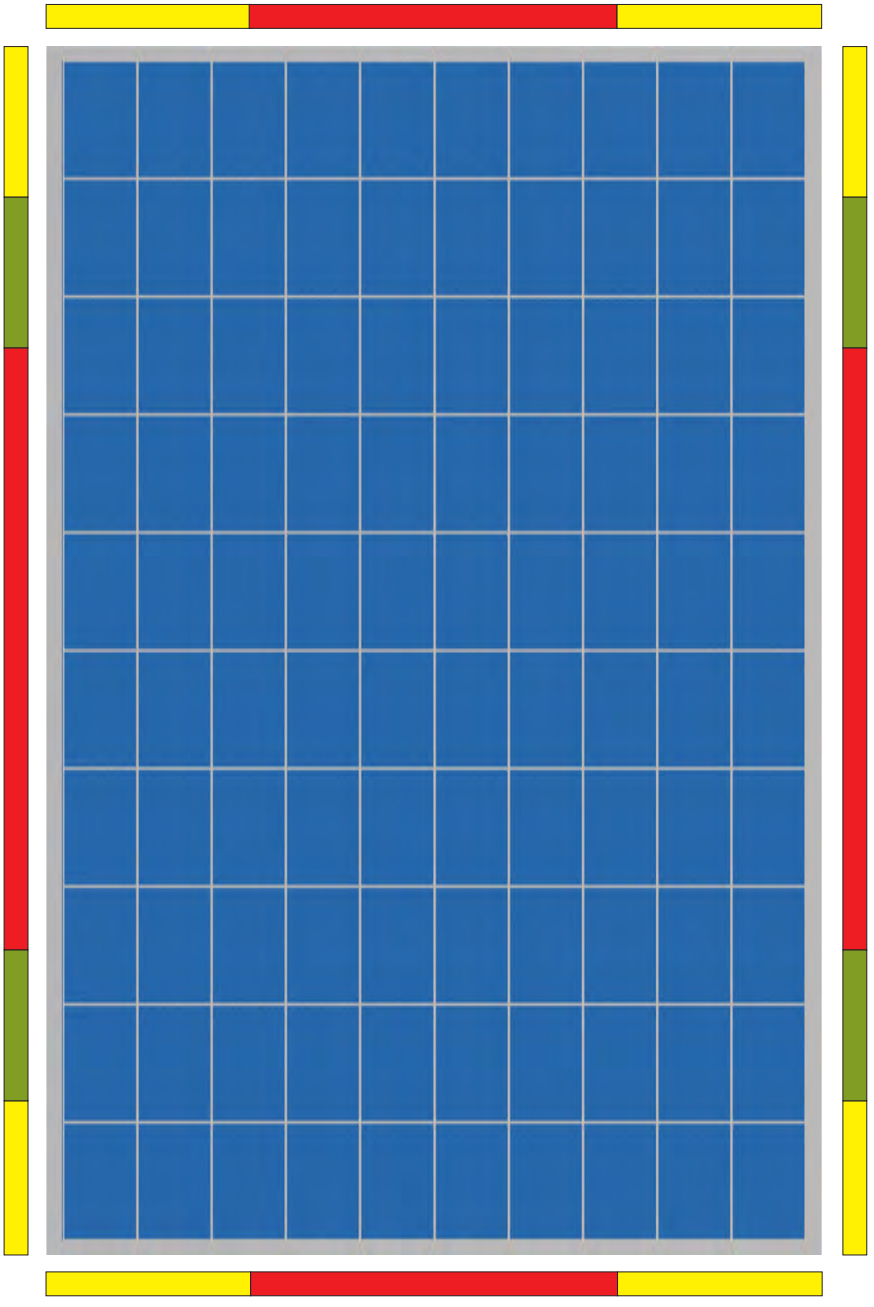
Zasadnicze charakterystyki wyrobu	Deklarowane właściwości użytkowe	Zharmonizowana specyfikacja techniczna
Klasa konstrukcji	EX2	PN-EN 1090-2:2018 PN-EN 1090-3:2019
Tolerancja wymiarów	Klasa 1	PN-EN 1090-2:2018 PN-EN 1090-3:2019
Spawalność	NPD	PN-EN 1090-2:2018 PN-EN 1090-3:2019
Odporność na pękanie	NPD	PN-EN 1090-2:2018 PN-EN 1090-3:2019
Wytrzymałość zmęczeniowa	NPD	PN-EN 1090-2:2018 PN-EN 1090-3:2019
Nośność i odkształcenie	Wg projektu i obliczeń dla typu konstrukcji zgodnie z 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	PN-EN 1090-2:2018 PN-EN 1090-3:2019
Reakcja na ogień	NPD	PN-EN 1090-2:2018 PN-EN 1090-3:2019
Odporność ogniowa	NPD	PN-EN 1090-2:2018 PN-EN 1090-3:2019
Zawartość kadmu	NPD	PN-EN 1090-2:2018 PN-EN 1090-3:2019
Zawartość substancji radioaktywnych	NPD	PN-EN 1090-2:2018 PN-EN 1090-3:2019
Trwałość	NPD	PN-EN 1090-2:2018 PN-EN 1090-3:2019

8. Właściwości użytkowe określonego powyżej wyrobu są zgodne z zestawem deklarowanych właściwości użytkowych. Niniejsza krajowa deklaracja właściwości użytkowych wydana zostaje zgodnie z rozporządzeniem (UE) nr 305/2011 na wyłączną odpowiedzialność producenta.

Karczew 16.10.2020

Kazimierz Sielski

.....
Podpis



Mounting of clamps in green area allows PV panel loading up to 5400 Pa (550 kg/m²)

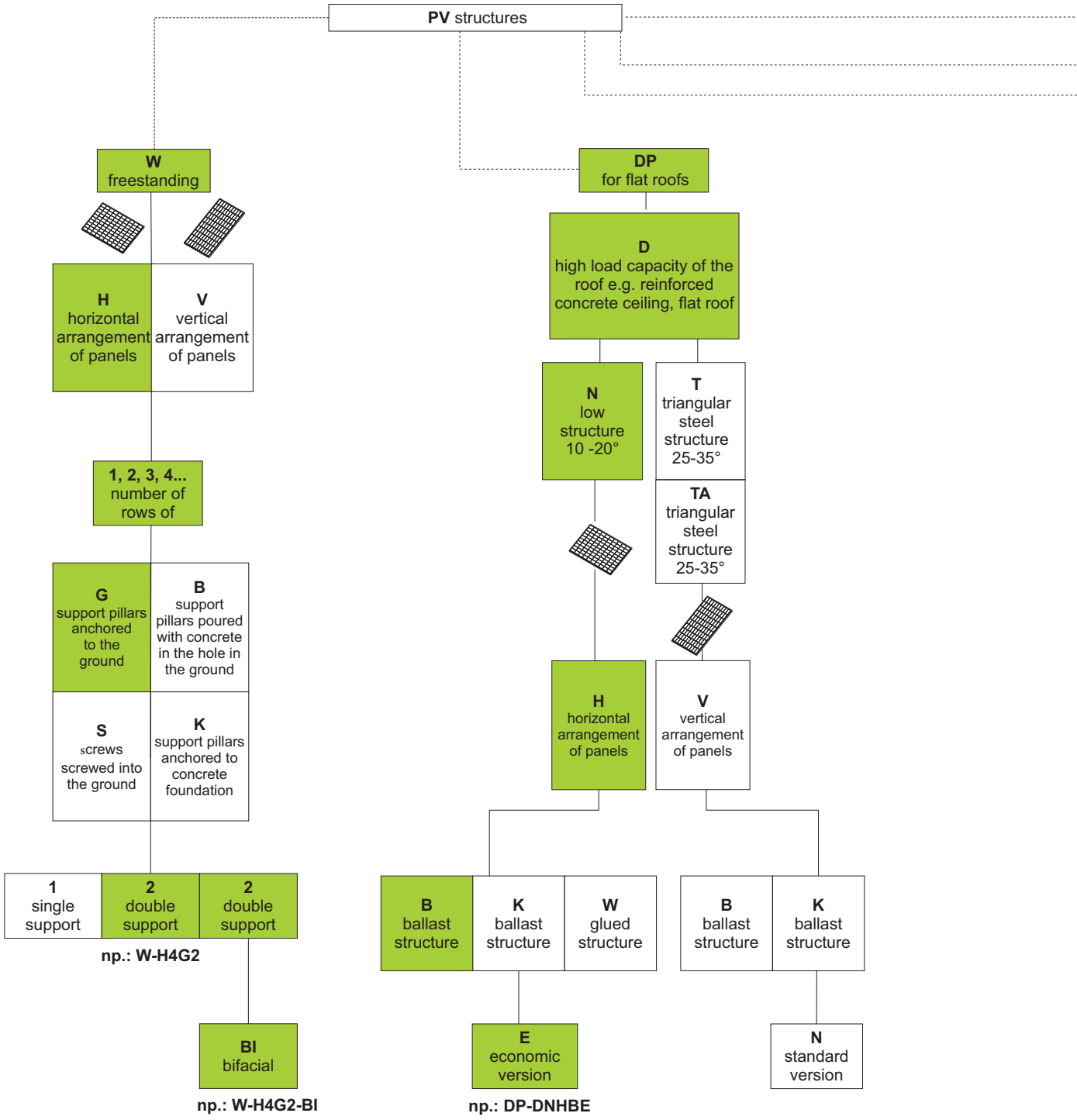
Mounting of clamps in yellow area allows PV panel loading up to 2400 Pa (244 kg/m²) *

Mounting of clamps in red area is not allowed

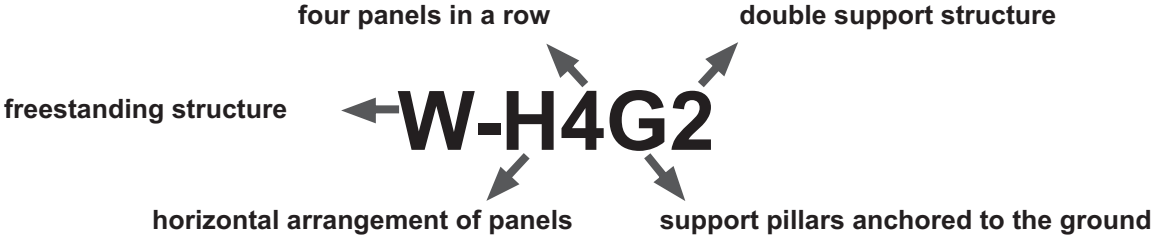
Note:
Please refer to the assembly instructions for the PV panel mounting area. There should be a minimum of four clamps in the mounting zone of the same colour to ensure that the panel installation complies with the requirements of PV module manufacturers for the appropriate load. If the panel is mounted with four clamps but placed in two different areas, it is adjusted for the lower load.
While choosing the direction on the arragement of the panels, please take into consideration maximum load capacity of the PV panel specified by the manufacturer, which depends on the arragement of the panels (vertical or horizontal) and differs depending on the height of the frame of the panel.

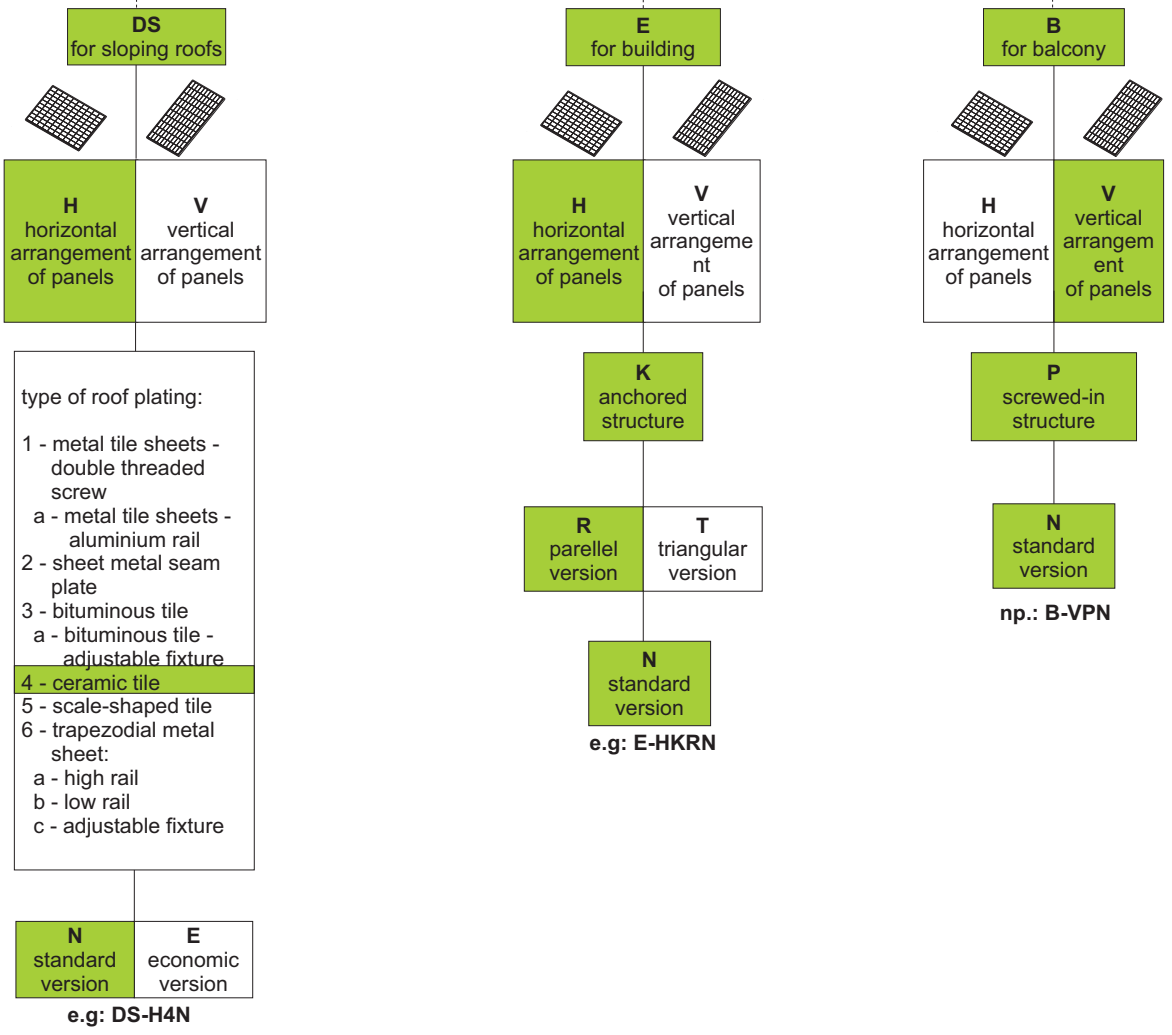
*** - Please check the in the PV catalogue card, if the manufacturer allows the possibility of mounting on the shorter side of the PV panel.**

Symbols for structures for PV panels



An example selection path of a structure is marked with green




DS
for sloping roofs
H
horizontal arrangement of panels
V
vertical arrangement of panels
type of roof plating:
1 - metal tile sheets - double threaded screw
a - metal tile sheets - aluminium rail
2 - sheet metal seam plate
3 - bituminous tile
a - bituminous tile - adjustable fixture
4 - ceramic tile
5 - scale-shaped tile
6 - trapezodial metal sheet:
a - high rail
b - low rail
c - adjustable fixture
N
standard version
E
economic version
e.g: DS-H4N
E
for building
H
horizontal arrangement of panels
V
vertical arrangeme nt of panels
K
anchored structure
R
parellel version
T
triangular version
N
standard version
e.g: E-HKRN
B
for balcony
H
horizontal arrangement of panels
V
vertical arrangem ent of panels
P
screwed-in structure
N
standard version
np.: B-VPN

We kindly encourage to use BAKS Application for designing structures for photovoltaic installations.

The application selects structures according to the parameters set by the user. Selected structures meet all security requirements for the selected location. The application can be used by both private and business users and is free of charge, simply register on the BAKS website: **http://www.baks.com.pl/konstrukcje_pv/**

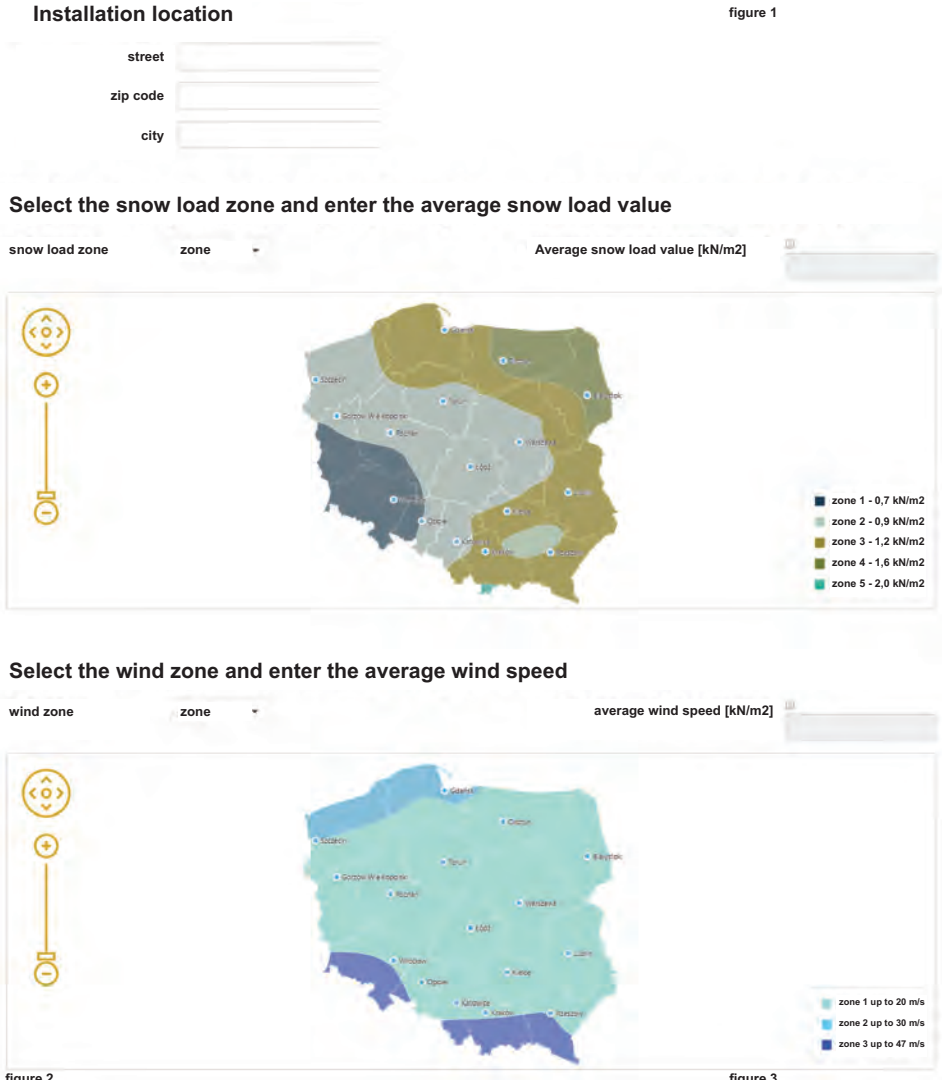


figure 1

figure 2

While using the application one should:
- indicate the location of the installation (figure 1)
- select the appropriate PV panel type from the database
- select the structure type: for flat roof, for sloping roof, freestanding (figure 2)
- select the number and arrangement of the panels in particular rows (figure 3).

The application enables:
- deleting and moving solar panels on sloping roofs in order to move them away from shaded areas or to avoid any other obstacles (figure 3)
- determining the number and location of the mounting points for the installer
- generating the list of products necessary for making a complete support structure including the information on the weight of the whole structure
- generating an illustrative installation project for particular roof sections

The application is very intuitive so that the appropriate structure can be chosen in an easy and quick way, then adjusted to your induvidual needs, and finally the project for the installer and the list of products necessary for making the complete installation can be generated.

The generated product list may constitute a request for quotation so that a price quote can be prepared much quicker.

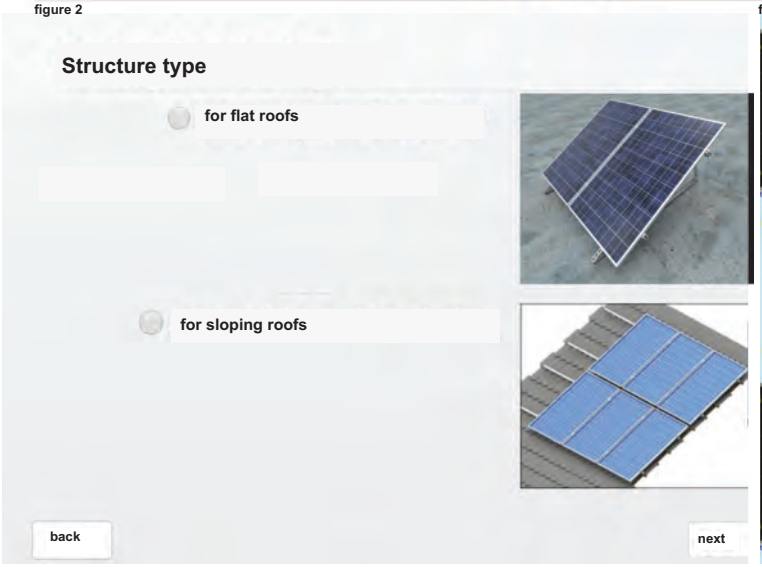
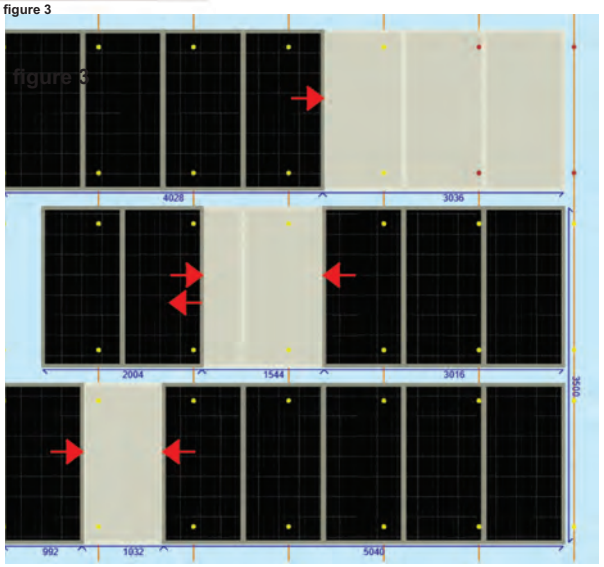


figure 3



calculator

On the website: **http://www.baks.com.pl/konstrukcje_pv/** under the "download" tab, a calculator in form of an Excel file is available. This tool was created in order to facilitate the selection of components of the mounting structures for PV panels manufactured by BAKS.

Advanced calculator for calculating the necessary ballast load for structures dedicated to flat roofs. With this tool, one is able to quickly select the mass or size of ballast necessary to weigh down the structure depending on the type and size of PV panels, the size and layout of the roof and the location of the structure on the roof itself.

For more information on ballast selection please contact BAKS technical support:
Marek Cedrowski.....e-mail: marek.cedrowski@baks.com.pl..... kom. +48 667 944 952
Michał Marczyk.....e-mail: michał.marczyk@baks.com.pl..... tel. +48 22 710 81 05
Marcin Sobolewski.....e-mail: marcin.sobolewski@baks.com.pl..... kom. +48 669 501 308
Łukasz Winiarczyk.....e-mail: lukasz.winiarczyk@baks.com.pl..... kom. +48 669 501 206
Piotr Duda.....e-mail: piotr.duda@baks.com.pl..... tel. +48 22 710 81 31

Calculator for calculating the load-bearing capacity of structures for PV panels - rectangular roof

---

Date: 19.05.2020

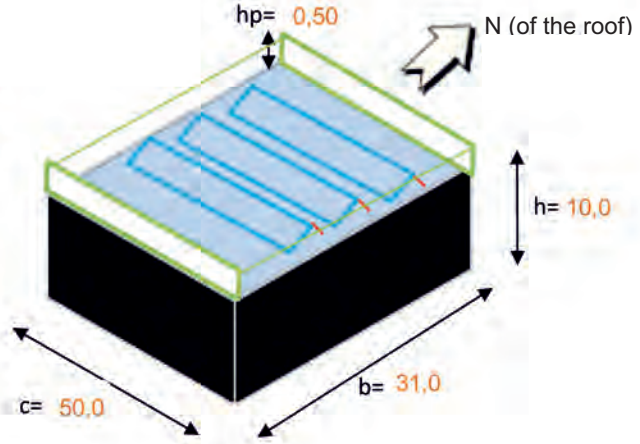
Object: Support structure no.1

Client: BAKS

1. Structure definition:

1A. Building:

lenght	b =	31,0
side	c =	50,0
height	h =	10,0
attic height	h_p =	0,50
(the lowest of the su		g)

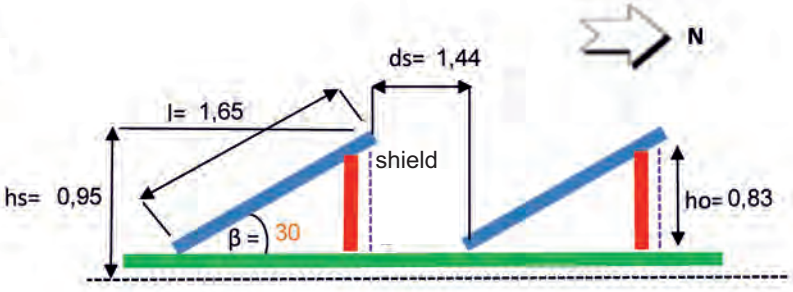


1B. PV panel structure scheme

Dimensions of PV panel:
height: 0,991 m
width: 1,65 m
inclination angle: ß=30 degrees

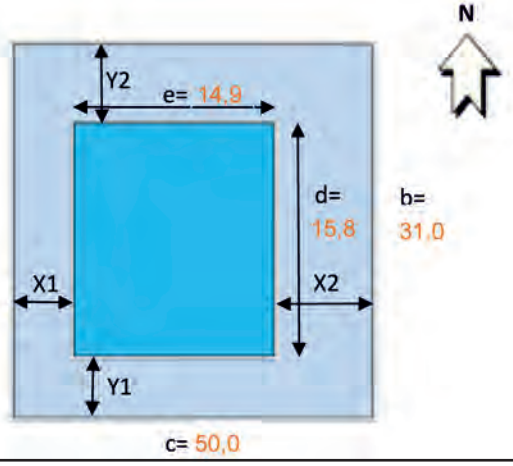
Structure type:
DP-DTVBN
Arrangement type: vertical

Is there rear wind protection?
Yes
Number of connected rows:
3 or more

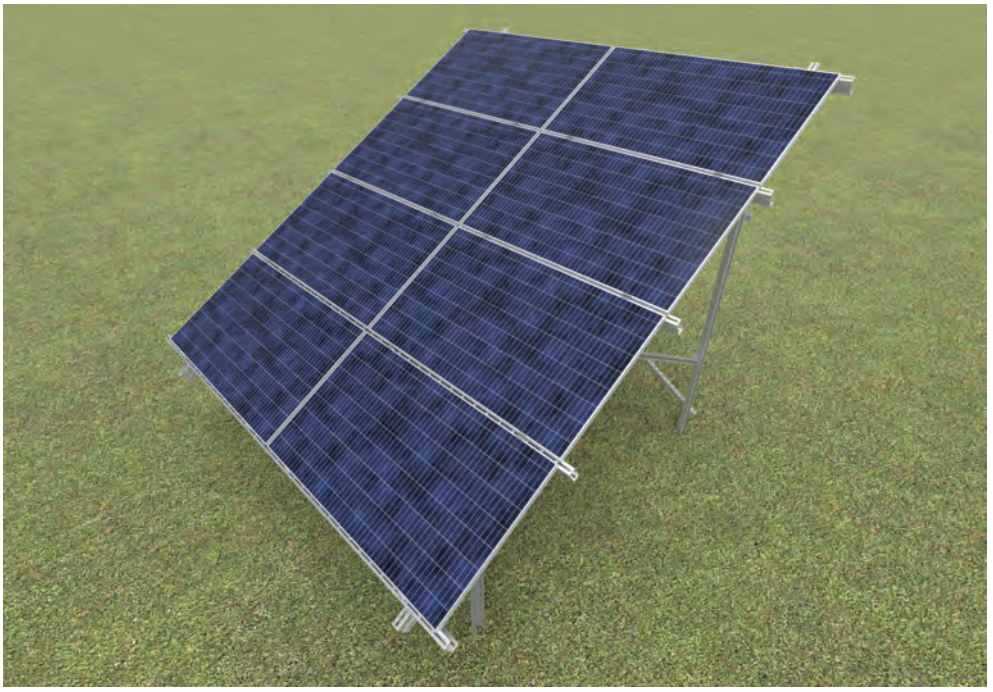


1C. PV panels arrangement

Number of panels in a row:	15 pcs
Length of row e:	14,9 m.
Nuber of rows of panels:	6 pcs
N-S length d:	15,8 m
Distance from the left wall X1	2,0 m.
Distance from the right wall X2	33,1 m.
Distance from the south wall Y1	2,0 m.
Distance from the north wall Y2	13,2 m.
Distance between rows ds (shadow cast)	2,77 m.
Distance between rows ds (any)	0,85 m.
Assumed value between panels rows ds:	1,44 m.

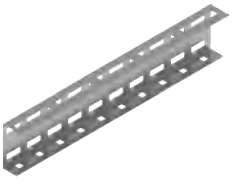
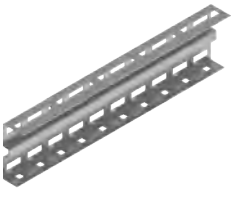
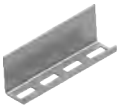
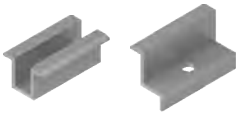


Freestanding mounting structures for the installation of photovoltaic panels



Freestanding structures systems:
- System: **W-V2G1-N** (2 panels arranged vertically on 1 support post)
- System: **W-V2G1-WZ-N** (2 panels arranged vertically on 1 support post, 2 structures with panels oriented to the east and the west)
- System: **W-V2G2-N** (2 panels arranged vertically on 2 support posts)
- System: **W-V2G2-BI-N** (2 panels arranged vertically on 2 support posts with bifacial panels)
- System: **W-H3G1-N** (3 panels arranged horizontally on 1 support post)
- System: **W-V3G2-N** (3 panels arranged vertically on 2 support posts)
- System: **W-H4G2-N** (4 panels arranged horizontally on 2 support posts)
- System: **W-H4G2-BI-N** (4 panels arranged horizontally on 2 support posts with bifacial panels)
- System: **W-H5G2-N** (5 panels arranged horizontally on 2 support posts)
- System: **W-H6G2-N** (6 panels arranged horizontally on 2 support posts)

Examples of system components:

 **Profile BDFCH100...NMC**	 **Profile BDFCH120...NMC**	 **Support Channel CWC100H50...NMC**	 **Channel Connector LKTT45H70NMC**
 **Base Plate PCS100**	 **Channel Connector LCJ70MC**	 **Channel Connector LCD100MC**	 **Middle and Side Holders PUF and BUF...**

Advantages of freestanding mounting structures for the installation of photovoltaic panels

- dense profile perforation provides a wide adjustment range without drilling
- longitudinal profile perforation allows for smooth adjustment of the inclination angle of the structure in relation to the ground within the range of 20-35 degrees
- possibility of assembling the structure - with only one type of screws - SGKFM10x20
- the perforation of the profiles reduces the weight of the structure - without reducing their strength properties. This means that installers do not have to carry heavy profiles and their work is more efficient.
- dense perforation allows panels to be mounted anywhere without drilling
- by using u-profiles, there is a possibility of laying cables in it safely
- thanks to the use of the SPV wire clip, the cables laid in the CWC100H50..NMC support channel are protected against falling out and using unaesthetic and nondurable cable ties can be avoided
- the top perforation of the CWC100H50...NMC support channel allows for quick installation of clamps when using NRM8PV channel nuts
- longitudinal perforation of support profiles allows for quick installation of brackets and cable trays for safe cable routing and installation of structures for inverters
- possibility to make legs with different sheet thicknesses (3 and 4 mm) depending on the quality of the soil
- production of profiles is carried out on top-class perforating machines, which ensures high quality and repeatability of the products. Profile ends are virtually free of sharp edges, which significantly reduces the possibility of installer's injuries
- profiles made of sheet metal with Magnelis® coating for long-term corrosion resistance
- the use of mounting templates allows for quick determination of location of holes for screwing on subsequent elements of the structure and mounting clamps
- products made in Poland!

Systems:

W-V2G1-30°-N

W-V2G1-WZ-10°-N

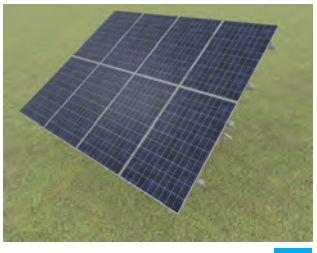
W-H3G1-30°-N

W-H4G2-30°-N ST

W-H4G2-BI-30°-N

W-H5G2-30°-N

W-H6G2-25°-N



W-V2G2-30°-N ST

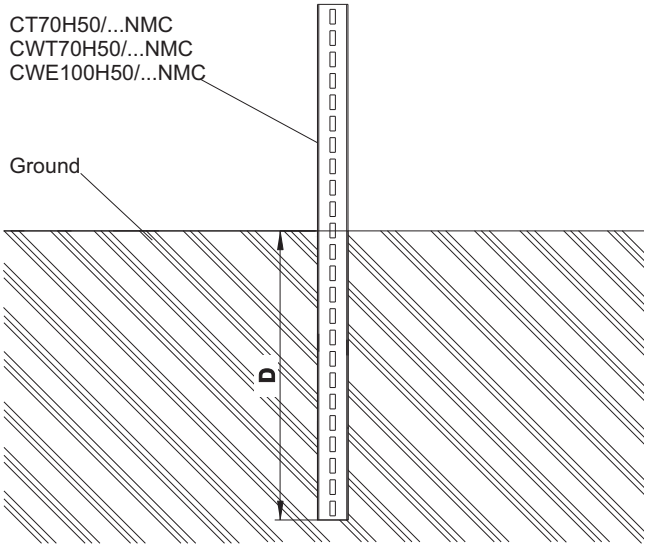
W-V2G2-BI-30°-N

W-V3G2-30°-N

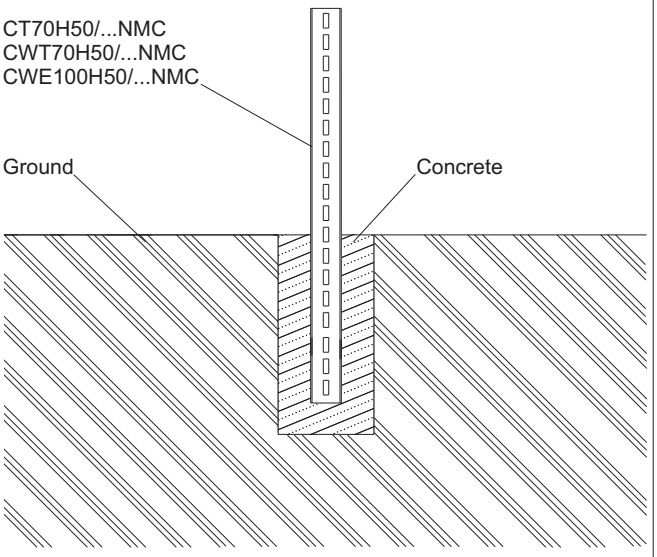
Recommended ways of mounting freestanding structures to the ground

Structure mounting variants:

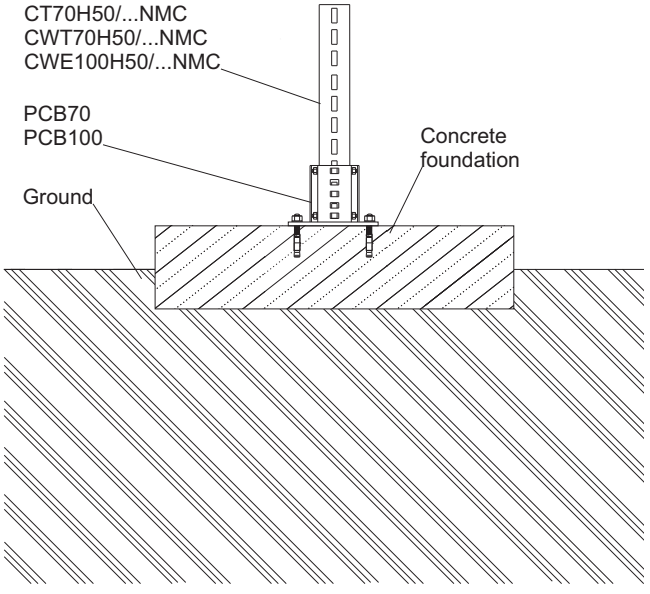
G - structure rammed into the ground:
- support posts rammed into the ground by means of pile drivers (D - the ramming depth of the posts is determined individually depending on the soil quality at the installation site and on wind and snow conditions)



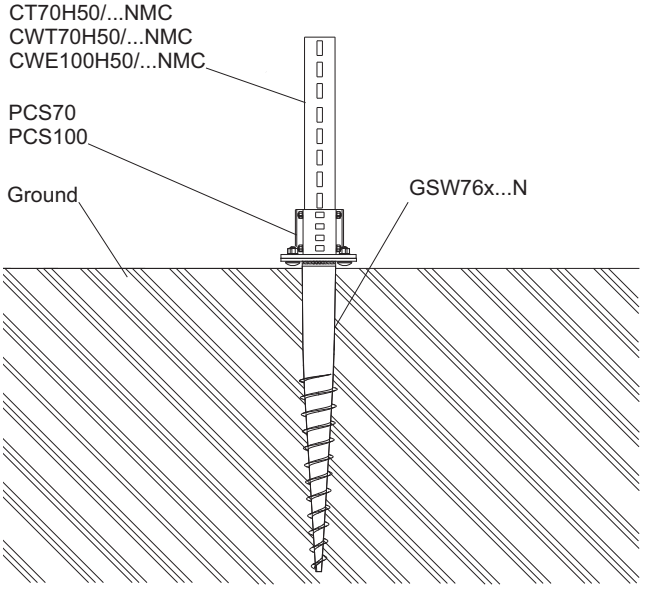
B - structure poured with concrete:
- support posts poured with concrete min. B20 in the holes made in the ground (dimensions of the holes determined individually, depending on the type of applied structure - as well as wind and snow conditions at the installation site)



K - anchored structure:
- support posts anchored to concrete foundation
- possibility of applying mechanical and chemical anchors

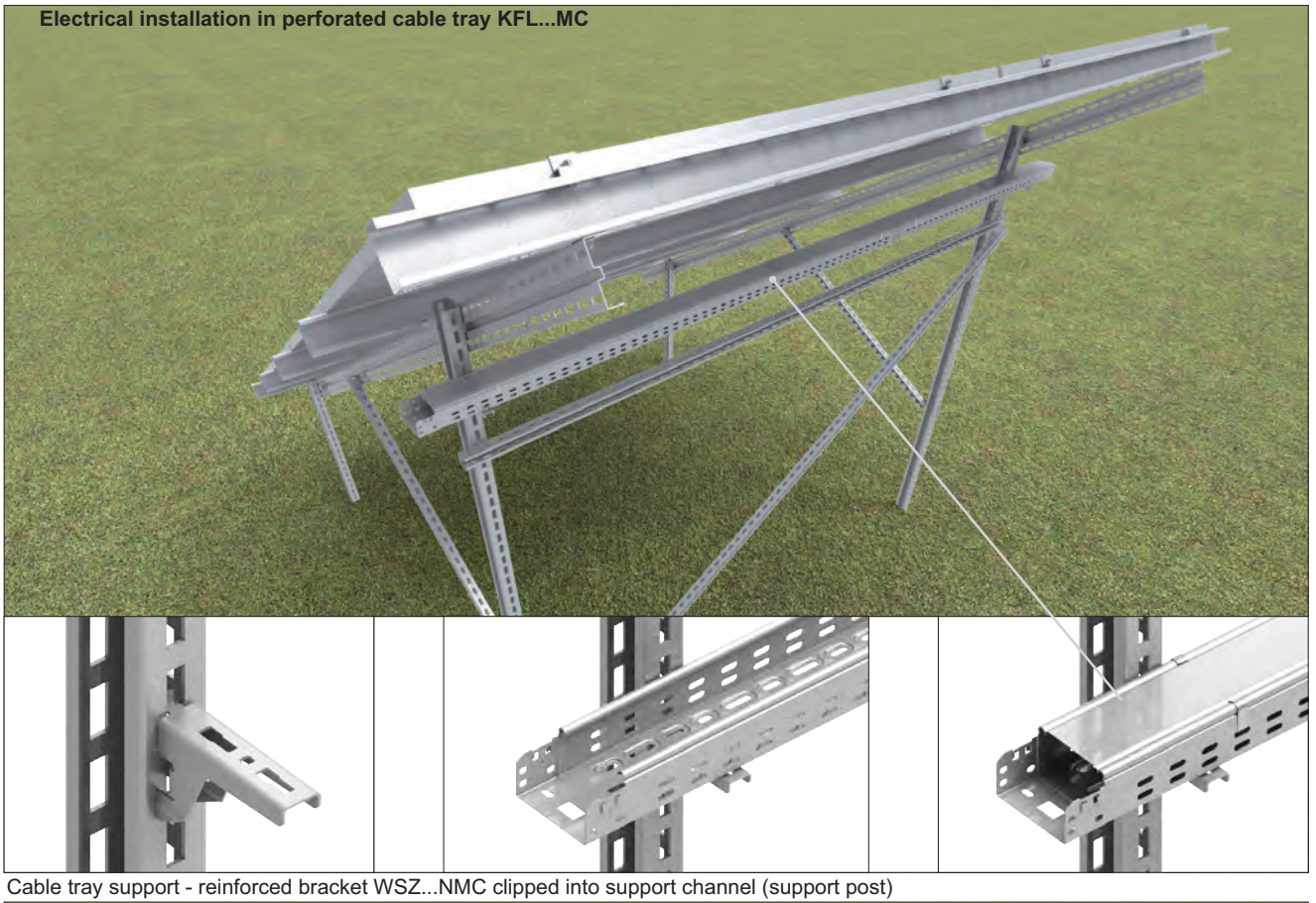


S - screwed structure:
- screws screwed into the ground for fixing the of the support posts
- screwed in manually by means of appropriate extensions or by means of manual or self-driving devices for screwing ground screws



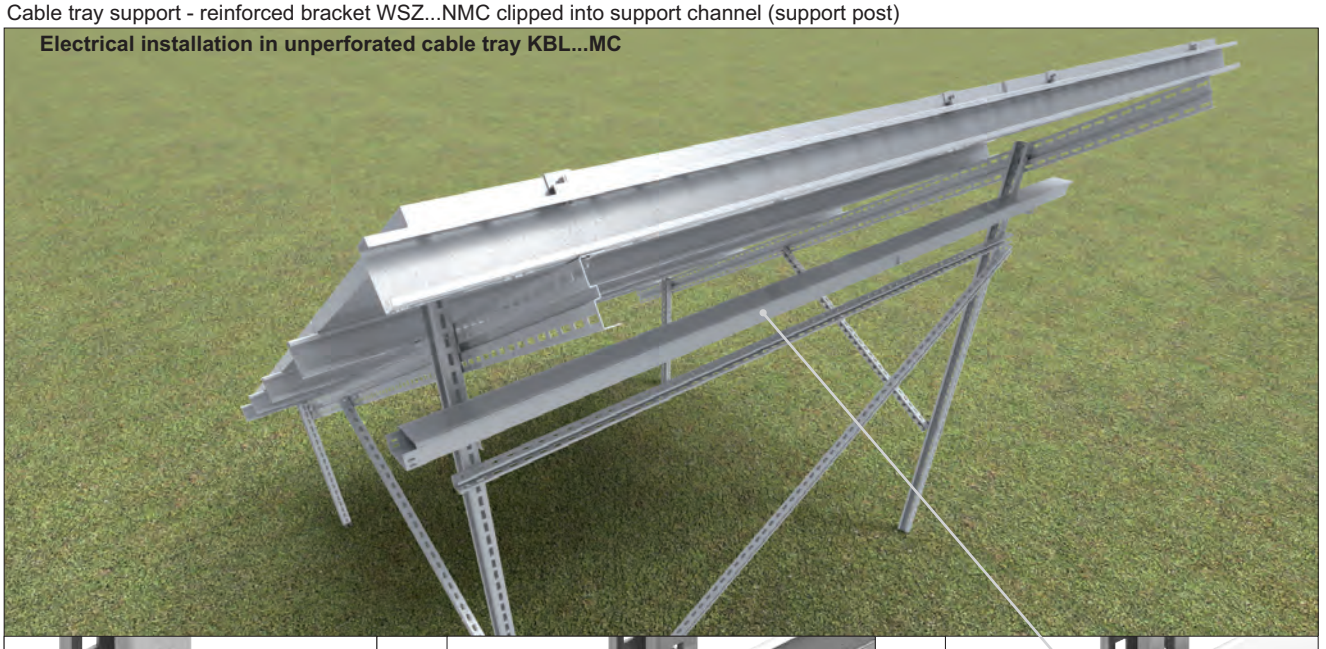
BAKS freestanding structures are adapted for the installation of BAKS brackets and cable trays. Brackets fastened to the support post with locking screws guarantee greater strength and are dedicated to structures with increased support spacing, and to installations using high-power inverters. BAKS cable trays ensure excellent heat dissipation and are resistant to direct and diffuse UV radiation. They enable quick installation of cables. They are equipped with covers, which protect cables against damage by forest animals and rodents. BAKS products are certified by VDE, TÜV and ITB, which confirms the electrical continuity of the circuit and guarantees that no electrical charges are stored in the earthed structure.

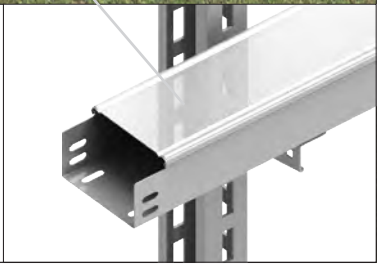
Electrical installation in perforated cable tray KFL...MC



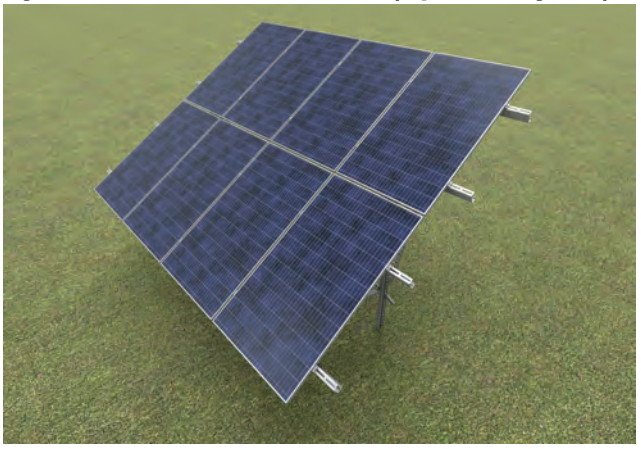
Cable tray support - reinforced bracket WSZ...NMC clipped into support channel (support post)

Electrical installation in unperforated cable tray KBL...MC





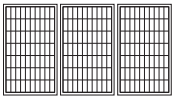
Freestanding mounting structure for the installation of photovoltaic panels
System: **W-V2G1-30°-N** (optionally25°) N - New profile design



Structure description
Complete support system for fixing two rows of panels in a vertical arrangement

Technical description:
Materials of the support system:
MC- constructional steel in grades S250GD and S350GD in Magnelis® coating, ZM430 for support posts, ZM310 for parts assembled above ground
A- Aluminium
E- Stainless steel
F- Steel in zinc flake coating
Structure tested for strength.

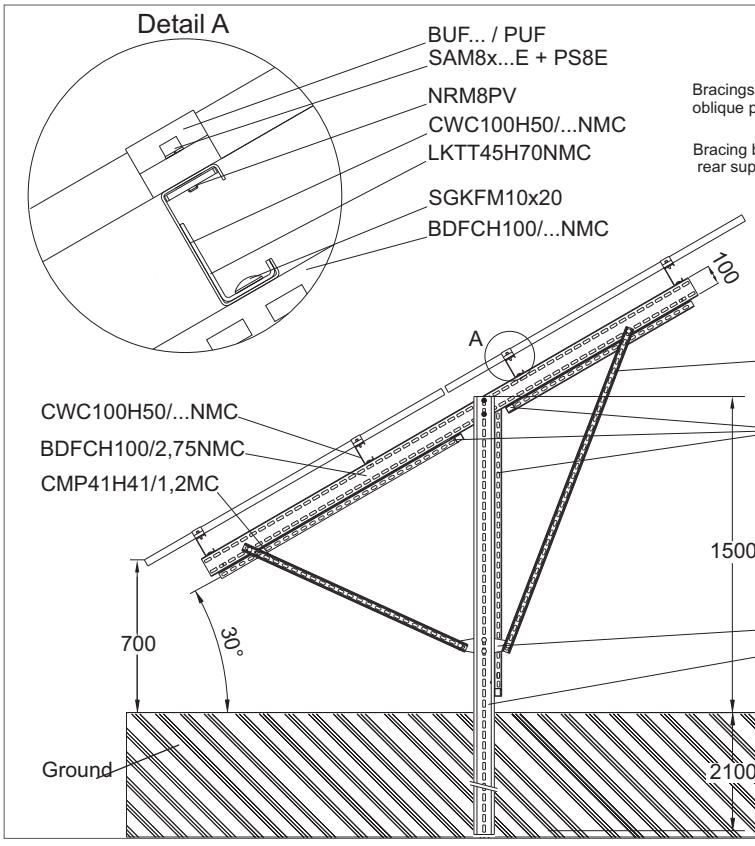
Arrangement of the modules:
· vertical - V



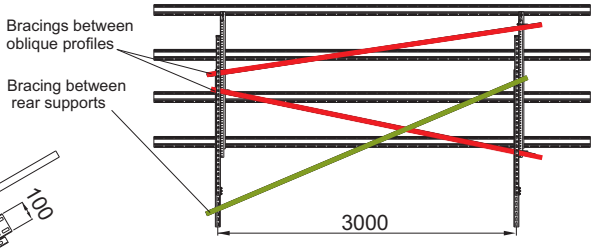
Ground conditions:
· soil with good/high load capacity

Structure assembly variants:
· W-V2G1-N structure - rammed into the ground (anchorage depth depends on ground conditions)
· W-V2K1-N structure - support posts anchored to the concrete foundation
· W-V2B1-N structure - support posts poured with concrete min. B20 in the holes in the ground (size of the holes depends on the ground conditions)
· W-V2S1-N structure - on request, a screw screwed into the ground for fixing of the support posts

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 warranty can be extended.



The figure shows an example of the arrangement of the bracings of the structure

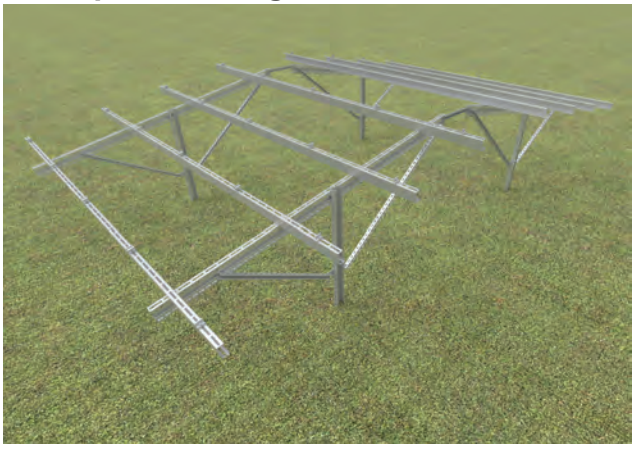


Component list for W-V2G1-30°-N

CODE	40 panels (~1700/1000mm)
	pcs
CWE100H50/3,6NMC	7
BDFCH100/2,75NMC	7
CMP41H41/1,2MC	7
CMP41H41/1,7MC	7
CMP41H41/3,5MC	6
LCD100MC	7
SGKFM10x20	176
CWC100H50/6,6NMC	8
CWC100H50/4,4NMC	8
LKTT45H70NMC	12
BUF...	8
PUF	76
SAM8x...E	84
PS8E	84
NRM8PV	84

Detailed information on the products can be found on pages 63-110

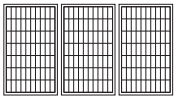
Freestanding mounting structure for the installation of photovoltaic panels
System: **W-V2G1-WZ-10°-N** (east-west) N - New profile design



Structure description
Complete support system for fixing two rows of panels in a vertical arrangement

Technical description:
Materials of the support system:
MC- constructional steel in grades S250GD and S350GD in Magnelis® coating, ZM430 for support posts, ZM310 for parts assembled above ground
A- Aluminium
E- Stainless steel
F- Steel in zinc flake coating
Structure tested for strength.

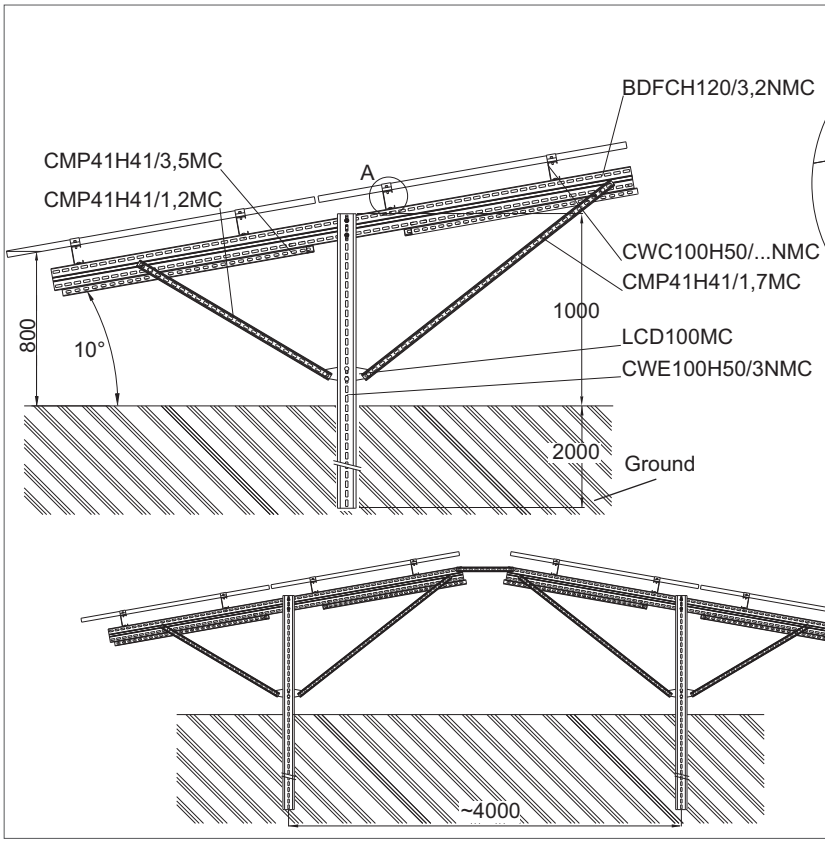
Arrangement of the modules:
· vertical - V

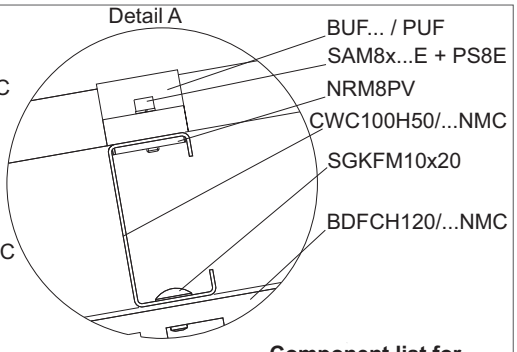


Ground conditions:
· soil with good/high load capacity

Structure assembly variants:
· W-V2G1-WZ-N structure - rammed into the ground (anchorage depth depends on ground conditions)
· W-V2K1-WZ-N structure - support posts anchored to the concrete foundation
· W-V2B1-WZ-N structure - support posts poured with concrete min. B20 in the holes in the ground (size of the holes depends on the ground conditions)
· W-V2S1-WZ-N structure - on request, a screw screwed into the ground for fixing of the support posts

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 warranty can be extended.



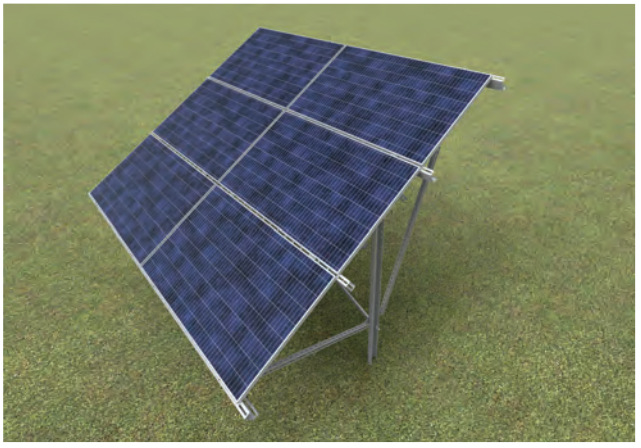


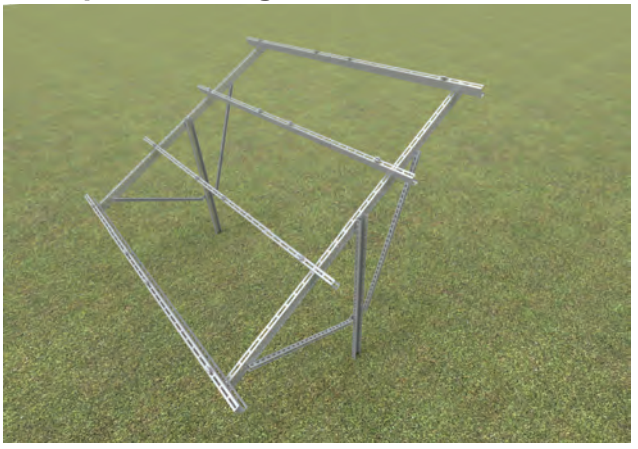
Component list for W-V2G1-WZ-10°-N

CODE	80 panels (~2000/1000 mm)
	pcs
CWE100H50/3NMC	14
BDFCH120/3,2NMC	14
CMP41H41/1,2MC	14
CMP41H41/1,7MC	14
CMP41H41/3,5MC	12
LCD100MC	14
SGKFM10x20	352
CWC100H50/6,6NMC	16
CWC100H50/4,4NMC	16
LKTT45H70NMC	24
BUF...	16
PUF	152
SAM8x...E	168
PS8E	168
NKZM8E	168

Detailed information on the products can be found on pages 63-110

Freestanding mounting structure for the installation of photovoltaic panels
System: **W-H3G1-30°-N** (optionally25°) N - New profile design

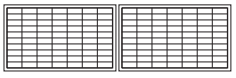




Structure description
Complete support system for fixing three rows of panels in a horizontal arrangement

Technical description:
Materials of the support system:
MC- constructional steel in grades S250GD and S350GD in Magnelis® coating, ZM430 for support posts, ZM310 for parts assembled above ground
A- Aluminium
E- Stainless steel
F- Steel in zinc flake coating
Structure tested for strength.

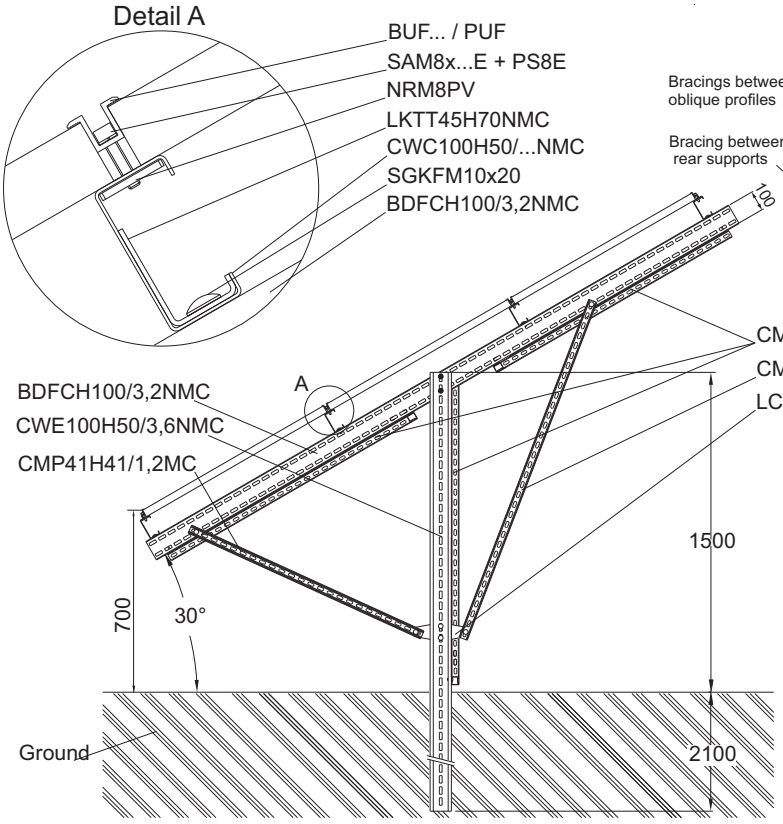
Arrangement of the modules:
· horizontal - H



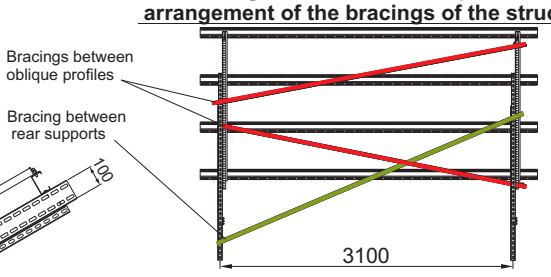
Ground conditions:
· soil with good/high load capacity

Structure assembly variants:
· W-H3G1-N structure - rammed into the ground (anchorage depth depends on ground conditions)
· W-H3K1-N structure - support posts anchored to the concrete foundation
· W-H3B1-N structure - support posts poured with concrete min. B20 in the holes made in the ground (size of the holes depends on the ground conditions)
· W-H3S1-N structure - on request, a screw screwed into the ground for fixing of the support posts

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 warranty can be extended.



The figure shows an example of the arrangement of the bracings of the structure

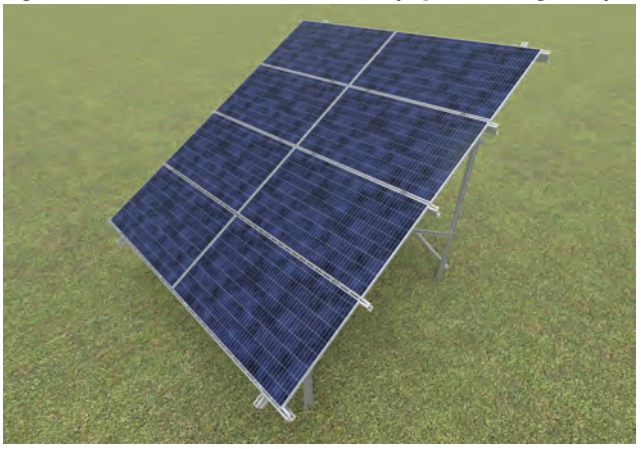


Component list for W-H3G1-30°-N

CODE	45 panels (~1700/1000 mm)
	pcs
CWE100H50/3,6NMC	8
BDFCH100/3,2NMC	8
CMP41H41/1,2MC	8
CMP41H41/1,7MC	8
CMP41H41/3,5MC	8
LCD100MC	8
CWC100H50/6,6NMC	8
CWC100H50/4,4NMC	12
LKTT45H70NMC	16
BUF...	60
PUF	60
SAM8x...E	120
PS8E	120
NRM8PV	120
SGKFM10x20	216

Detailed information on the products can be found on pages 63-110

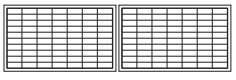
Freestanding mounting structure for the installation of photovoltaic panels
System: **W-H4G2-30°-N** (optionally25°) N - New profile design



Structure description
Complete support system for fixing four rows of panels in a horizontal arrangement

Technical description:
Materials of the support system:
MC- constructional steel in grades S250GD and S350GD in Magnelis® coating, ZM430 for support posts, ZM310 for parts assembled above ground
A- Aluminium
E- Stainless steel
F- Steel in zinc flake coating
Structure tested for strength.

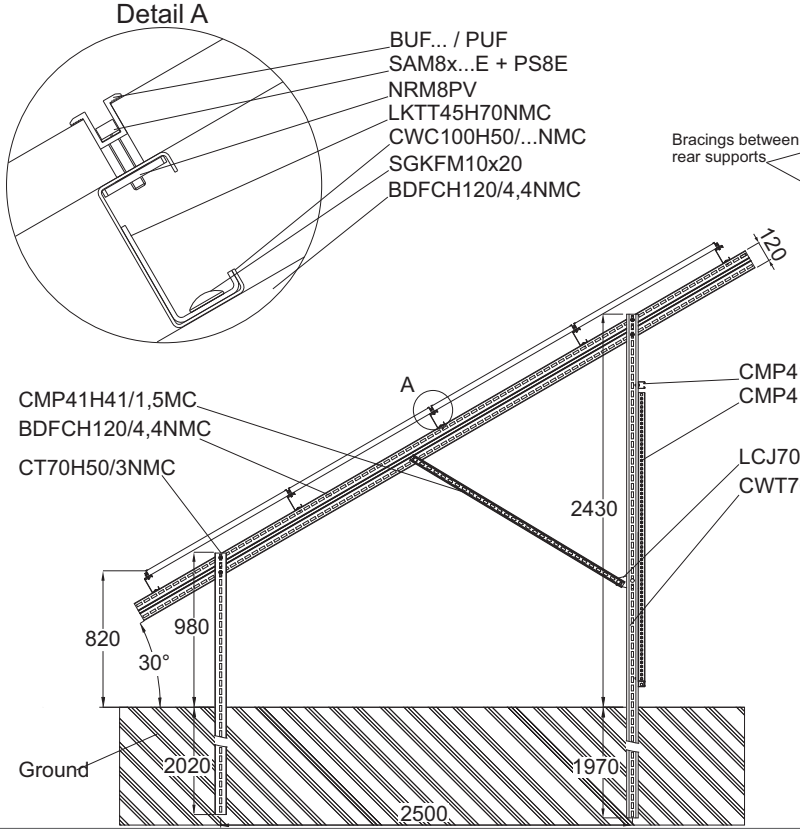
Arrangement of the modules:
· horizontal - H



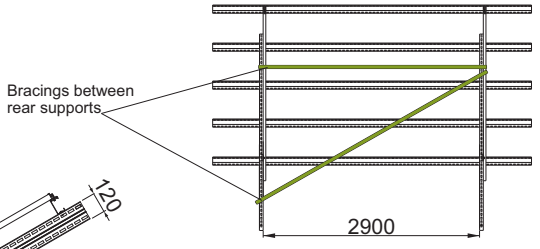
Ground conditions:
· soil with good/high load capacity

Structure assembly variants:
· W-H4G2-N structure - rammed into the ground (anchorage depth depends on ground conditions)
· W-H4K2-N structure - support posts anchored to the concrete foundation
· W-H4B2-N structure - support posts poured with concrete min. B20 in the holes made in the ground (size of the holes depends on the ground conditions)
· W-H4S2-N structure - on request, a screw screwed into the ground for fixing of the support posts

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 warranty can be extended.



The figure shows an example of the arrangement of the bracings of the structure



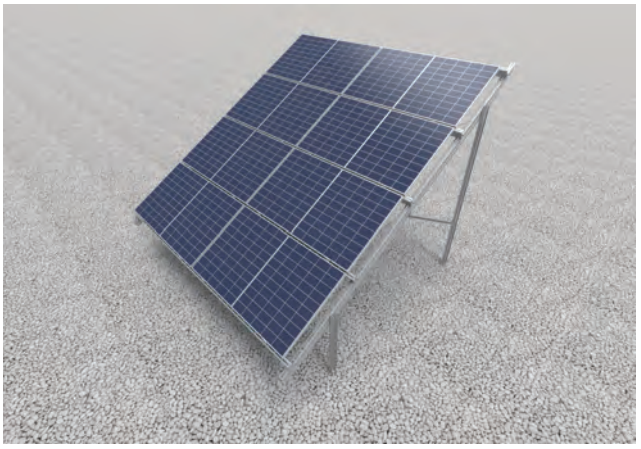
Component list for W-H4G2-30°- N

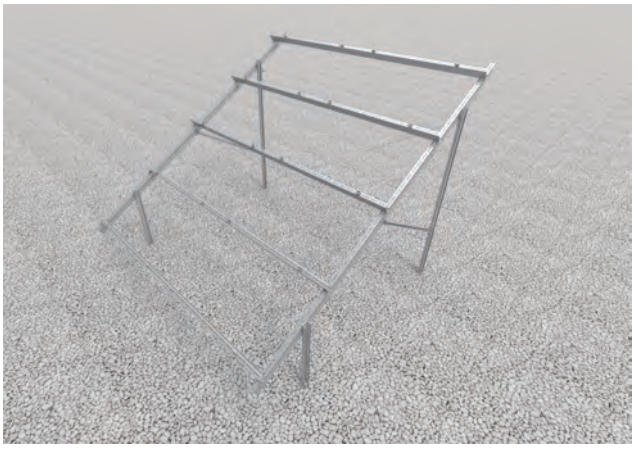
CODE	40 panels (~1700/1000 mm)
	pcs
CT70H50/3NMC	6
CWT70H50/4,4NMC	6
BDFCH120/4,4NMC	6
CMP41H41/1,5MC	6
CMP41H41/3MC	2
CMP41H41/3,5MC	2
LCJ70MC	6
CWC100H50/6,6NMC	10
CWC100H50/4,4NMC	5
LKTT45H70NMC	10
SGKFM10x20	140
BUF...	40
PUF	60
SAM8x...E	100
PS8E	100
NRM8PV	100

Detailed information on the products can be found on pages 63-110

Freestanding mounting structure for the installation of bifacial photovoltaic panels

System: **W-H4G2-BI-30°-N** (optionally25°) N - New profile design

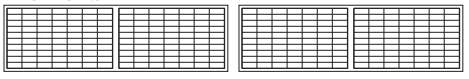




Structure description
Complete support system for fixing bifacial panels, which use sunlight reflected from the ground.

Technical description:
Materials of the support system:
MC- constructional steel in grades S250GD and S350GD in Magnelis® coating, ZM430 for support posts, ZM310 for parts assembled above ground
A- Aluminium
E- Stainless steel
F- Steel in zinc flake coating
Overview design.

Arrangement of the modules:
· horizontal - H

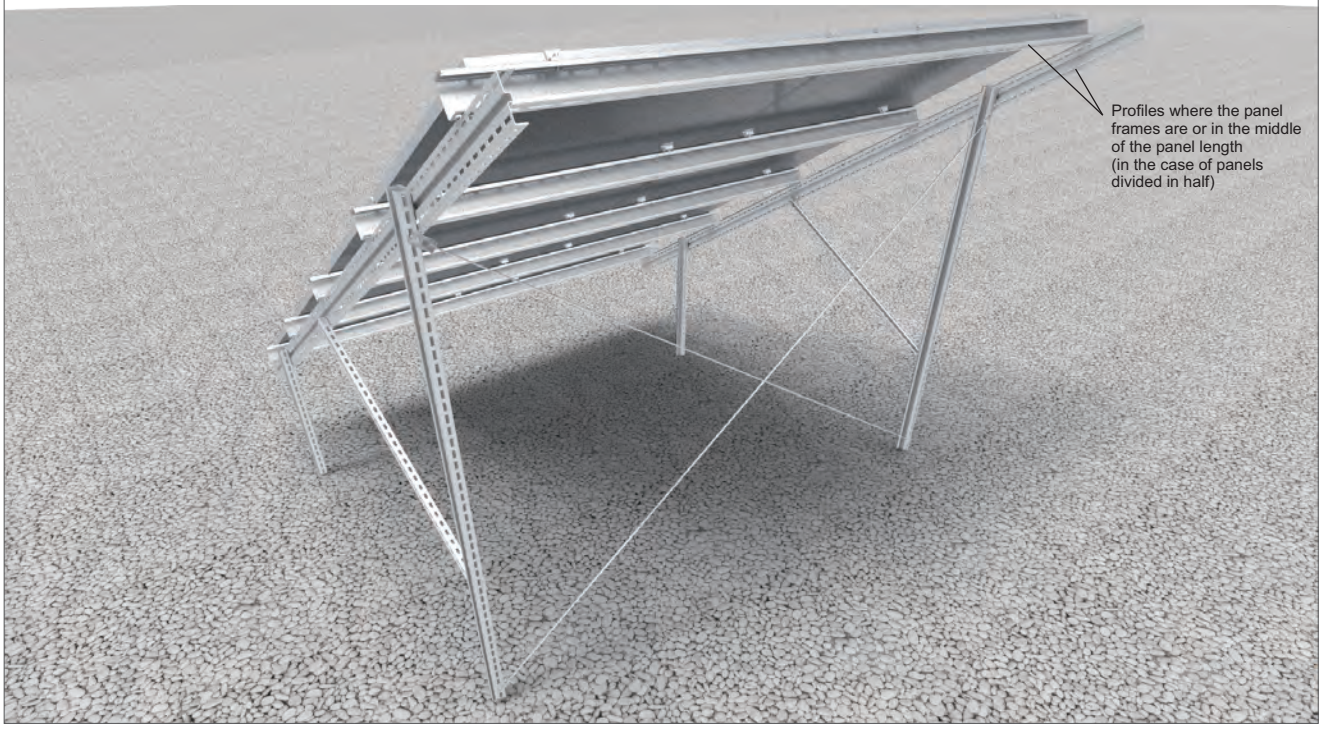


Ground conditions:
· soil with good/high load capacity

Structure assembly variants:
· W-H4G2-BI-N structure - rammed into the ground (anchorage depth depends on ground conditions)
· W-H4K2-BI-N structure - support posts anchored to the concrete foundation
· W-H4B2-BI-N structure - support posts poured with concrete min. B20 in the holes made in the ground (size of the holes depends on the ground conditions)
· W-H4S2-BI-N structure - on request, a screw screwed into the ground for fixing of the support posts

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 warranty can be extended.

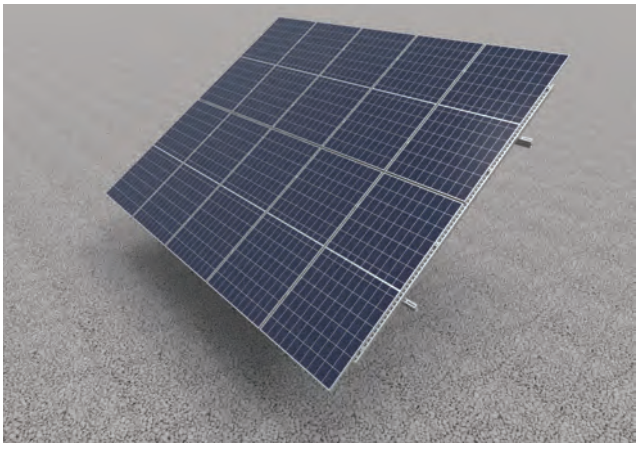
By using supporting structure where the panel frames are or in the middle of the panel length (in the case of panels divided in half), it is possible to take full advantage of the efficiency of bifacial modules.



Detailed information on the products can be found on pages 63-110

Freestanding mounting structure for the installation of bifacial photovoltaic panels

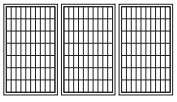
System: **W-V2G2-BI-30°-N** (optionally25°) N - New profile design



Structure description
Complete support system for fixing bifacial panels, which use sunlight reflected from the ground

Technical description:
Materials of the support system:
MC- constructional steel in grades S250GD and S350GD in Magnelis® coating, ZM430 for support posts, ZM310 for parts assembled above ground
A- Aluminium
E- Stainless steel
F- Steel in zinc flake coating
Overview design.

Arrangement of the modules:
· vertical - V

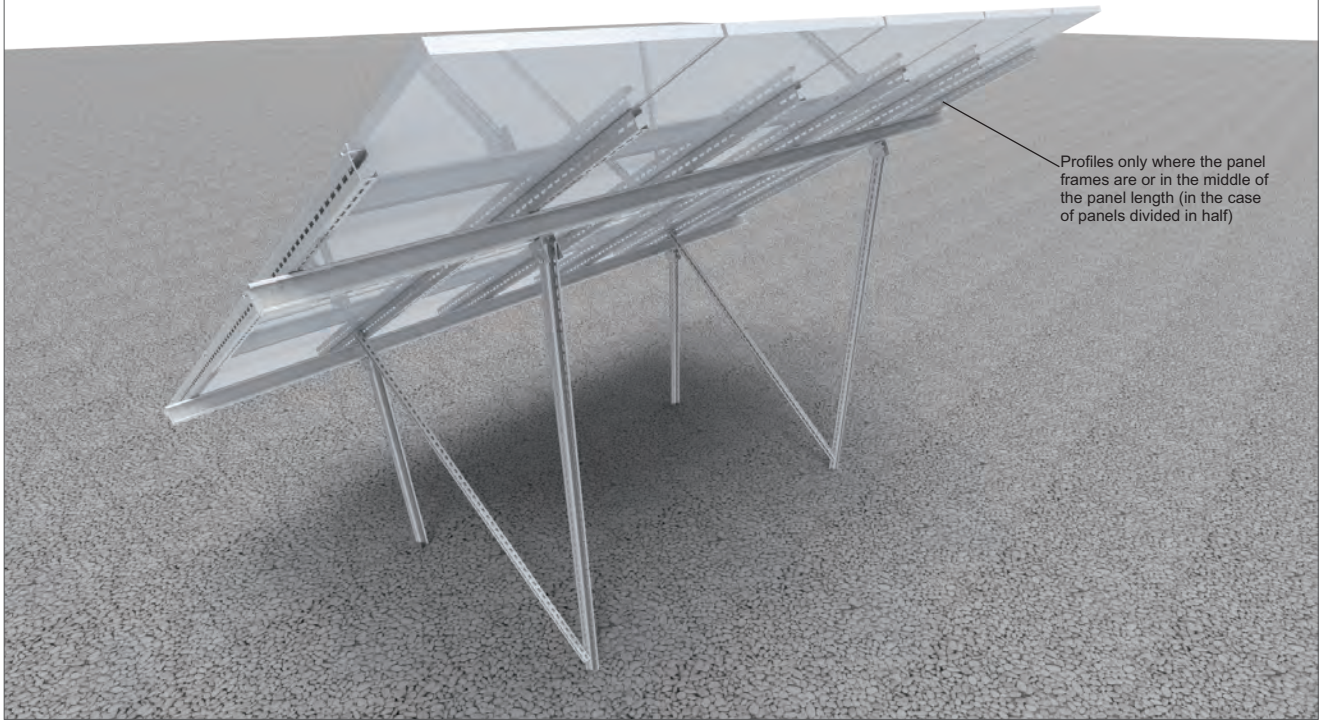


Ground conditions:
· soil with good/high load capacity

Structure assembly variants:
· W-V2G2-BI-N structure - rammed into the ground (anchorage depth depends on ground conditions)
· W-V2K2-BI-N structure - support posts anchored to the concrete foundation
· W-V2B2-BI-N structure - support posts poured with concrete min. B20 in the holes made in the ground (size of the holes depends on the ground conditions)
· W-V2S2-BI-N structure - on request, a screw screwed into the ground for fixing of the support posts

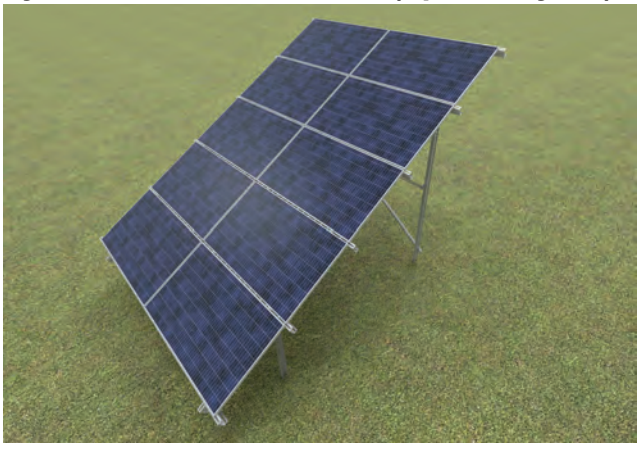
Warranty
BAKS provides a 10 year warranty period for the components included in the support structure - only if all conditions of the manufacturer's warranty are met. The warranty can be extended.

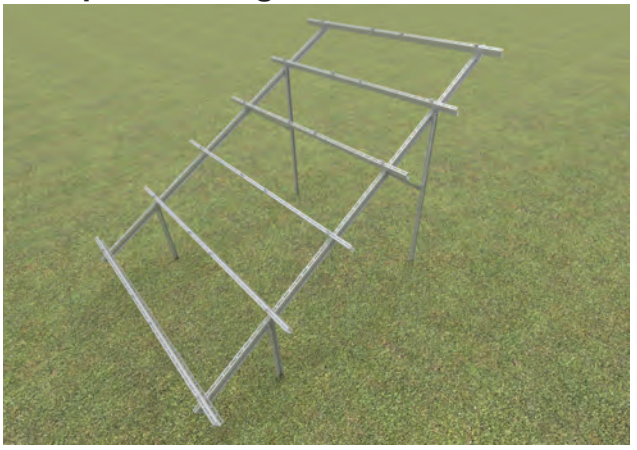
By using supporting structure where the panel frames are or in the middle of the panel length (in the case of panels divided in half) and thanks to the bracings, it is possible to take full advantage of the efficiency of bifacial modules.



Detailed information on the products can be found on pages 63-110

Freestanding mounting structure for the installation of photovoltaic panels
System: **W-H5G2-30°-N** (optionally25°) N - New profile design

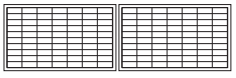




Structure description
Complete support system for fixing five rows of panels in a horizontal arrangement

Technical description:
Materials of the support system:
MC- constructional steel in grades S250GD and S350GD in Magnelis® coating, ZM430 for support posts, ZM310 for parts assembled above ground
A- Aluminium
E- Stainless steel
F- Steel in zinc flake coating
Structure tested for strength.

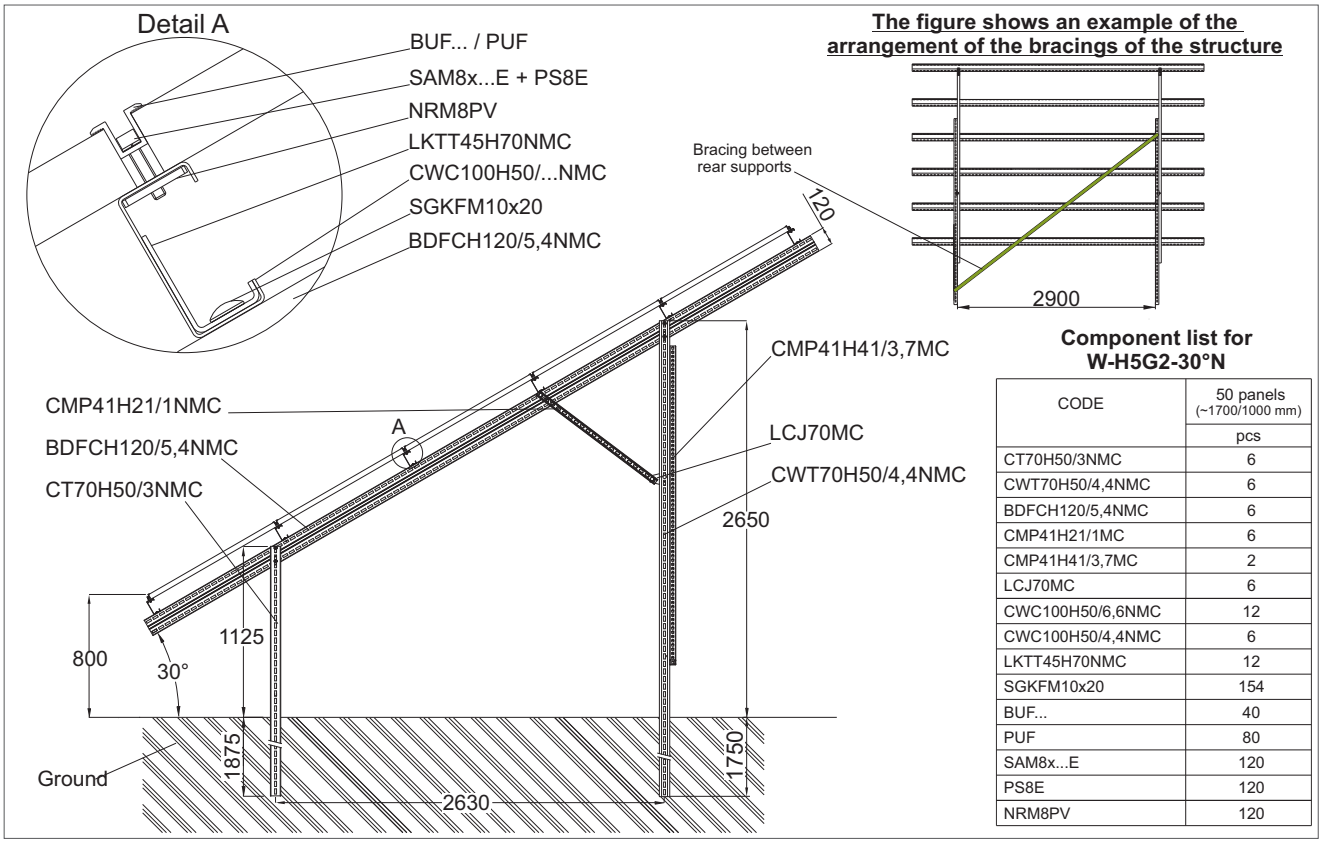
Arrangement of the modules:
· horizontal - H



Ground conditions:
· soil with good/high load capacity

Structure assembly variants:
· W-H5G2-N structure - rammed into the ground (anchorage depth depends on ground conditions)
· W-H5K2-N structure - support posts anchored to the concrete foundation
· W-H5B2-N structure - support posts poured with concrete min. B20 in the holes made in the ground (size of the holes depends on the ground conditions)
· W-H5S2-N structure - on request, a screw screwed into the ground for fixing of the support posts

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 warranty can be extended.

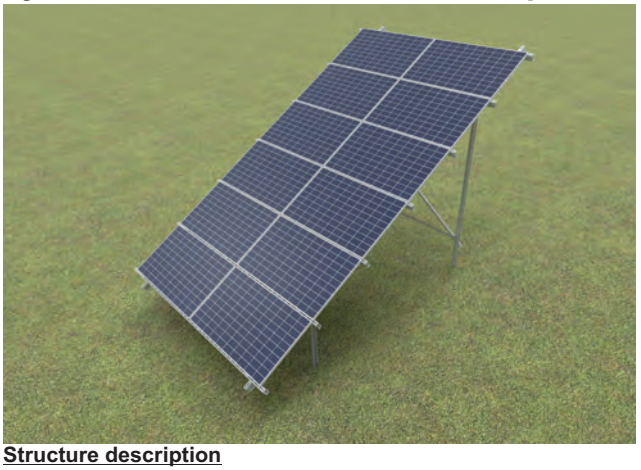


Component list for W-H5G2-30°N

CODE	50 panels (~1700/1000 mm)
	pcs
CT70H50/3NMC	6
CWT70H50/4,4NMC	6
BDFCH120/5,4NMC	6
CMP41H21/1MC	6
CMP41H41/3,7MC	2
LCJ70MC	6
CWC100H50/6,6NMC	12
CWC100H50/4,4NMC	6
LKTT45H70NMC	12
SGKFM10x20	154
BUF...	40
PUF	80
SAM8x...E	120
PS8E	120
NRM8PV	120

Detailed information on the products can be found on pages 63-110

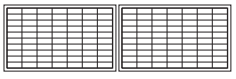
Freestanding mounting structure for the installation of photovoltaic panels
System: **W-H6G2-25°-N** N - New profile design



Structure description
Complete support system for fixing six rows of panels in a horizontal arrangement

Technical description:
Materials of the support system:
MC- constructional steel in grades S250GD and S350GD in Magnelis® coating, ZM430 for support posts, ZM310 for parts assembled above ground
A- Aluminium
E- Stainless steel
F- Steel in zinc flake coating
Structure tested for strength.

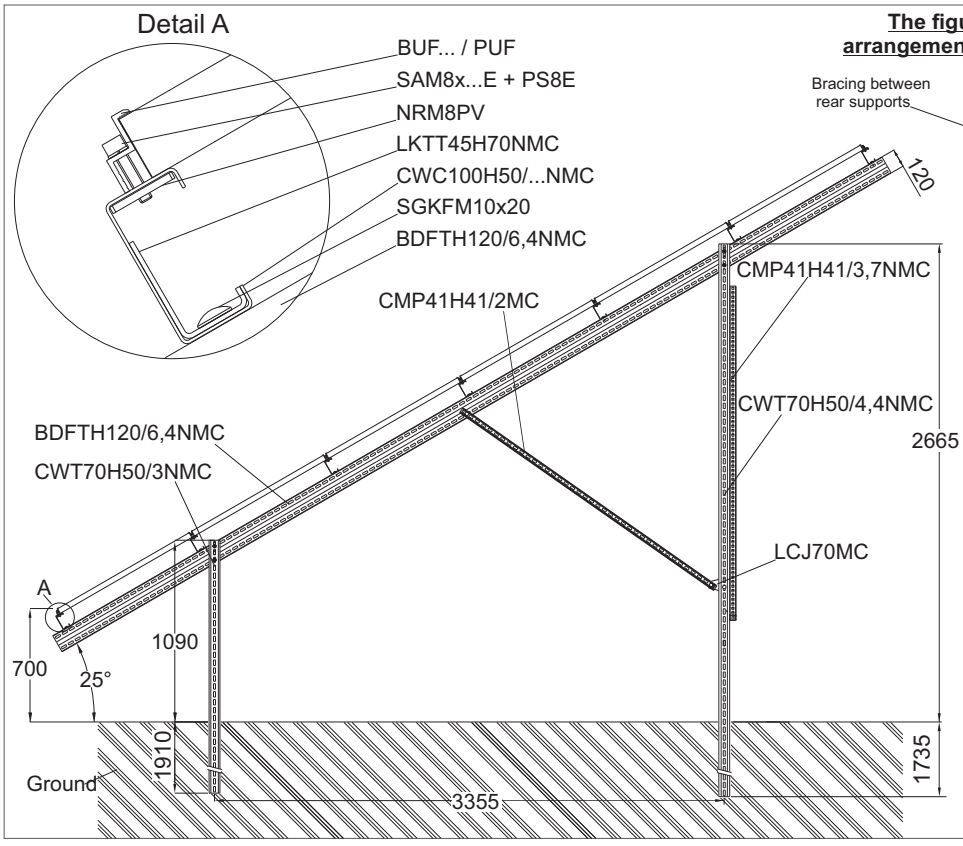
Arrangement of the modules:
· horizontal - H



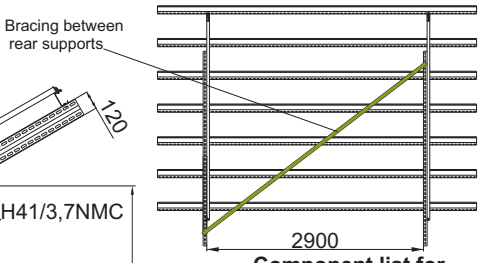
Ground conditions:
· soil with good/high load capacity

Structure assembly variants:
· W-H6G2-N structure - rammed into the ground (anchorage depth depends on ground conditions)
· W-H6K2-N structure - support posts anchored to the concrete foundation
· W-H6B2-N structure - support posts poured with concrete min. B20 in the holes made in the ground (size of the holes depends on the ground conditions)
· W-H6S2-N structure - on request, a screw screwed into the ground for fixing of the support posts

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 warranty can be extended.



The figure shows an example of the arrangement of the bracings of the structure

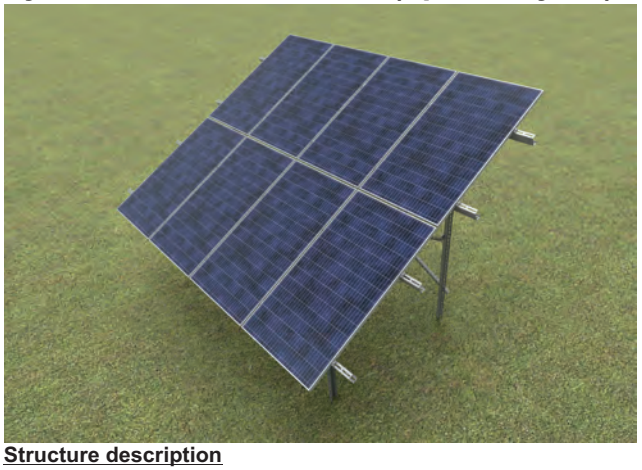


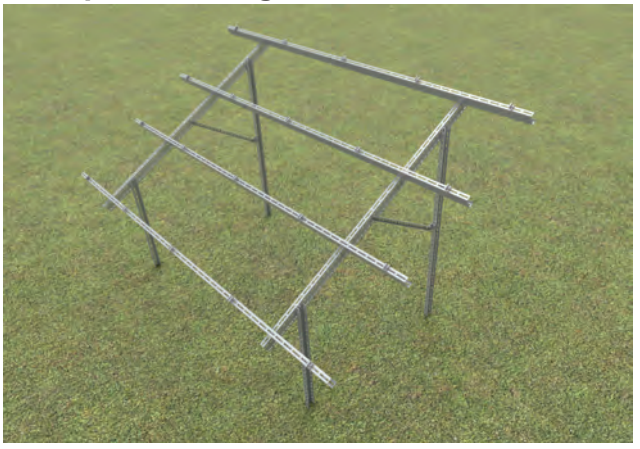
Component list for W-H6G2-25°-N

CODE	60 panels (~1700/1000 mm)
	pcs
CWT70H50/3NMC	6
CWT70H50/4,4NMC	6
BDFTH120/6,4NMC	6
CMP41H41/2MC	6
CMP41H41/3,7MC	2
LCJ70MC	6
CWC100H50/6,6NMC	14
CWC100H50/4,4NMC	7
LKTT45H70NMC	14
SGKFM10x20	178
BUF...	40
PUF	100
SAM8x...E	140
PS8E	140
NRM8PV	140

Detailed information on the products can be found on pages 63-110

Freestanding mounting structure for the installation of photovoltaic panels
System: **W-V2G2-30°-N** (optionally25°) N - New profile design

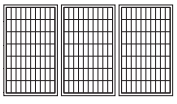




Structure description
Complete support system for fixing two rows of panels in a vertical arrangement

Technical description:
Materials of the support system:
MC- constructional steel in grades S250GD and S350GD in Magnelis® coating, ZM430 for support posts, ZM310 for parts assembled above ground
A- Aluminium
E- Stainless steel
F- Steel in zinc flake coating
Structure tested for strength.

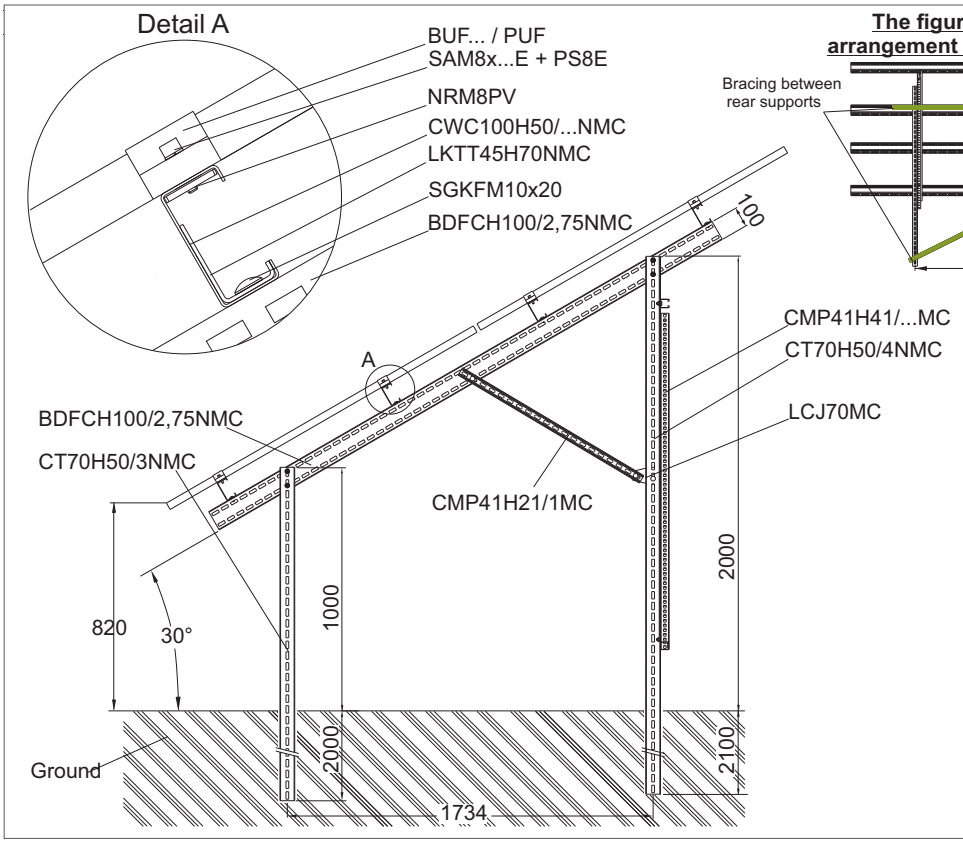
Arrangement of the modules:
· vertical - V



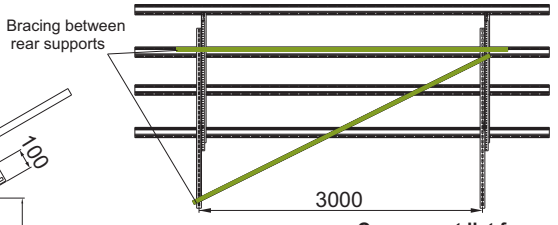
Ground conditions:
· soil with good/high load capacity

Structure assembly variants:
· W-V2G2-N structure - rammed into the ground (anchorage depth depends on ground conditions)
· W-V2K2-N structure - support posts anchored to the concrete foundation
· W-V2B2-N structure - support posts poured with concrete min. B20 in the holes made in the ground (size of the holes depends on the ground conditions)
· W-V2S2-N structure - on request, a screw screwed into the ground for fixing of the support post

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 warranty can be extended.



The figure shows an example of the arrangement of the bracings of the structure

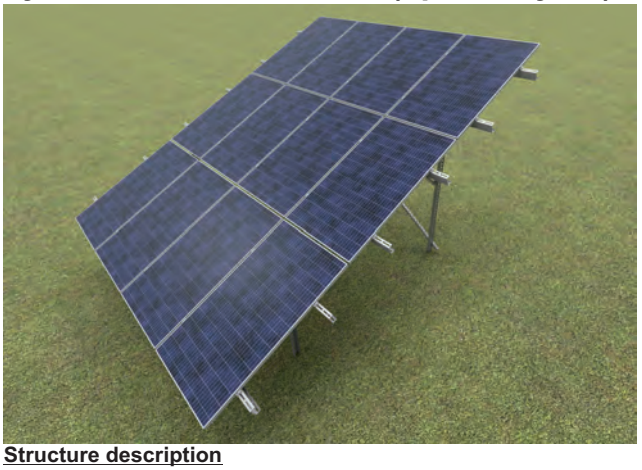


Component list for W-V2G2-30°-N

CODE	46 panels (~1700/1000 mm)
	pcs
CT70H50/3NMC	8
CT70H50/4NMC	8
BDFCH100/2,75NMC	8
CMP41H21/1MC	8
CMP41H41/3,5MC	4
LCJ70MC	8
CWC100H50/6,6NMC	4
CWC100H50/4,4NMC	4
CWC100H50/3,3NMC	16
LKTT45H70NMC	20
SGKFM10x20	216
BUF...	8
PUF	88
SAM8x...E	96
PS8E	96
NRM8PV	96

Detailed information on the products can be found on pages 63-110

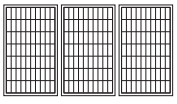
Freestanding mounting structure for the installation of photovoltaic panels
System: **W-V3G2-30°-N** (optionally25°) N - New profile design



Structure description
Complete support system for fixing three rows of panels in a vertical arrangement

Technical description
Materials of the support system:
MC- constructional steel in grades S250GD and S350GD in Magnelis® coating, ZM430 for support posts, ZM310 for parts assembled above ground
A- Aluminium
E- Stainless steel
F- Steel in zinc flake coating
Structure tested for strength.

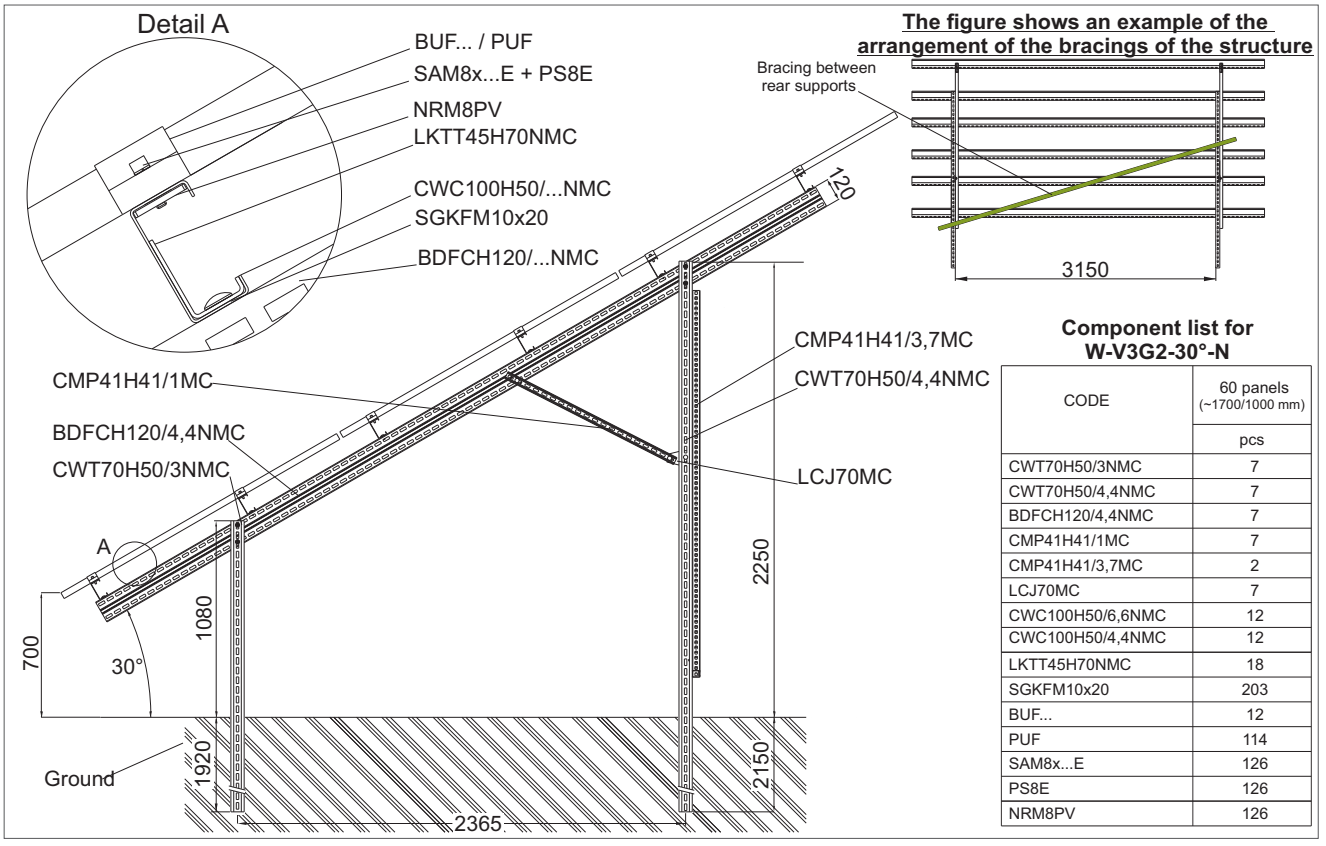
Arrangement of the modules:
· vertical - V



Ground conditions:
· soil with good/high load capacity

Structure assembly variants:
· W-V3G2-N structure - rammed into the ground (anchorage depth depends on ground conditions)
· W-V3K2-N structure - support posts anchored to the concrete foundation
· W-V3B2-N structure - support posts poured with concrete min. B20 in the holes made in the ground (size of the holes depends on the ground conditions)
· W-V3S2-N structure - on request, a screw screwed into the ground for fixing of the support post

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 warranty can be extended.

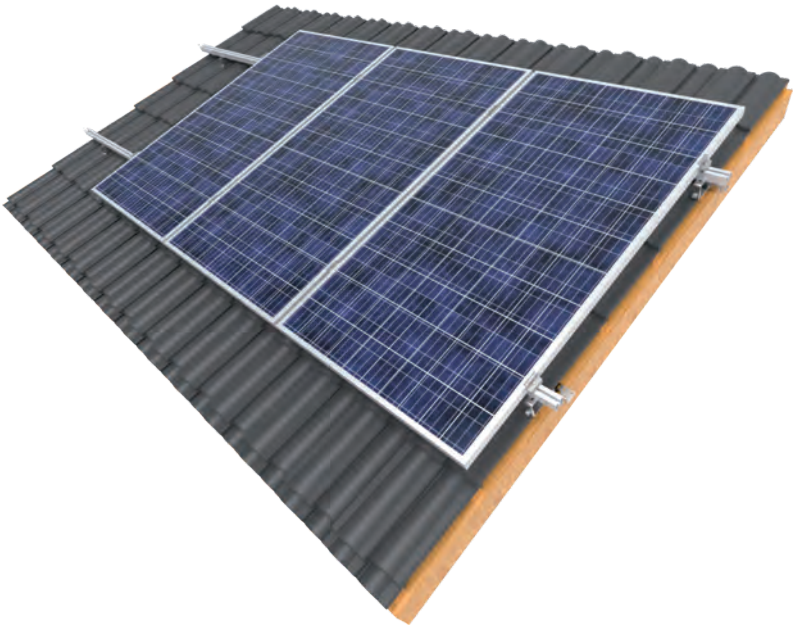


Component list for W-V3G2-30°-N

CODE	60 panels (~1700/1000 mm)
	pcs
CWT70H50/3NMC	7
CWT70H50/4,4NMC	7
BDFCH120/4,4NMC	7
CMP41H41/1MC	7
CMP41H41/3,7MC	2
LCJ70MC	7
CWC100H50/6,6NMC	12
CWC100H50/4,4NMC	12
LKTT45H70NMC	18
SGKFM10x20	203
BUF...	12
PUF	114
SAM8x...E	126
PS8E	126
NRM8PV	126

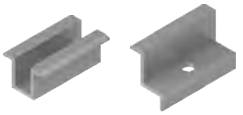
Detailed information on the products can be found on pages 63-110

Mounting structures for the installation of photovoltaic panels on sloping roofs



Structure systems for sloping roofs for different types of roof plating:
- metal tiles sheets or corrugated metal sheets, system: **DS-V1N, DS-H1N, DS-V1aN, DS-H1aN**
- sheet metal seam plates, system: **DS-V2N, DS-H2N**
- bituminous tiles, system: **DS-V3N, DS-H3N, DS-V3aN, DS-H3aN**
- ceramic tiles, system: **DS-V4N, DS-H4N**
- scale-shaped tiles, system: **DS-V5N, DS-H5N**
- trapezoidal metal sheets, system: **DS-V6aN, DS-H6aN, DS-V6bN, DS-H6bN, DS-V6cN, DS-H6cN**

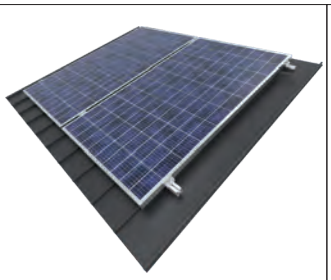
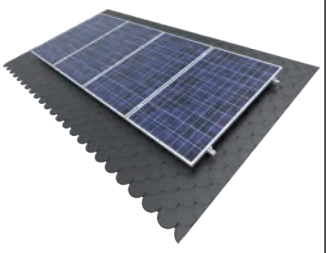
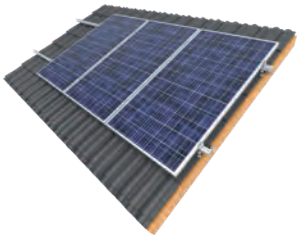
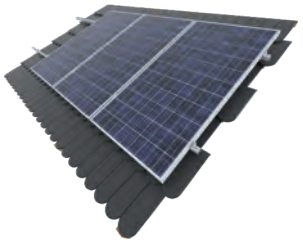
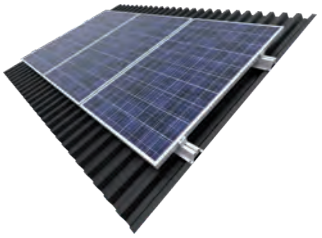
Examples of system components:

 **Aluminum Profile PAL30H32...**	 **Aluminum Profile PAL40H40...**	 **Aluminum Mounting Rail SMA40/... SM...**	 **Middle and Side Holders PUF and BUF...**
 **Adjustable Roof Fixing DUR40E**	 **Adjustable Roof Fixing DUFR60E**	 **Adjustable Roof Fixing for Trapezoidal Sheet RUBTE**	 **Seam Roof Clamp UBZRE...**

Advantages of mounting structures for the installation of photovoltaic panels on sloping roofs

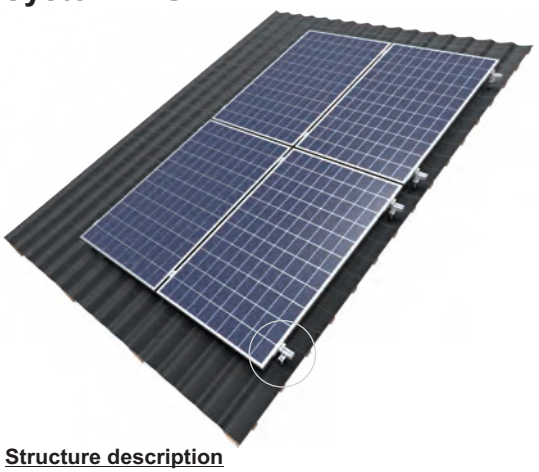
- variable adjustment and longitudinal profile perforation allows for trouble-free and quick installation of the structure even in case of unevenness on the roof
- specially profiled holders provide a stable and strong connection to the roof structure or plating
- all structure elements made of stainless steel are subjected to abrasive treatment, which guarantees an aesthetic appearance
- the structure elements are ready for use after taking them out of the packaging and do not require additional completion
- products made in Poland!

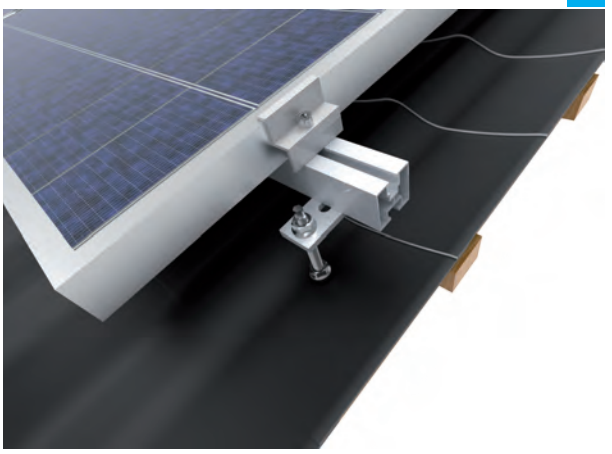
Systems:

 **DS-V1N** **DS-V1aN**	 **DS-V2N**	 **DS-V3N** **DS-V3aN**	 **DS-V4N**
 **DS-V5N**	 **DS-V6aN**	 **DS-V6bN**	 **DS-V6cN**

Mounting structure for the installation of photovoltaic panels
on sloping roofs covered with metal tiles sheets or corrugated metal sheets
System: **DS-V1N**

ST





Structure description
Complete support system for any number of PV panels in a vertical arrangement on a sloping roof covered with metal tiles sheets or corrugated metal sheets

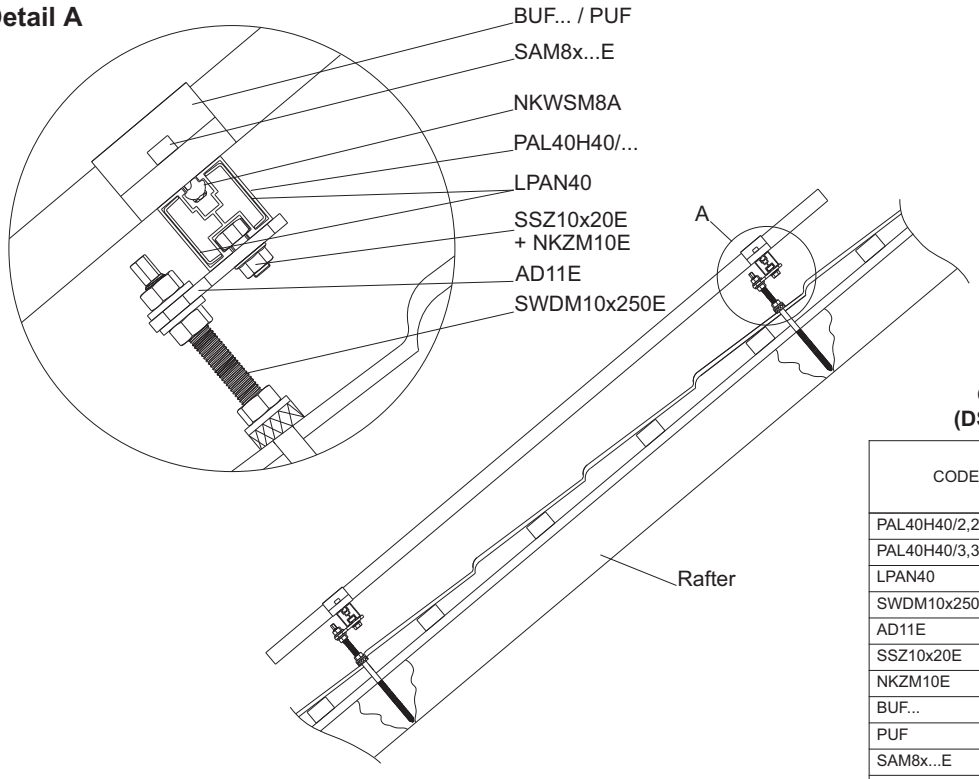
Technical description:
Materials of the support system:
A- Aluminium
E- Stainless steel
MC- Steel in Magnelis® coating
Structure tested for strength.
Installation of double-threaded screws for roof rafters.
Recommended spacing between screws 0,8 - 1 m.

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

Advantages:
- wide range of height adjustment of aluminium profiles in relation to the roof thanks to the long, threaded part of the screw
- additional adjustment of the aluminium profiles thanks to the longitudinal hole in the AD...E adapter
- the elements are made of stainless steel and aluminium, which guarantees very high corrosion resistance
- high stability of the structure thanks to the aluminium profile with a specially profiled section
- double-threaded screws fitted with rubber to ensure basic sealing of the hole in the roof tiles

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.

Detail A

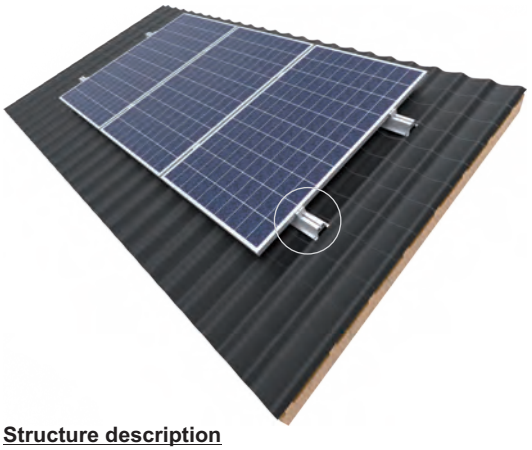


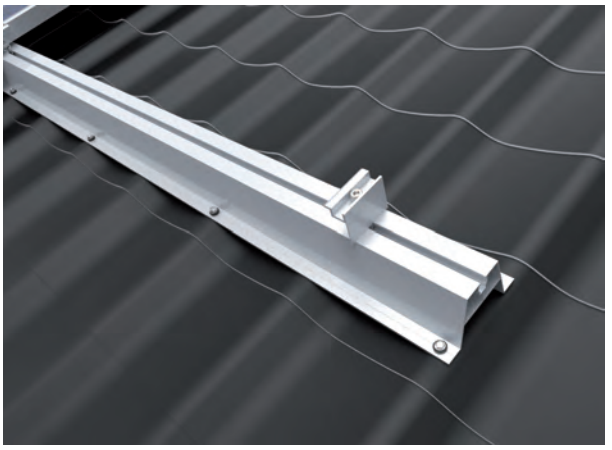
Component list for (DS-H1N) and (DS-V1N)

CODE	4 panels (~1700/1000 mm) (DS-H1N)	4 panels (~1700/1000 mm) (DS-V1N)
	pcs	pcs
PAL40H40/2,2	2	4
PAL40H40/3,3	3	-
LPAN40	8	4
SWDM10x250E	18	12
AD11E	18	12
SSZ10x20E	18	12
NKZM10E	18	12
BUF...	4	4
PUF	6	6
SAM8x...E	10	10
NKWSM8A	10	10

Detailed information on the products can be found on pages 63-110

Mounting structure for the installation of photovoltaic panels
on sloping roofs covered with metal tiles sheets or corrugated metal sheets
System: **DS-V1aN**





Structure description
Complete support system for any number of PV panels in a vertical arrangement on a sloping roof covered with metal tiles sheets or corrugated metal sheets.

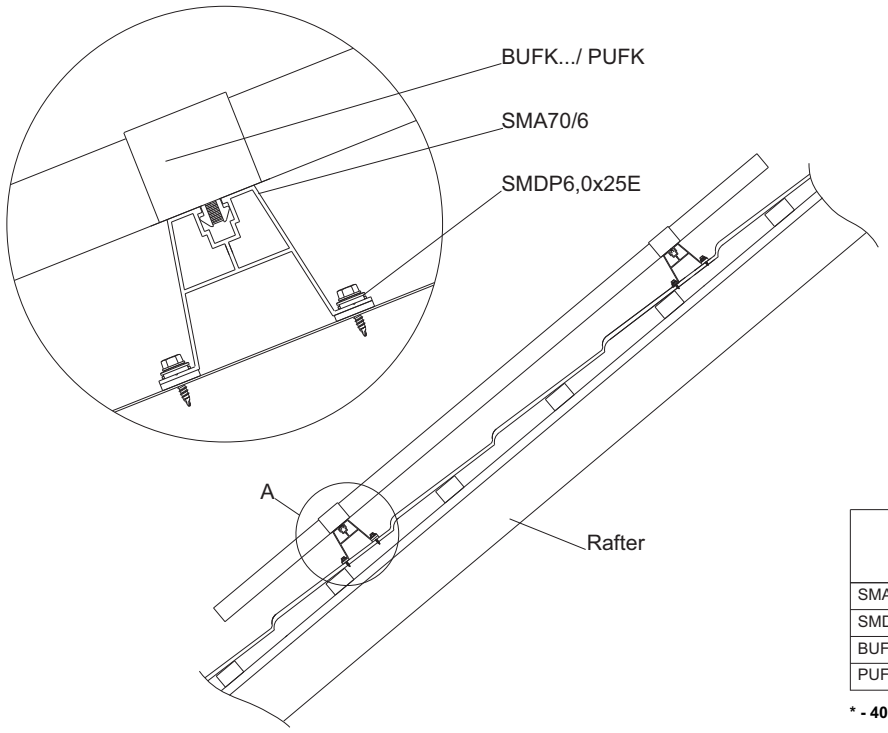
Technical description:
Materials of the support system:
A- Aluminium
E- Stainless steel
Structure tested for strength.
Installation of screws every second wave of the metal tile sheet.

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

Advantages:
- easier installation of the structure to the roofing without interfering with the structure of the roof truss
- ventilation and cooling of the PV installation is increased by moving the structure away from the roof surface
- the elements are made of stainless steel and aluminium, which guarantees very high corrosion resistance
- high stability of the structure thanks to the aluminium profile with a specially profiled section

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.

Detail A



Component list for (DS-H1aN) and (DS-V1aN)

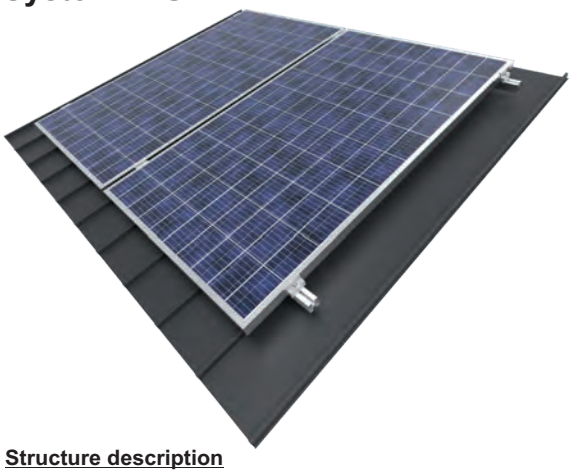
CODE	5 panels (~1700/1000 mm) (DS-H1aN)	5 panels (~1700/1000 mm) (DS-V1aN)
	pcs	pcs
SMA70/6*	3	2
SMDP6,0x25E	40	40
BUFK...	4	4
PUFK	8	8

*** - 40 mm high rail SMA40/6 is also available**

Detailed information on the products can be found on pages 63-110

Mounting structure for the installation of photovoltaic panels
on sloping roofs covered with sheet metal seam plates

System: DS-V2N



Structure description
Complete support system for any number of PV panels in a vertical arrangement on a sloping roof covered with sheet metal seam plates

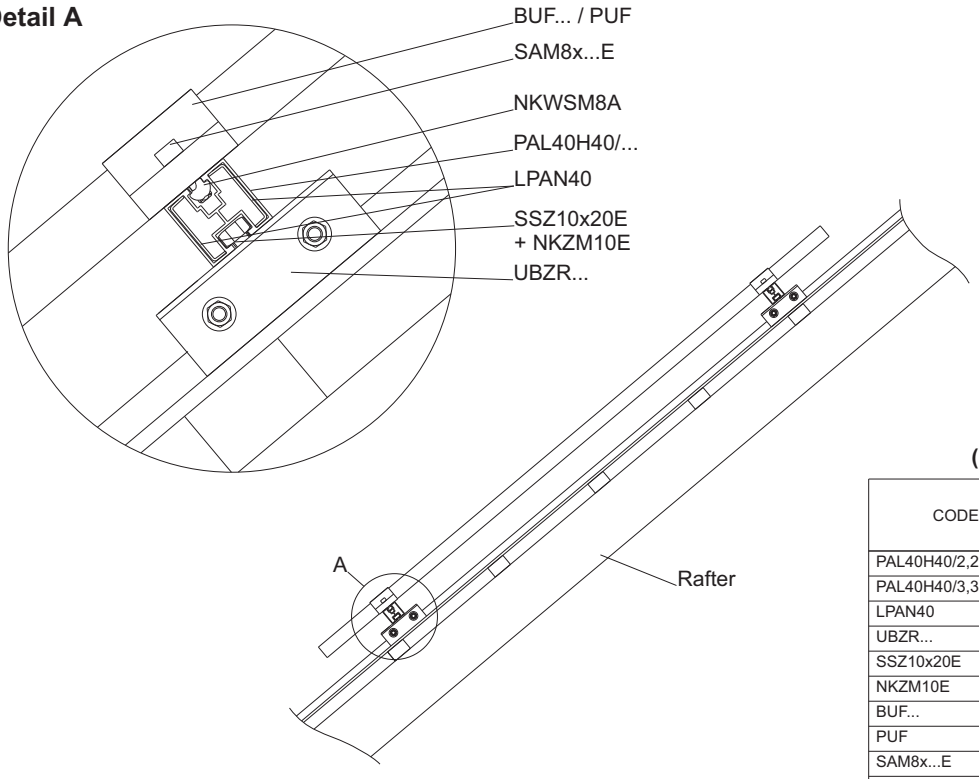
Technical description:
Materials of the support system:
A- Aluminium
E- Stainless steel
MC- Steel in Magnelis® coating
Structure tested for strength.
The holders should be mounted to the first three seams, counted from the edge of each row of panels and then every second seam.

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

Advantages:
- installation of the structure to the seam without interfering with the structure of the roofing
- quick installation of the holders without the need to locate the rafters
- different versions of holders for sheets metal to ensure stable installation with most sheet metal seam plates systems
- the elements are made of stainless steel and aluminium, which guarantees very high corrosion resistance
- high stability of the structure thanks to the aluminium profile with a specially profiled section

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.

Detail A



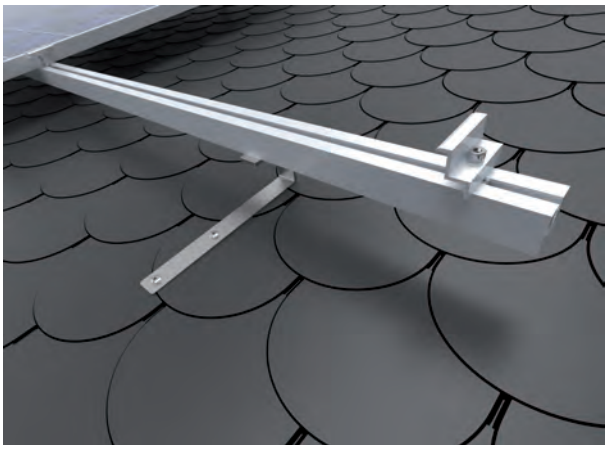
Component list for (DS-H2N) and (DS-V2N)

CODE	4 panels (~1700/1000 mm) (DS-H2N)	4 panels (~1700/1000 mm) (DS-V2N)
	pcs	pcs
PAL40H40/2,2	2	4
PAL40H40/3,3	3	-
LPAN40	8	4
UBZR...	16	12
SSZ10x20E	16	12
NKZM10E	16	12
BUF...	4	4
PUF	6	6
SAM8x...E	10	10
NKWSM8A	10	10

Detailed information on the products can be found on pages 63-110

Mounting structure for the installation of photovoltaic panels
on sloping roofs covered with bituminous tiles

System: **DS-V3N**



Structure description
Complete support system for any number of PV panels in a vertical arrangement on a sloping roof covered with bituminous tiles

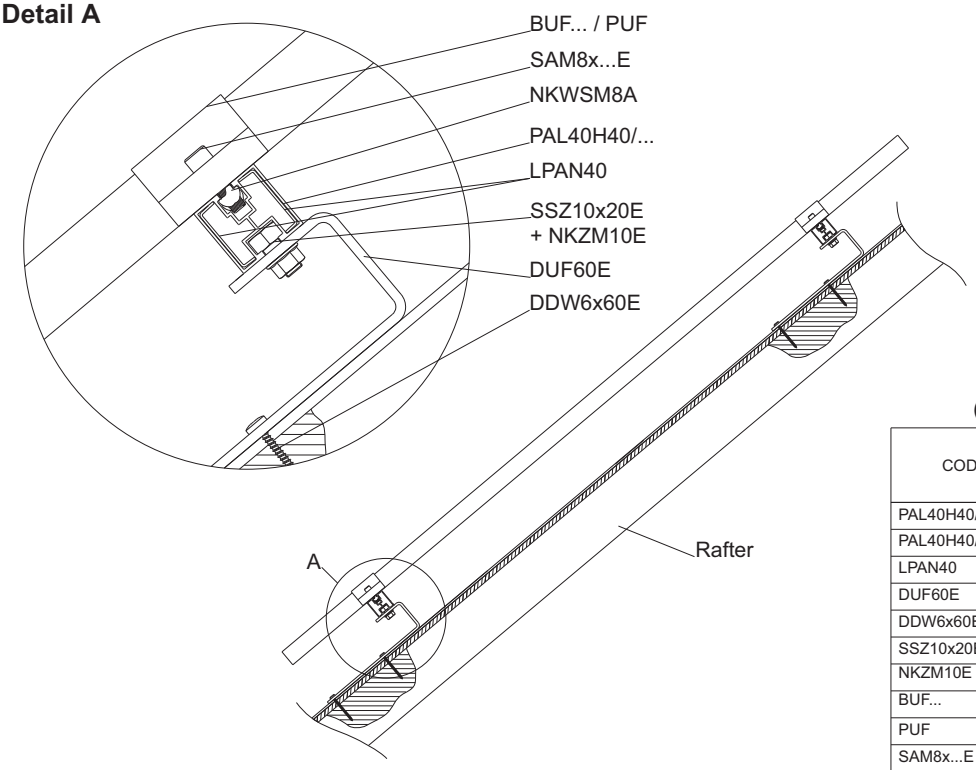
Technical description:
Materials of the support system:
A- Aluminium
E- Stainless steel
MC- Steel in Magnelis® coating
Structure tested for strength.
Installation of holders with screws for roof rafters.
Recommended spacing between holders 0,8 - 1 m.

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

Advantages:
- the shape of the holders ensures high stability of the structure
- the elements are made of stainless steel and aluminium, which guarantees very high corrosion resistance
- high stability of the structure thanks to the aluminium profile with a specially profiled section

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.

Detail A

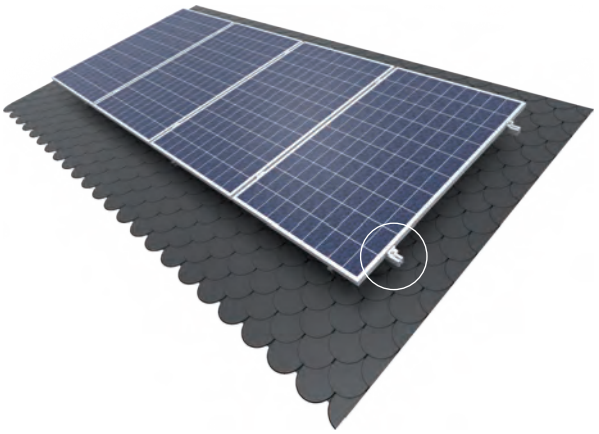


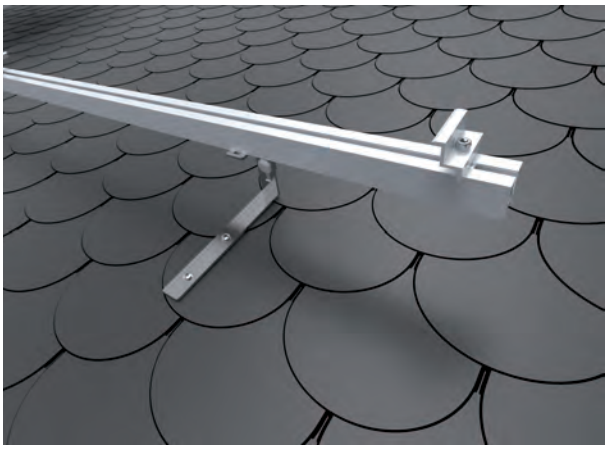
Component list for (DS-H3N) and (DS-V3N)

CODE	4 panels (~1700/1000 mm) (DS-H3N)	4 panels (~1700/1000 mm) (DS-V3N)
	pcs	pcs
PAL40H40/2,2	2	4
PAL40H40/3,3	3	0
LPAN40	8	4
DUF60E	18	12
DDW6x60E	36	24
SSZ10x20E	18	12
NKZM10E	18	12
BUF...	4	4
PUF	6	6
SAM8x...E	10	10
NKWSM8A	10	10

Detailed information on the products can be found on pages 63-110

Mounting structure for the installation of photovoltaic panels
on sloping roofs covered with bituminous tiles
System: **DS-V3aN**

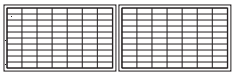


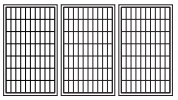


Structure description
Complete support system for any number of PV panels in a vertical arrangement on a sloping roof covered with bituminous tiles

Technical description:
Materials of the support system:
A- Aluminium
E- Stainless steel
MC- Steel in Magnelis® coating
Structure tested for strength.
Installation of holders with screws for roof rafters.
Recommended spacing between holders 0,8 - 1 m.

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

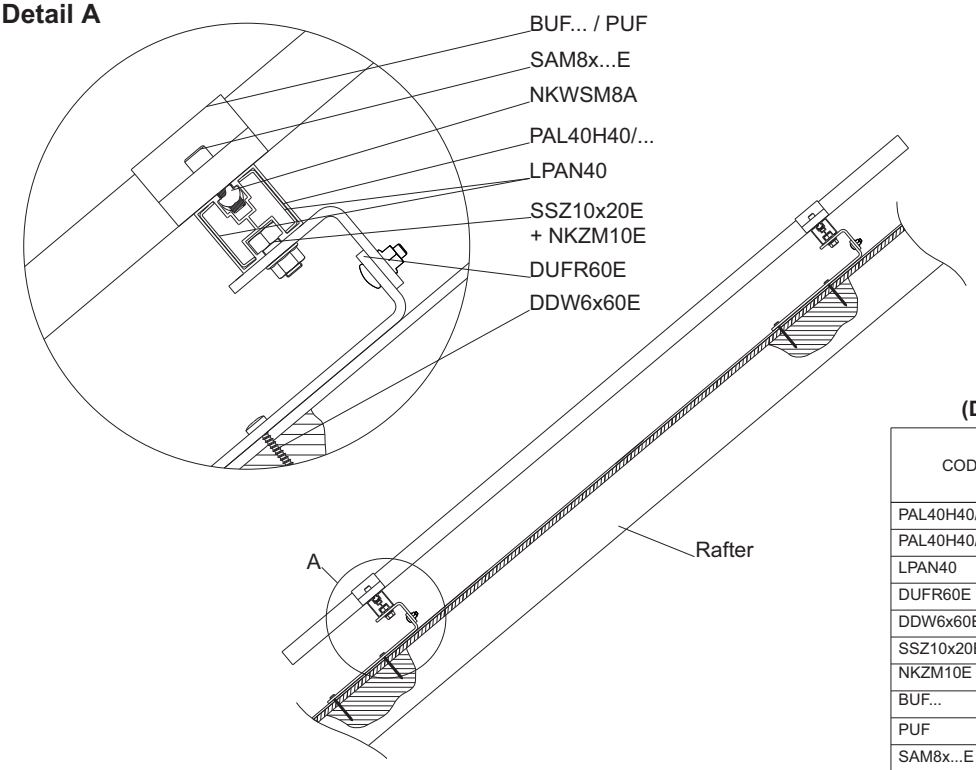




Advantages:
- the shape of the holders ensures high stability of the structure
- the elements are made of stainless steel and aluminium, which guarantees very high corrosion resistance
- high stability of the structure thanks to the aluminium profile with a specially profiled section

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.

Detail A



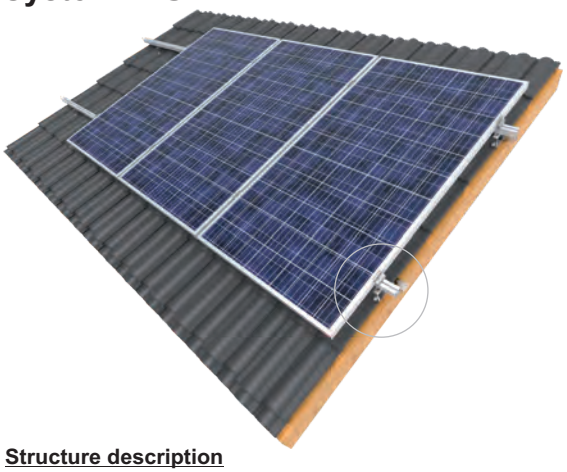
Component list for (DS-H3aN) and (DS-V3aN)

CODE	4 panels (~1700/1000 mm) (DS-H3aN)	4 panels (~1700/1000 mm) (DS-V3aN)
	pcs	pcs
PAL40H40/2,2	2	4
PAL40H40/3,3	3	0
LPAN40	8	4
DUFR60E	18	12
DDW6x60E	36	24
SSZ10x20E	18	12
NKZM10E	18	12
BUF...	4	4
PUF	6	6
SAM8x...E	10	10
NKWSM8A	10	10

Detailed information on the products can be found on pages 63-110

Mounting structure for the installation of photovoltaic panels
on sloping roofs covered with bituminous tiles

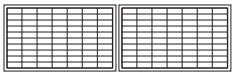
System: DS-V4N

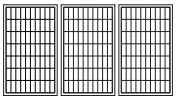


Structure description
Complete support system for any number of PV panels in a vertical arrangement on a sloping roof covered with ceramic or concrete tiles

Technical description:
Materials of the support system:
A- Aluminium
E- Stainless steel
MC- Steel in Magnelis® coating
Structure tested for strength.
Installation of holders with screws for roof rafters.
Recommended spacing between holders 0,8 - 1 m.

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

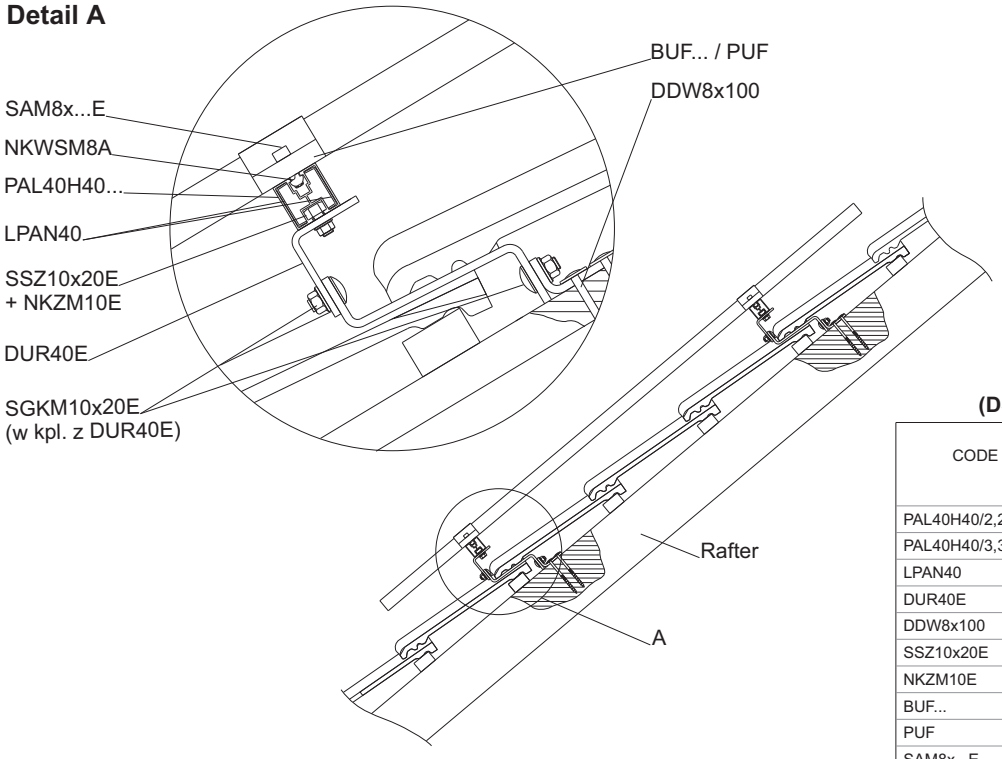




Advantages:
- wide adjustment range of the holders thanks to longitudinal holes in each of the 3 elements of the holder
- dense perforation in the part directly adjacent to the roof truss ensure that the holder can be adjusted and correctly positioned in relation to the tiles so that the hook is in the middle of the tile mounted below
- elongated middle arm of the holder allows the hooks to be mounted on the majority of ceramic and concrete roof tiles available on the market
- the elements are made of stainless steel and aluminium, which guarantees very high corrosion resistance
- high stability of the structure thanks to the aluminium profile with a specially profiled section

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.

Detail A



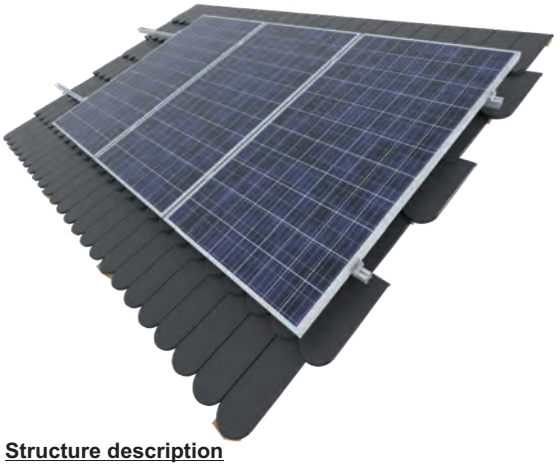
Component list for (DS-H4N) and (DS-V4N)

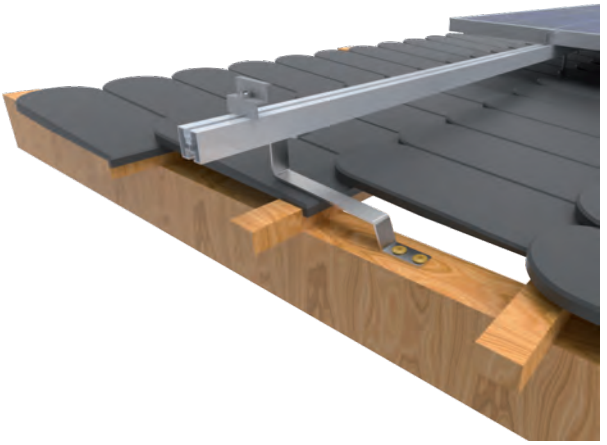
CODE	4 panels (~1700/1000 mm) DS-H4N	4 panels (~1700/1000 mm) DS-V4N
	pcs	pcs
PAL40H40/2,2	2	4
PAL40H40/3,3	3	-
LPAN40	8	4
DUR40E	18	12
DDW8x100	36	24
SSZ10x20E	18	12
NKZM10E	18	12
BUF...	4	4
PUF	6	6
SAM8x...E	10	10
NKWSM8A	10	10

Detailed information on the products can be found on pages 63-110

Mounting structure for the installation of photovoltaic panels
on sloping roofs covered with scale-shaped tiles

System: DS-V5N

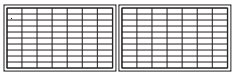


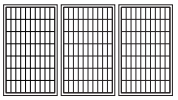


Structure description
Complete support system for any number of PV panels in a vertical arrangement on a sloping roof covered with scale-shaped tiles

Technical description:
Materials of the support system:
A- Aluminium
E- Stainless steel
MC- Steel in Magnelis® coating
Structure tested for strength.
Installation of holders with screws for roof rafters.
Recommended spacing between holders 0,8 - 1 m.

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

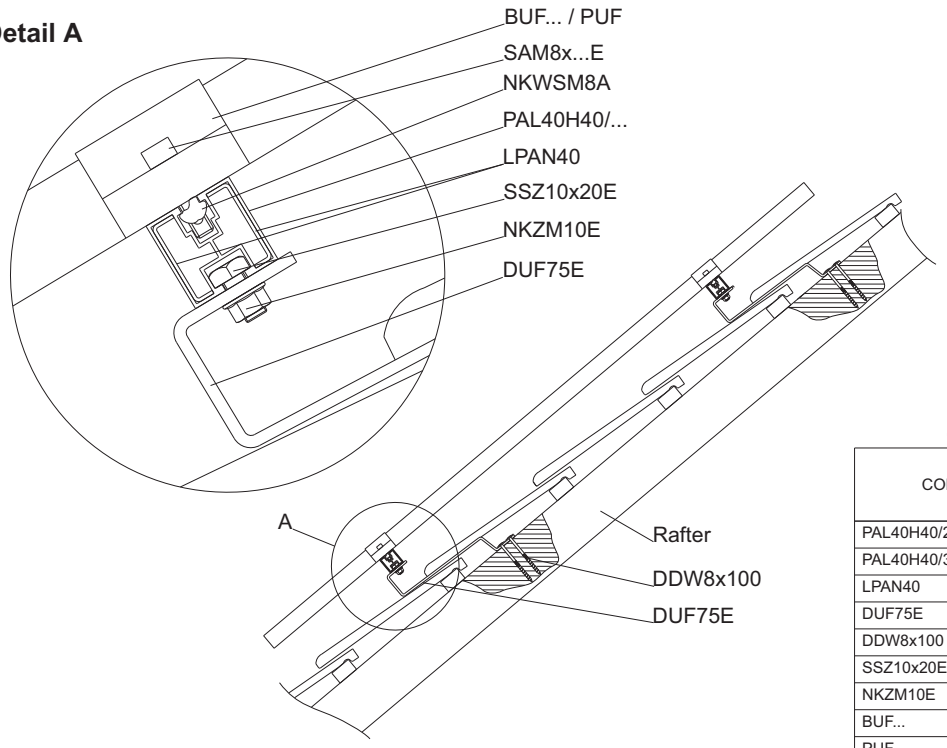




Advantages:
- elongated arm of the holder allows the hooks to be mounted on the majority of ceramic and concrete roof tiles available on the market
- the elements are made of stainless steel and aluminium, which guarantees very high corrosion resistance
- high stability of the structure thanks to the aluminium profile with a specially profiled section

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.

Detail A



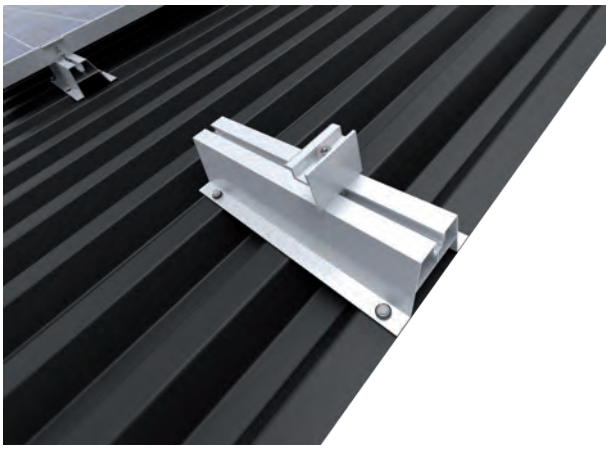
Component list for (DS-H5N) and (DS-V5N)

CODE	4 panels (~1700/1000 mm) (DS-H5N)	4 panels (~1700/1000 mm) (DS-V5N)
	pcs	pcs
PAL40H40/2,2	2	4
PAL40H40/3,3	3	-
LPAN40	8	4
DUF75E	18	12
DDW8x100	36	24
SSZ10x20E	18	12
NKZM10E	18	12
BUF...	4	4
PUF	6	6
SAM8x...E	10	10
NKWSM8A	10	10

Detailed information on the products can be found on pages 63-110

Mounting structure for the installation of photovoltaic panels
on sloping roofs covered with trapezoidal metal sheets - high rail

System: **DS-V6aN**



Structure description
Complete support system for any number of PV panels in a vertical arrangement on a sloping roof covered with trapezoidal metal sheets.

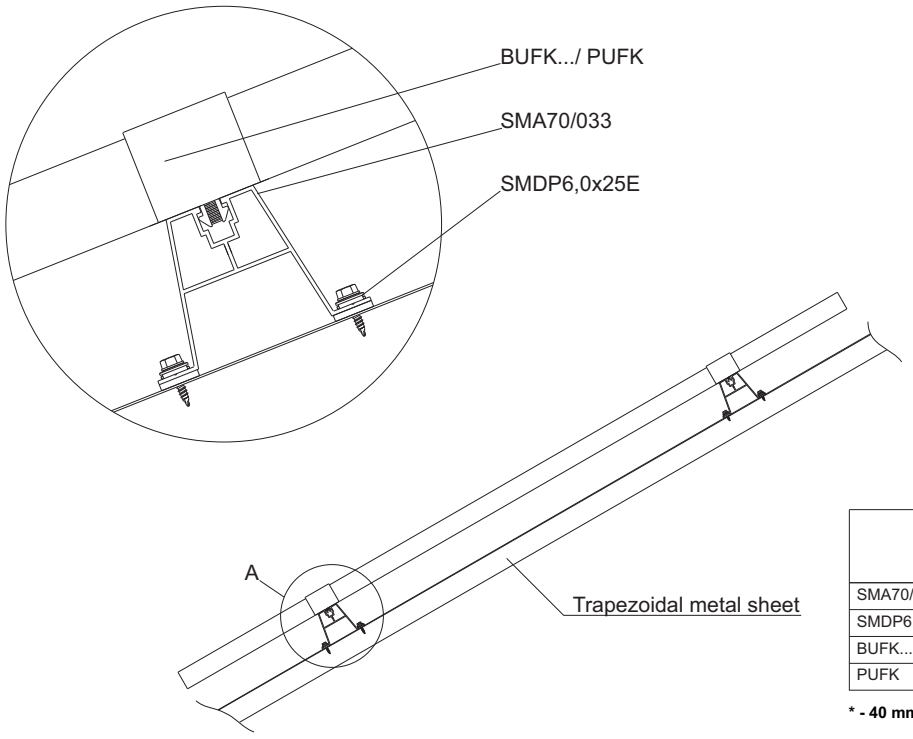
Technical description:
Materials of the support system:
A- Aluminium
E- Stainless steel
MC- Steel in Magnelis® coating
Structure tested for strength.

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

Advantages:
- quick installation of the structure with threaded screws directly to the trapezoidal metal sheets without the need to locate the rafters
- very economical design with a small number of components
- the elements are made of stainless steel and aluminium, which guarantees very high corrosion resistance
- high stability of the structure thanks to the aluminium profile with a specially profiled section

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.

Detail A



Component list for (DS-H6aN) and (DS-V6aN)

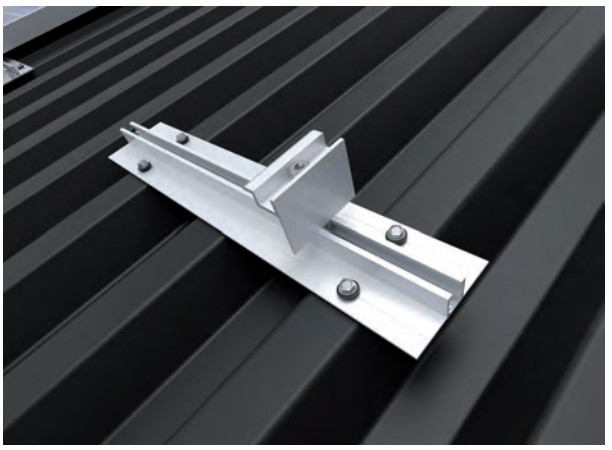
CODE	4 panels (~1700/1000 mm) (DS-H6aN)	4 panels (~1700/1000 mm) (DS-V6aN)
	pcs	pcs
SMA70/033*	10	10
SMDP6,0x25E	40	40
BUFK...	4	4
PUFK	6	6

*** - 40 mm high rail SMA40/033 is also available**

Detailed information on the products can be found on pages 63-110

Mounting structure for the installation of photovoltaic panels
on sloping roofs covered with trapezoidal metal sheets - low rail

System: DS-V6bN



Structure description
Complete support system for any number of PV panels in a vertical arrangement on a sloping roof covered with trapezoidal metal sheets.

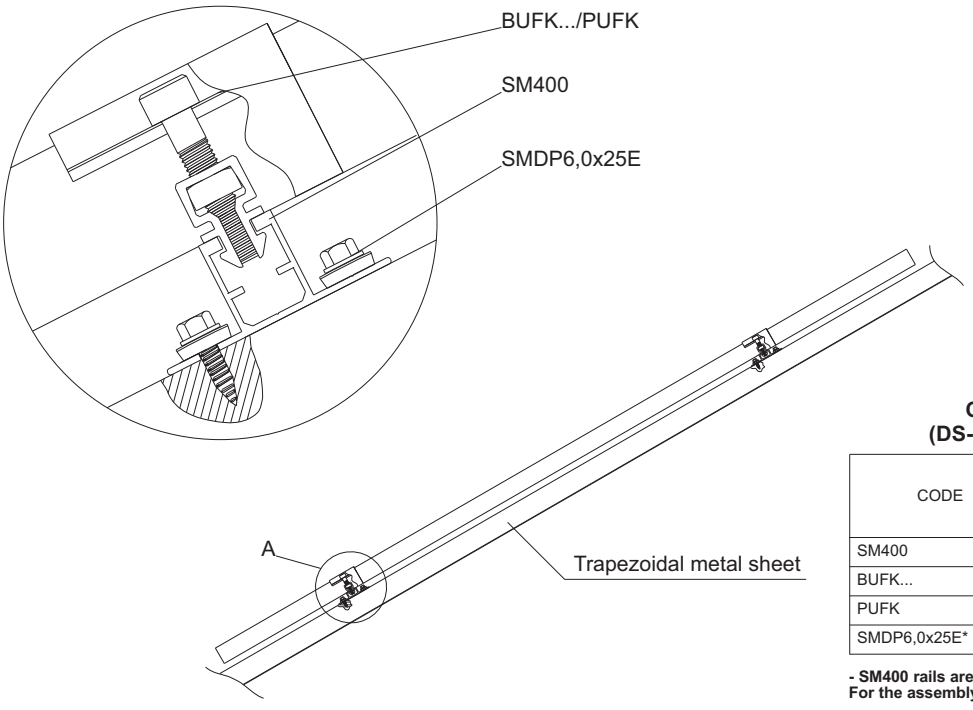
Technical description:
Materials of the support system:
A- Aluminium
E- Stainless steel
MC- Steel in Magnelis® coating
Structure tested for strength.

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

Advantages:
- quick installation of the structure with threaded screws directly to the trapezoidal metal sheets without the need to locate the rafters
- very economical design with a small number of components
- the elements are made of stainless steel and aluminium, which guarantees very high corrosion resistance
- high stability of the structure thanks to the aluminium profile with a specially profiled section

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.

Detail A



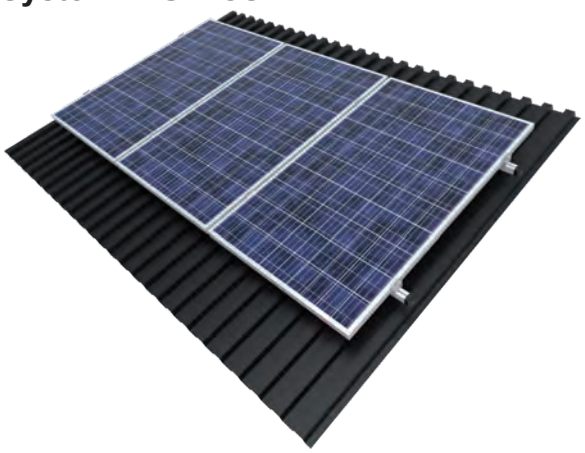
Component list for (DS-H6bN) and (DS-V6bN)

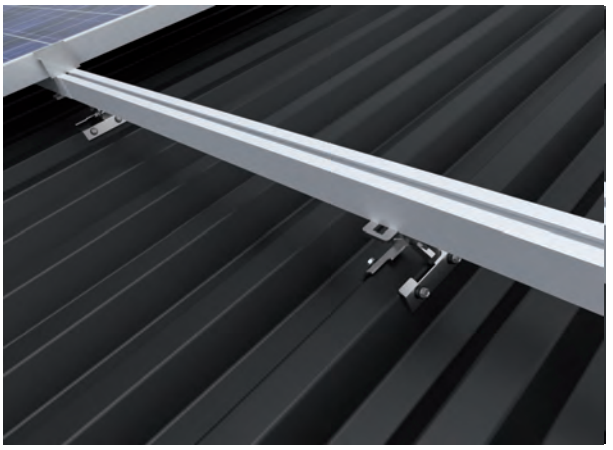
CODE	4 panels (~1700/1000 mm) (DS-H6bN)	4 panels (~1700/1000 mm) (DS-V6bN)
	pcs	pcs
SM400	10	10
BUFK...	4	4
PUFK	6	6
SMDP6,0x25E*	40	40

- SM400 rails are not equipped with EPDM... rubber. For the assembly EPDMW2x40 rubber is recommended.

Detailed information on the products can be found on pages 63-110

Mounting structure for the installation of photovoltaic panels
on sloping roofs covered with trapezoidal metal sheets
System: **DS-V6cN**

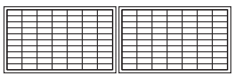


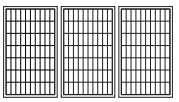


Structure description
Complete support system for any number of PV panels in a vertical arrangement on a sloping roof covered with trapezoidal metal sheets.

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

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

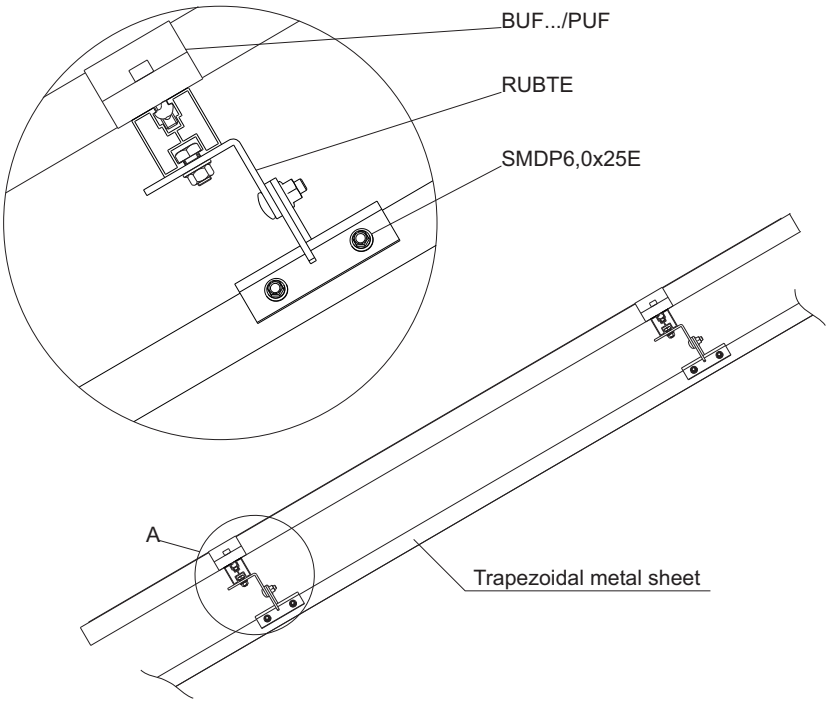




Advantages:
- quick installation of the structure with threaded screws directly to the trapezoidal metal sheets without the need to locate the rafters
- very economical design with a small number of components
- the elements are made of stainless steel and aluminium, which guarantees very high corrosion resistance
- high stability of the structure thanks to the aluminium profile with a specially profiled section
- holder suitable for different types of trapezoidal metal sheets

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.

Detail A

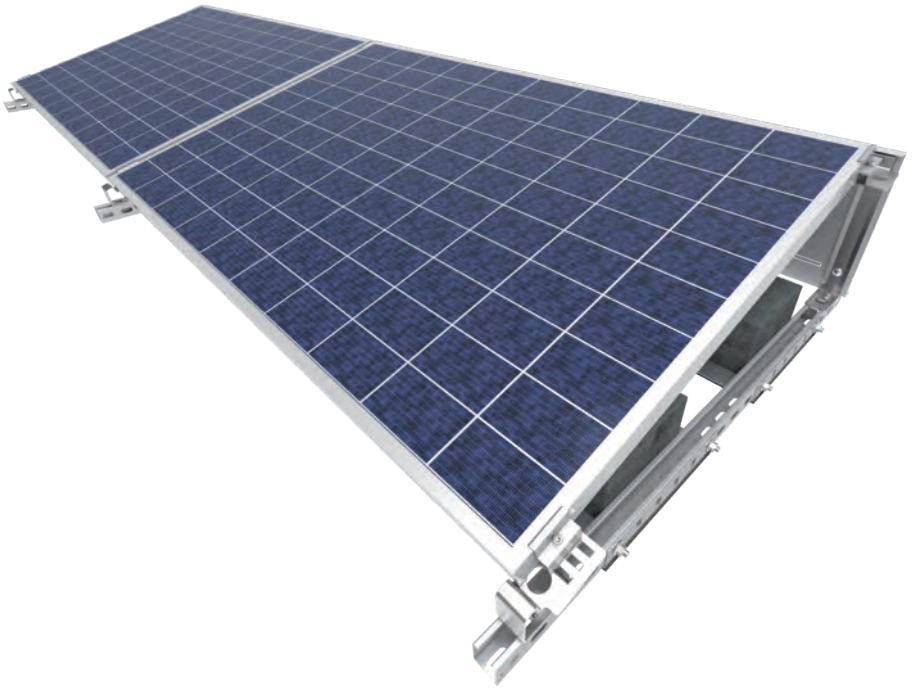


Component list for (DS-H6cN) and (DS-V6cN)

CODE	4 panels (~1700/1000 mm) (DS-H6cN)	4 panels (~1700/1000 mm) (DS-V6cN)
	pcs	pcs
PAL40H40/2,1	4	4
PAL40H40/3,15	2	-
LPAN40	8	4
RUBTE	18	12
SMDP6,0X25E	72	48
SSZ10x20E A2	18	12
NKZM10E A2	18	12
BUF...	4	4
PUF	6	6
SAM8X..E	10	10
NKWSM8A	10	10

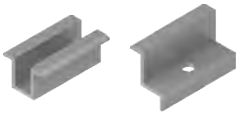
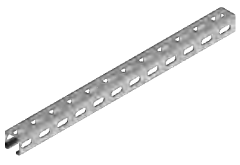
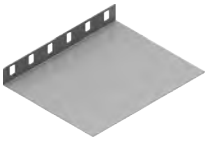
Detailed information on the products can be found on pages 63-110

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 roofs, system: **DP-DNHBE, DP-DNHKE, DP-DNHWE, DP-DNHKSE**
- flat roofs, system: **DP-DNHBE-WZ, DP-DNHKE-WZ, DP-DNHWE-WZ, DP-DNHKSE-WZ**
- flat roofs, system: **DP-DTVKN, DP-DTVBN**
- flat roofs, system: **DP-DTAVKN, DP-DTAVBN**
- building elevations, system: **E-VKRN, E-VKTN, E-HKRN**
- balcony railings, system: **B-VPN, B-HPN**

Examples of system components:

 **Steel Fixing Plate for Flat Roofs SPM1**	 **Panel's Bottom Holder UPDCNMC**	 **Panel's Top Holder UPGC...NMC**	 **Middle and Side Holders PUF and BUF...**
 **Mounting Channel CMP41H41...MC**	 **Base Plate PDOP300MC**	 **Universal Wind Shield – Adjustable OWN...MC**	 **Vibration Damping Rubber SBV...**

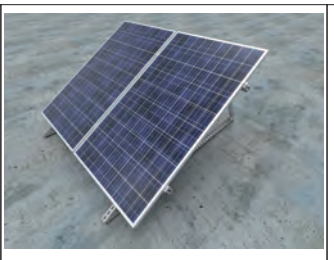
Advantages of the structures for mounting photovoltaic panels on flat roofs, building elevations and balcony railings

- structures available in steel in Magnelis® coating and aluminium
- universal structures for flat roofs that can be fixed directly to the roofing with: anchors, boards glued to the membrane or the roofing felt, or used as ballast structures
- variable adjustment and longitudinal perforation of the structure components 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
- universal wind shields allow for quick installation and there is no need to order shields with dimensions dedicated to a given panel
- 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 vibration
- 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 to aluminium profiles
- products made in Poland!

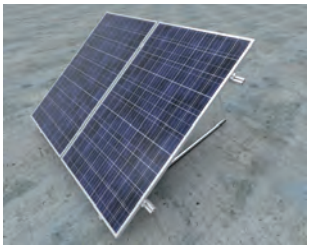
Systems:

DP-DNHBE,
DP-DNHKE,
DP-DNHWE,
DP-DNHKSE

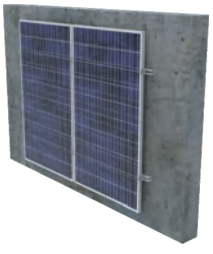
DP-DNHBE-WZ,
DP-DNHKE-WZ,
DP-DNHWE-WZ,
DP-DNHKSE-WZ



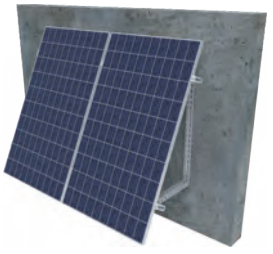
DP-DTVKN-30°



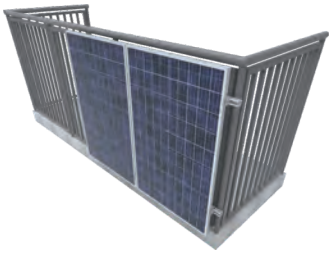
DP-DTAVKN-30°



E-VKRN



E-VKTN

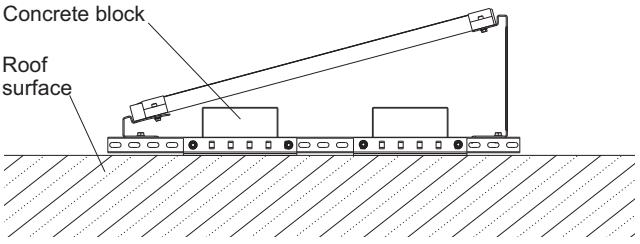


B-VPN

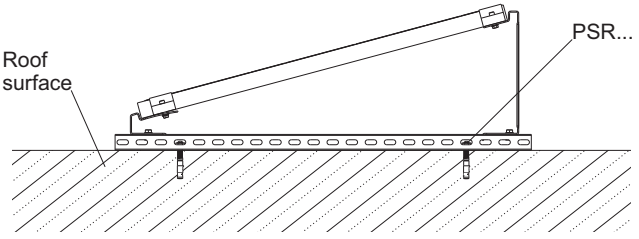
Recommended ways of mounting flat structures

Structure mounting variants:

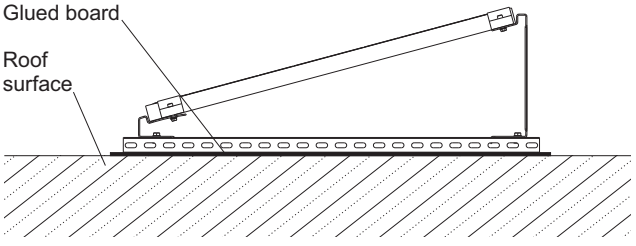
DP-DNHBE
Structure mounted on a flat roof without interference with the roofing by means of additional ballast such as e.g. concrete blocks. Steel elements of the structure are separated from the roofing by thick vibration damping rubber.



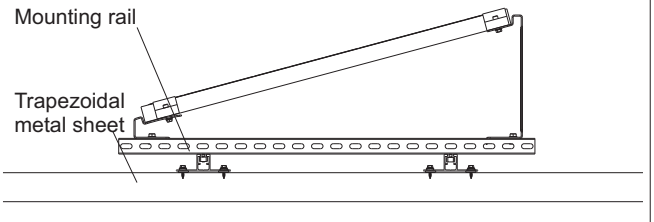
DP-DNHKE
Structure mounted on a flat roof using mechanical or chemical anchors. Used on flat roofs that allow interference. Can be used on roofs with low load-bearing capacity due to elimination of ballasting. Steel elements of the structure are separated from the roofing by thick vibration damping rubber.



DP-DNHWE
The structure is mounted on a flat roof using innovative bases glued into the roofing made of bituminous felt or membrane. Thanks to the very high strength of glued-in bases, the structure does not require ballasting and anchoring, thanks to which it can be used on roofs with low bearing capacity without interference in the roofing.



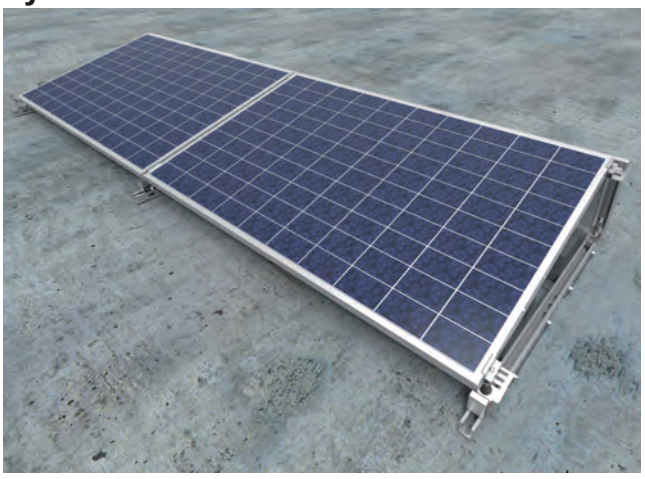
DP-DNHKSE
The structure is mounted on a flat roof covered with trapezoidal metal sheets or sandwich panels by means of long sections of aluminium mounting rails SM... Such a method of mounting facilitates the installation of the structure to the above mentioned roofings.

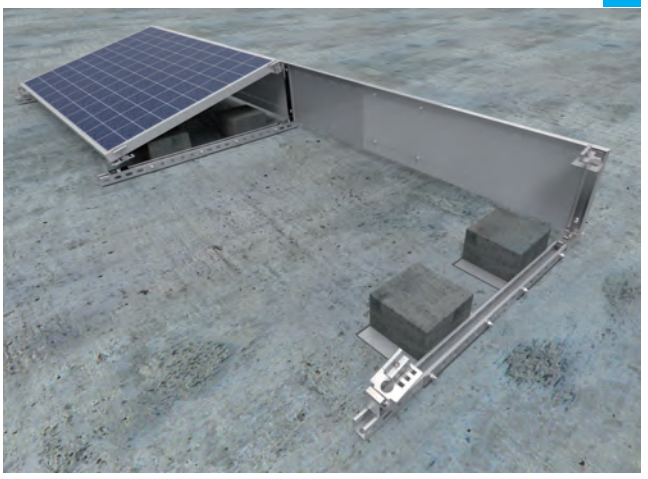


Mounting structure for the installation of photovoltaic panels
on flat roofs

System: DP-DNHBE

ST





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 roofing thanks to the ballasting of the structure with concrete blocks (protect the blocks 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.

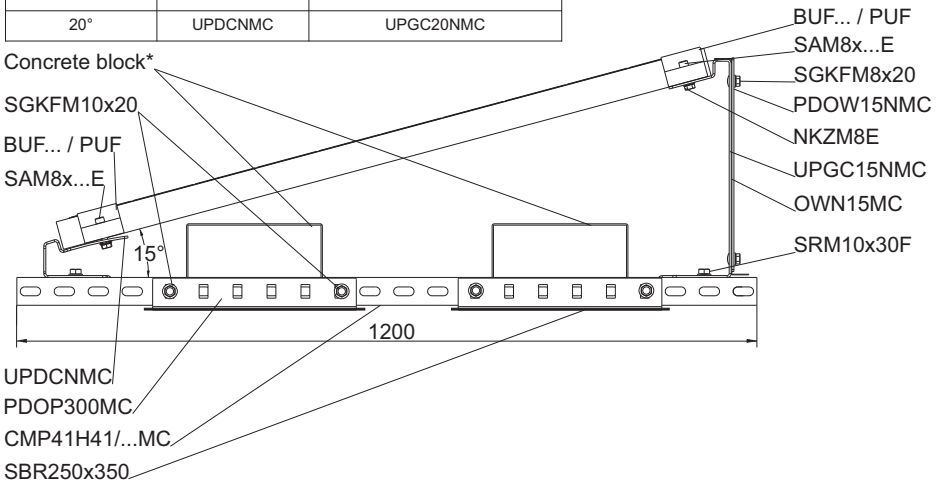
Structure assembly variants:
• anchored to the roof
• ballast (after using vibration damping pads and ballast bases)
• glued

Advantages:
- quick installation and low price
- structure tested for strength
- steel in Magnelis® coating guarantees very high corrosion resistance
- fixing the panel holders to the main profile with one screw and channel nut
- variable adjustment of the spacing of holders in the main profile
- longitudinal holes for panel mounting in the UPDC...MC and UPGC...MC holders extend the tolerances for mounting of the panels to the structure mounted on the roof
- bottom holder for setting three angles: 10°, 15° and 20°
- possibility of mounting panels with any length

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.

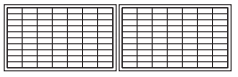
The table below allows you to select a set of holders (bottom + top) in order to obtain a structure with an appropriate angle of inclination of the panels.

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)

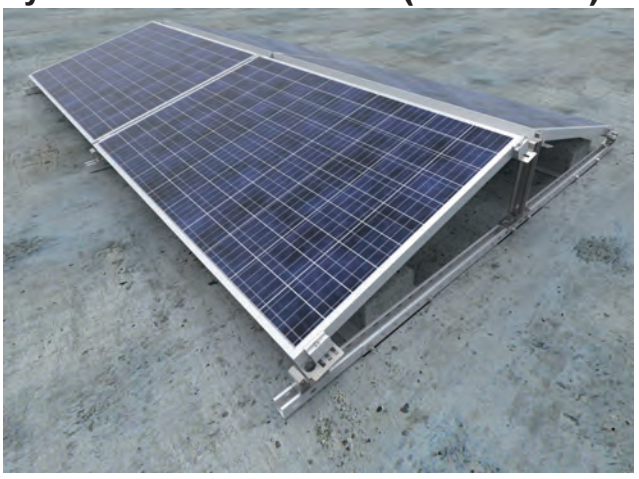
CODE	4 panels (~1700/1000 mm)
	pcs
CMP41H41/1,2MC	5
UPDCNMC	5
UPGC15NMC	5
SRM10x30F	10
PDOP300MC	10
SGKFM10x20	20
SBR250x350	10
SGKFM8x20	10
OWN15MC	4
PDOW15NMC	5
BUF...	4
PUF	6
SAM8x...E	10
NKZM8E	10

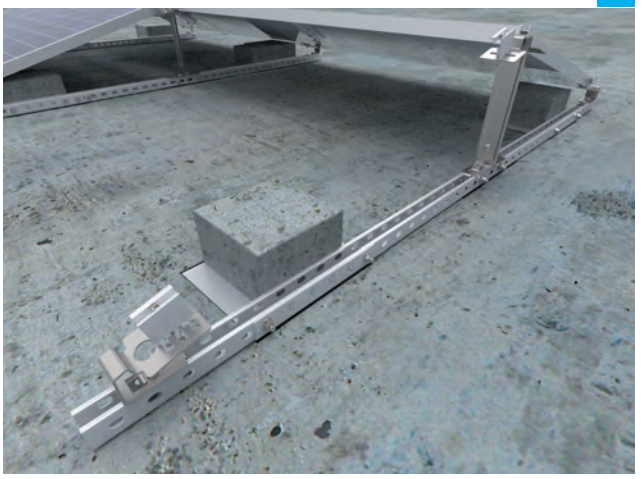
Detailed information on the products can be found on pages 63-110

Mounting structure for the installation of photovoltaic panels
on flat roofs

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

ST





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 roofing thanks to the ballasting of the structure with concrete blocks (protect the blocks 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 vibration damping pads and ballast bases)
• glued

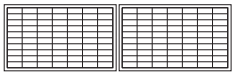
Advantages:
- quick installation and low price
- structure tested for strength
- steel in Magnelis® coating guarantees very high corrosion resistance
- fixing the panel holders to the main profile with one screw and channel nut
- variable adjustment of the spacing of holders in the main profile
- longitudinal holes for panel mounting in the UPDC...MC and UPGC...MC holders extend the tolerances for mounting of the panels to the structure mounted on the roof
- bottom holder for setting three angles: 10°, 15° and 20°
- possibility of mounting panels with any length

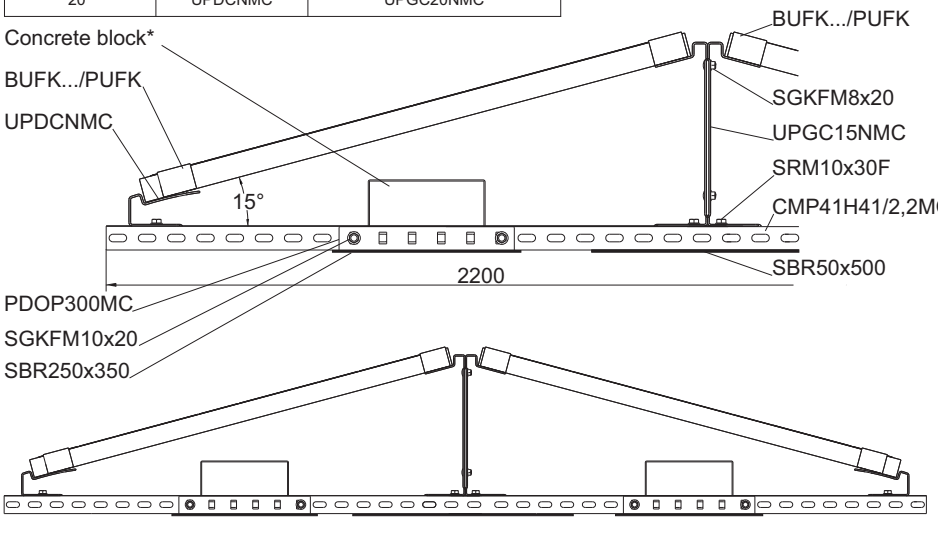
Warranty
BAKS provides a 10 year warranty period for the components included in the support structure - only if all conditions of the manufacturer's warranty are met.

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





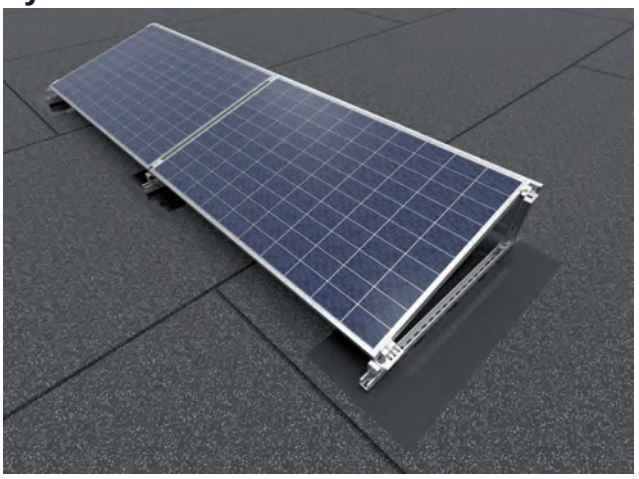
Component list for (DP-DNHBE-WZ)

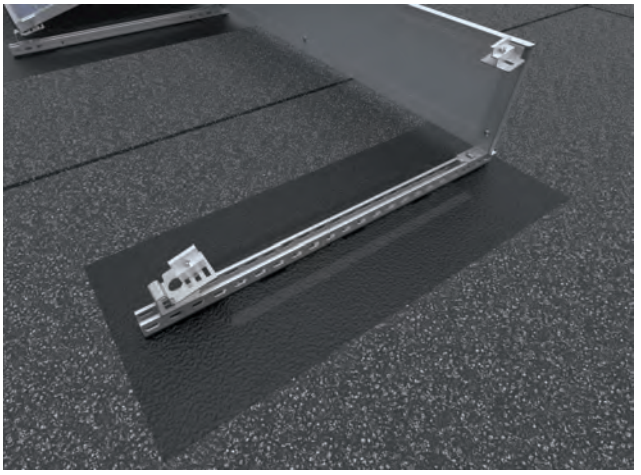
CODE	4 panels (~1700/1000 mm)
	pcs
CMP41H41/2,2MC	3
UPDCNMC	6
UPGC15NMC	6
SRM10x30F	12
PDOP300MC	6
SGKFM10x20	12
SBR250x350	6
SBR50x500	3
SGKFM8x20	6
BUFK...	8
PUFK	4

Detailed information on the products can be found on pages 63-110

Mounting structure for the installation of photovoltaic panels
on flat roofs covered with roofing felt

System: DP-DNHWE





Structure description
Complete support system for fixing the panels horizontally at angles of 10°,15° and 20° on a flat roof covered with roofing felt or membrane without disturbing the roofing or using additional ballasting.

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:
• glued
• anchored to the roof
• ballast (after using vibration damping pads and ballast bases)

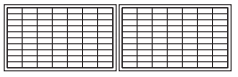
Advantages:
- quick installation and low price
- structure tested for strength
- steel in Magnelis® coating guarantees very high corrosion resistance
- fixing the panel holders to the main profile with one screw and channel nut
- variable adjustment of the spacing of holders in the main profile
- longitudinal holes for panel mounting in the UPDC...MC and UPGC...MC holders extend the tolerances for mounting of the panels to the structure mounted on the roof
- bottom holder for setting three angles: 10°, 15° and 20°
- possibility of mounting panels with any length
- no interference with roofing
- no additional roof load due to elimination of ballasting

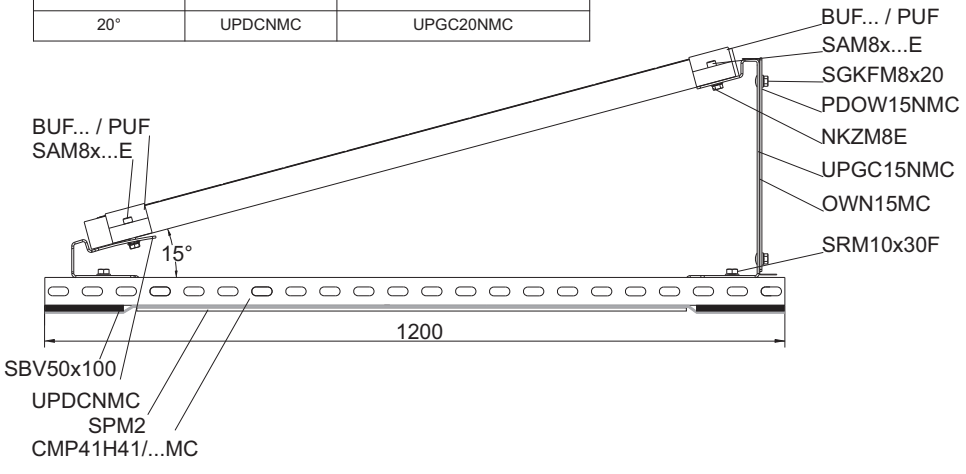
Warranty
BAKS provides a 10 year warranty period for the components included in the support structure - only if all conditions of the manufacturer's warranty are met.

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





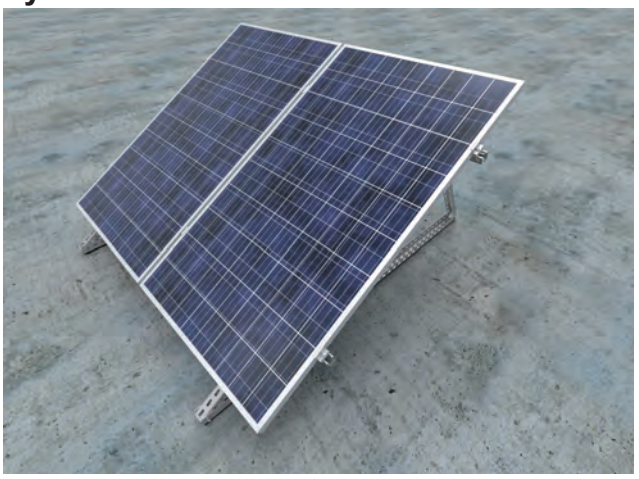
Component list for (DP-DNHWE)

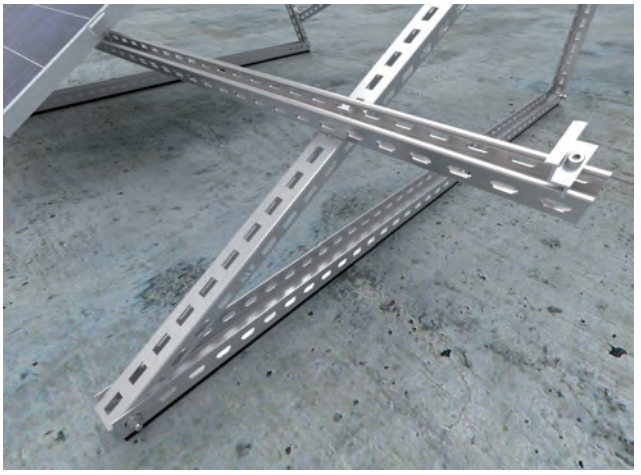
CODE	4 panels (~1700/1000 mm)
	pcs
CMP41H41/1,2MC	5
UPDCNMC	5
UPGC15NMC	5
SRM10x30F	10
SPM2	5
SBV50x100	10
SGKFM8x20	10
OWN15MC	4
PDOW15NMC	5
BUF...	4
PUF	6
SAM8x...E	10
NKZM8E	10

Detailed information on the products can be found on pages 63-110

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.

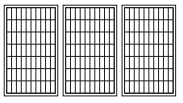
Technical description:
Materials of the support system:
MC- Constructional steel in Magnelis® coating
A- Aluminium
E- Stainless steel
F- Steel in zinc flake coating
Structure tested for strength.

Structure assembly variants:
• anchored to the roof
• ballast (after using vibration damping pads and ballast bases)

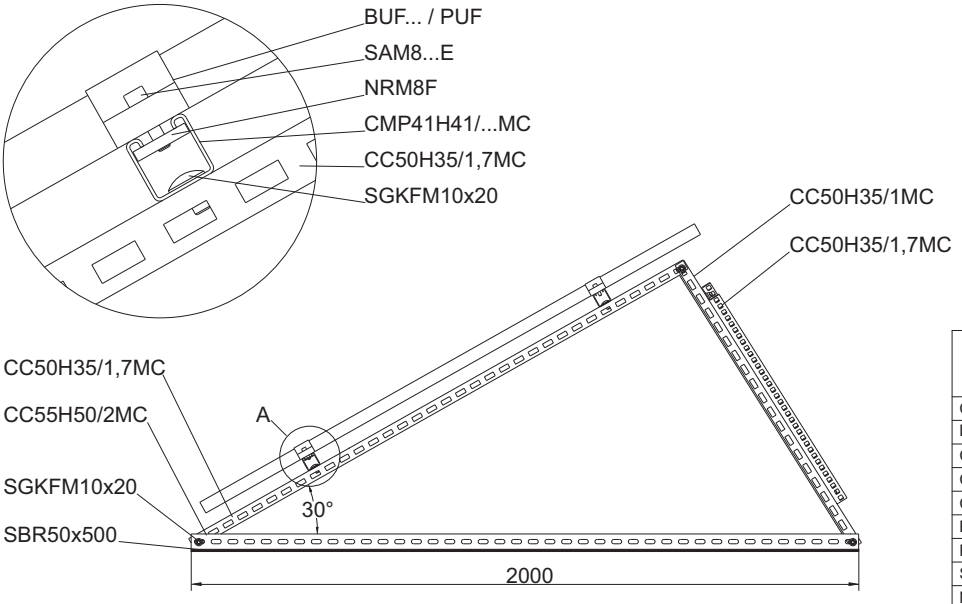
Advantages:
- quick installation
- low price
- structure tested for strength
- high stability of the structure
- steel in Magnelis® coating guarantees very high corrosion resistance
- possibility of fixing the panels on aluminium and steel profiles in Magnelis® coating
- possibility of setting three angles: 25°, 30° and 35°

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



Component list for (DP-DTVKN-30°)

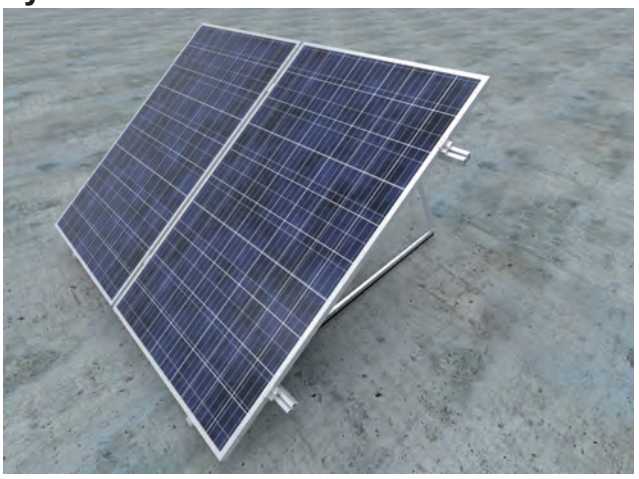
CODE	4 panels (~1700/1000 mm)
	pcs
CMP41H41/2,2MC	4
LC41H41MC	2
CC50H35/1MC	3
CC50H35/1,7MC	4
CC55H50/2MC	3
BUF...	4
PUF	6
SAM8x...E	10
NRM8F	10
SGKFM10x20	34
SBR50x500	12

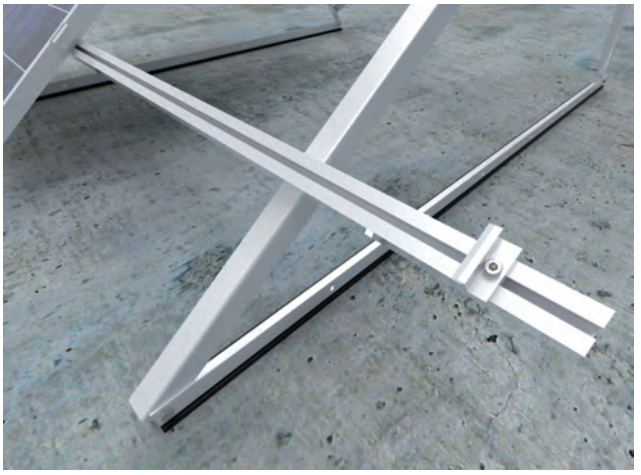
*For ballasting the structure, use a minimum of 195 kg of ballast per panel (depending on the wind zone).

Detailed information on the products can be found on pages 63-110

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.

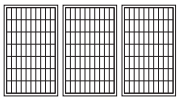
Technical description:
Materials of the support system:
MC- Constructional steel in Magnelis® coating
A- Aluminium
E- Stainless steel
F- Steel in zinc flake coating
Structure tested for strength.

Structure assembly variants:
• anchored to the roof
• ballast (after using vibration damping pads and ballast bases)

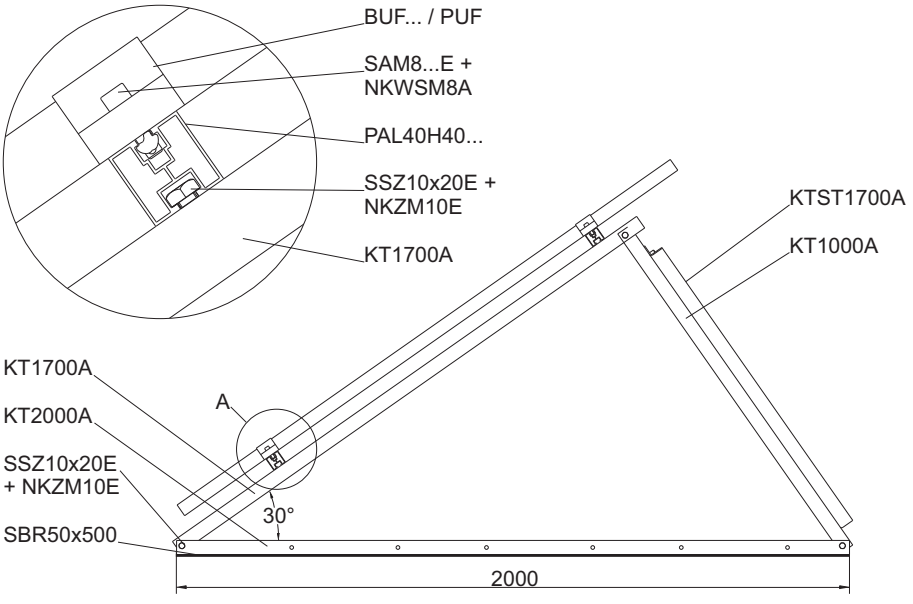
Advantages:
- quick installation
- low price
- structure tested for strength
- high stability of the structure
- aluminium guarantees very high corrosion resistance and lowers the weight of the support structure
- possibility of setting three angles: 25°, 30° and 35°
- lightweight structures, dedicated to roofs with low load capacity

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



Component list for (DP-DTAVKN-30°)

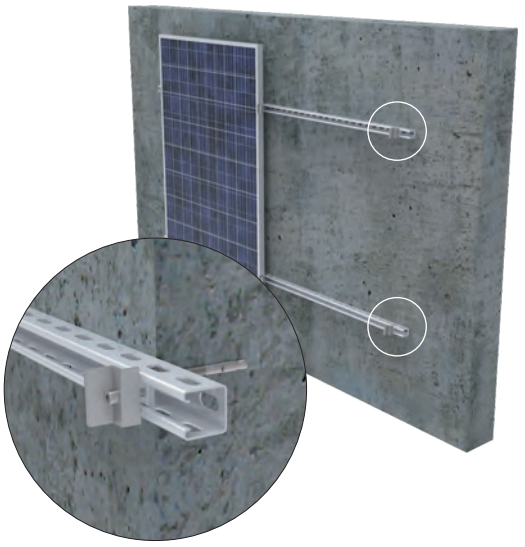
CODE	4 panels (~1700/1000 mm)
	pcs
PAL40H40/2,1	4
LPAN40	4
KT1000A	5
KT1700A	5
KT2000A	5
KTST1700A	1
BUF...	4
PUF	6
SAM8x...E	10
NKWSM8A	10
SSZ10x20E	17
NKZM10E	17
SBR50x500	12

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

Detailed information on the products can be found on pages 63-110

Mounting structure for the installation of photovoltaic panels
on walls

System: **E-VKRN**



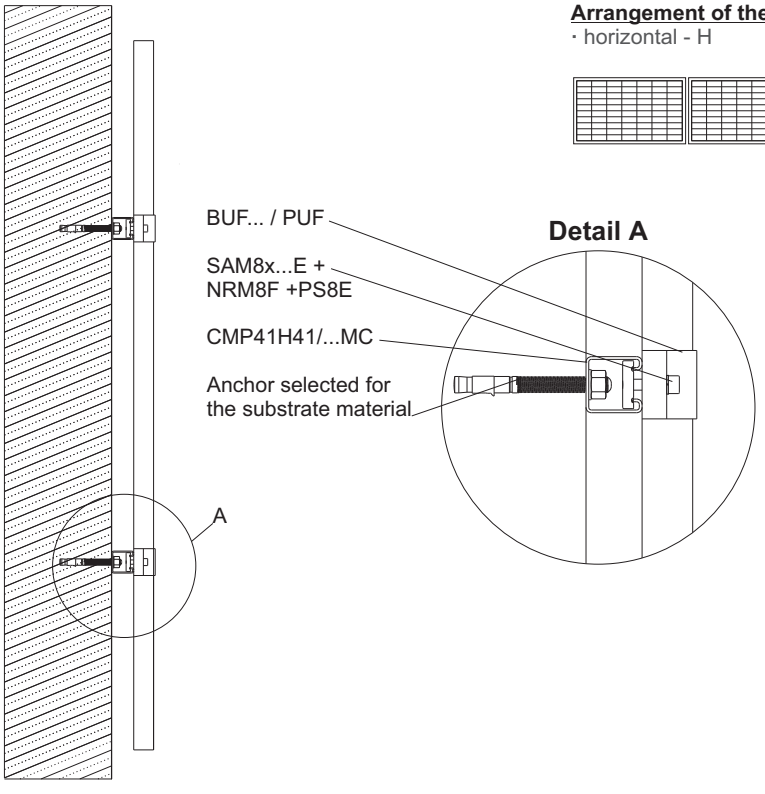
Structure description
Support system for quick installation of PV panels to building elevations.

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.

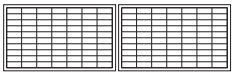
Structure assembly variants:
- Anchored with anchors for concrete
- Anchored with chemical anchors for concrete
- Anchored through with threaded rods (sandwich panel)

Advantages:
- quick installation
- low price
- high stability of the structure
- structure tested for strength
- steel in Magnelis® coating guarantees very high corrosion resistance

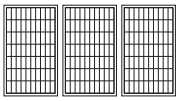
Warranty
BAKS provides a 10 year warranty period for the components included in the support structure - only if all conditions of the manufacturer's warranty are met.



Arrangement of the modules:
· horizontal - H



· vertical - V



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

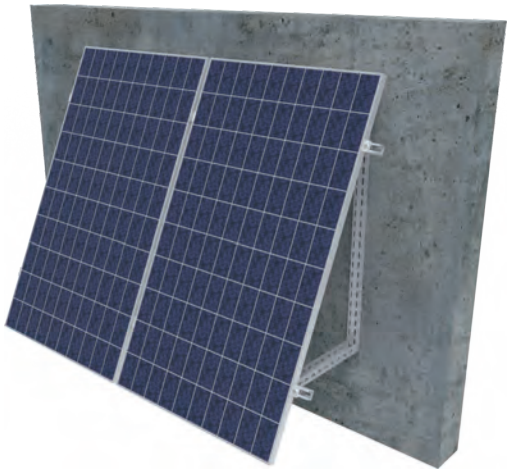
CODE	4 panels (~1700/1000 mm) (E-HKRN)	4 panels (~1700/1000 mm) (E-VKRN)
	pcs	pcs
CMP41H41/3,0MC	2	-
CMP41H41/2,2MC	4	4
LC41H41MC	4	2
BUF...	4	4
PUF	6	6
SGKFM10X20	16	8
SAM8x...E	10	10
NRM8F	10	10
PS8E	10	10
*Anchor selected for the substrate material	8 *	8 *

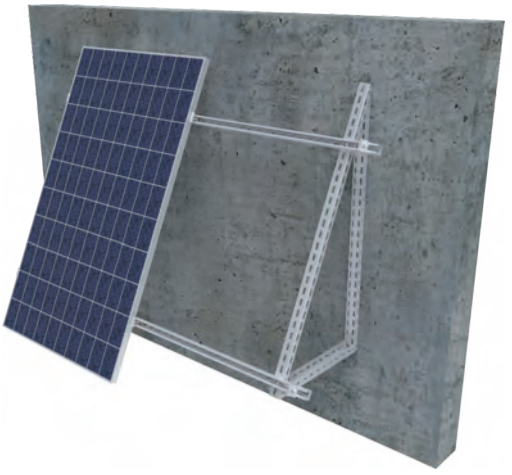
* quantity depends on the substrate material

Detailed information on the products can be found on pages 63-110

Mounting structure for the installation of photovoltaic panels
on walls

System: E-VKTN





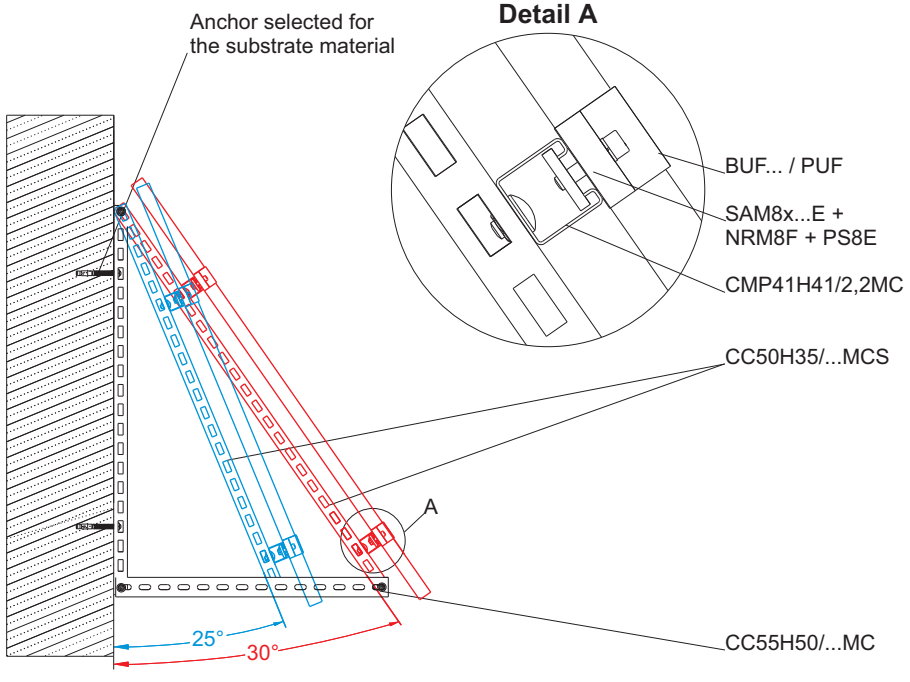
Structure description
Support system for quick installation of PV panels to building elevations.

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

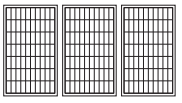
Structure assembly variants:
- Anchored with anchors for concrete
- Anchored with chemical anchors for concrete
- Anchored through with threaded rods (sandwich panel)

Advantages:
- quick installation
- low price
- high stability of the structure
- two inclination angle variants: 25° and 30°
- steel in Magnelis® coating 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



Component list for (E-VKTN)

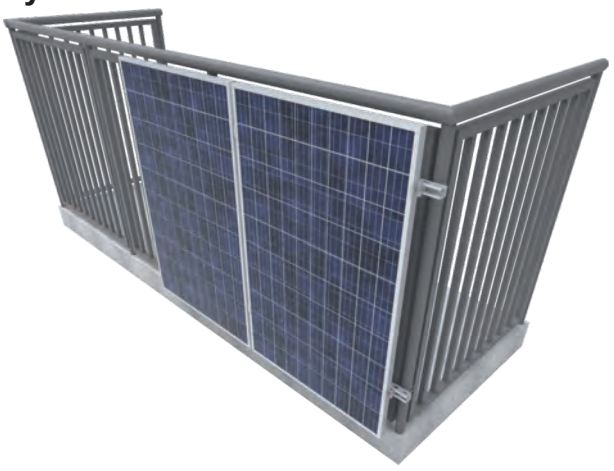
CODE	4 panels (~1700/1000 mm) (E-VKTN)
	pcs
CMP41H41/2,2MC	4
LC41H41MC	2
CC50H35/...MCS	3
CC50H35/...MCS	3
CC55H50/...MC	3
BUF...	4
PUF	6
SAM8x...E	10
NRM8F	10
PS8E	10
SGKFM10x20	32
*Anchor selected for the substrate material	8

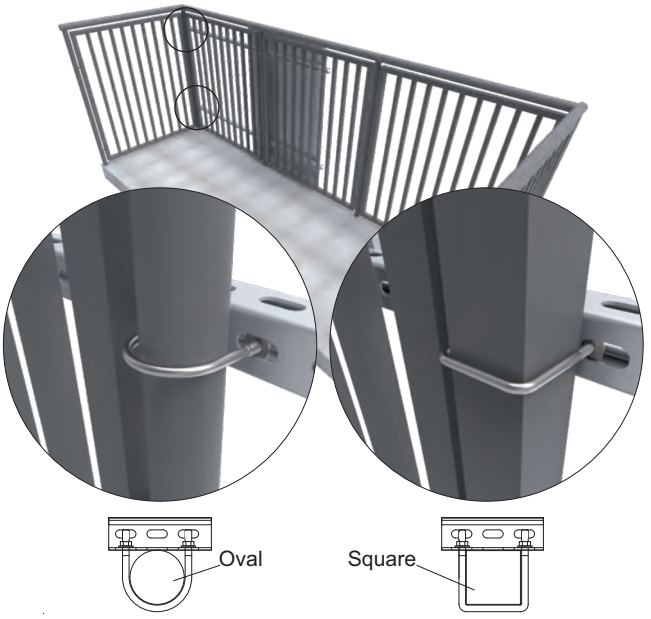
* quantity depends on the substrate material

Detailed information on the products can be found on pages 63-110

Mounting structure for the installation of photovoltaic panels
on balcony railings

System: **B-VPN**





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

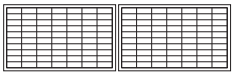
Technical description:
Materials of the support system:
MC- Constructional steel in Magnelis® coating or hot-dip galvanized acc. to PN-EN ISO 1461:2011
A- Aluminium
E- Stainless steel
F- Steel in zinc flake coating
Structure tested for strength.

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

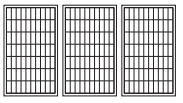
Advantages:
- quick installation
- low price
- high stability of the structure
- structure tested for strength
- steel in Magnelis® coating guarantees very high corrosion resistance

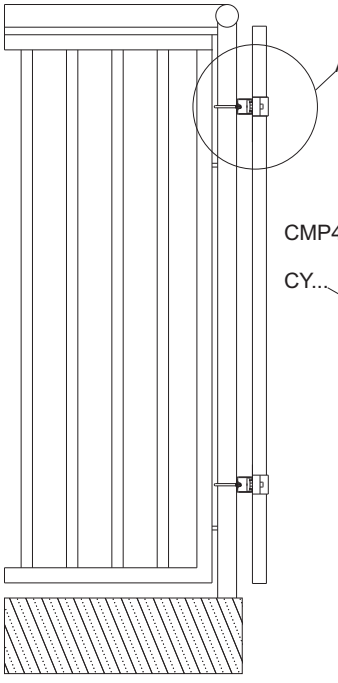
Warranty
BAKS provides a 10 year warranty period for the components included in the support structure - only if all conditions of the manufacturer's warranty are met.

Arrangement of the modules:
· horizontal - H

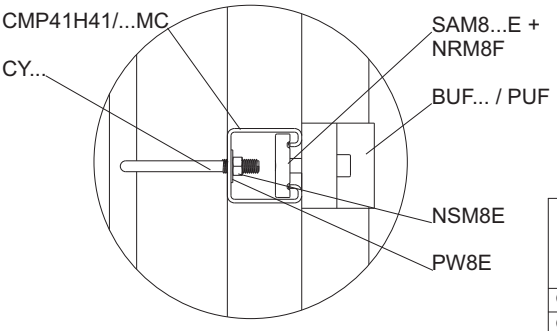


· vertical - V





Detail A



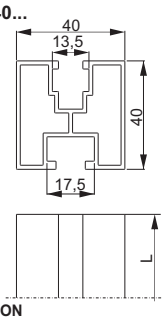
Component list for (B-HPN) and (B-VPN)

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 63-110

Aluminum Profile

PAL40H40...



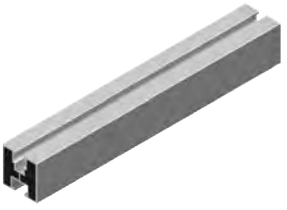
APPLICATION
Supporting panels in structures for sloping roofs and flat roofs, mounting panels to the supporting structure

PAL40H40...

CODE	lenght L mm	1 pcs. kg	catalogue no.	pcs.
PAL40H40/1,15	1150	1,10	894510	1
PAL40H40/2,1	2100	1,97	894621	1
PAL40H40/2,2	2200	2,10	894622	1
PAL40H40/3,15	3150	2,96	894631	1
PAL40H40/3,3	3300	3,00	894633	1
PAL40H40/6,3	6300	5,91	894663	1
PAL40H40/6,6	6600	6,10	894666	1

Advantages:
- stable panel support in structures for sloping roofs and flat roofs
- the width of the sockets in the profile prevents screws and hexagonal nuts from turning (M8 for the upper socket and M10 for the lower socket)
- special profile cross-section to increase its strength

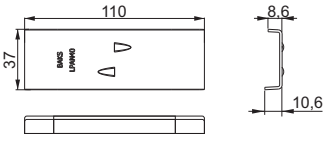
STM



MATERIAL
Aluminium (EN AW-6063)
Available finishes:
L- powder coating RAL9005 (up to 6 m length)

Aluminium Profile Connector

LPAN40



APPLICATION
Screwless connection of aluminium profiles

LPAN40

CODE	1 pcs. kg	catalogue no.	pcs.
LPAN40	0,06	890512	100

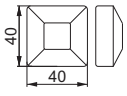
Advantages:
- end cuttings for easy pre-positioning of the connector into the profile
- the shape of the connector provides a very stable Profile connection
- depth limiters for the connector, which prevent sliding the profile too far
- made of Magnelis®-coated material with very high corrosion resistance
- high strength parameters of the connection

N
STM

MATERIAL
S250GD steel in Magnelis® coating

Protection Cap for PAL40H40 Aluminium Profile

NOPAL40x40...

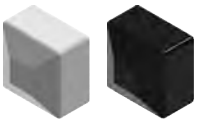


NOPAL...

CODE	catalogue no.	pcs.
NOPAL40x40CZ	890403	100
NOPAL40x40SR	890401	100

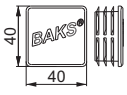
Advantages:
- improved aesthetics of PV Installations
- improved safety of inSteellers during Installation

N
STM



MATERIAL
Poliethylene. Silver RAL 9006, black RAL 9005

NOWPAL40x40SR



APPLICATION
Blanking of 40x40 mm aluminium profiles

NOWPAL40x40SR

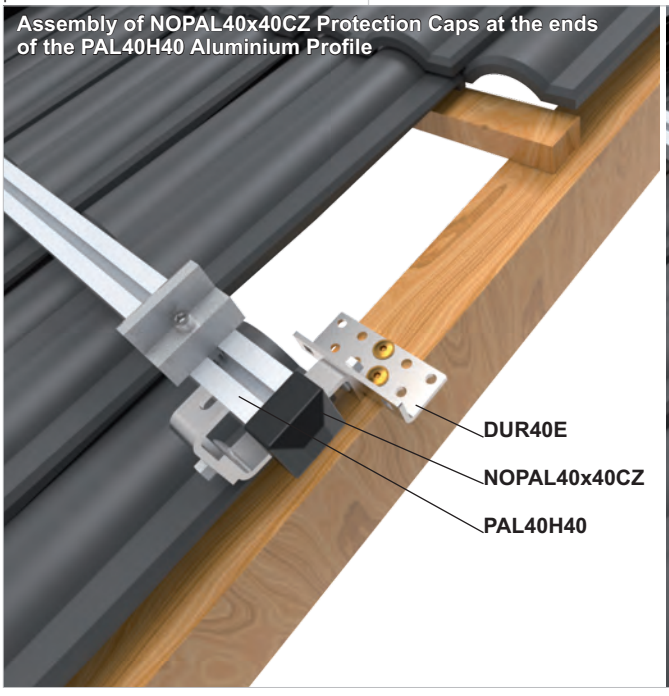
CODE	catalogue no.	pcs.
NOWPAL40x40SR	890404	100

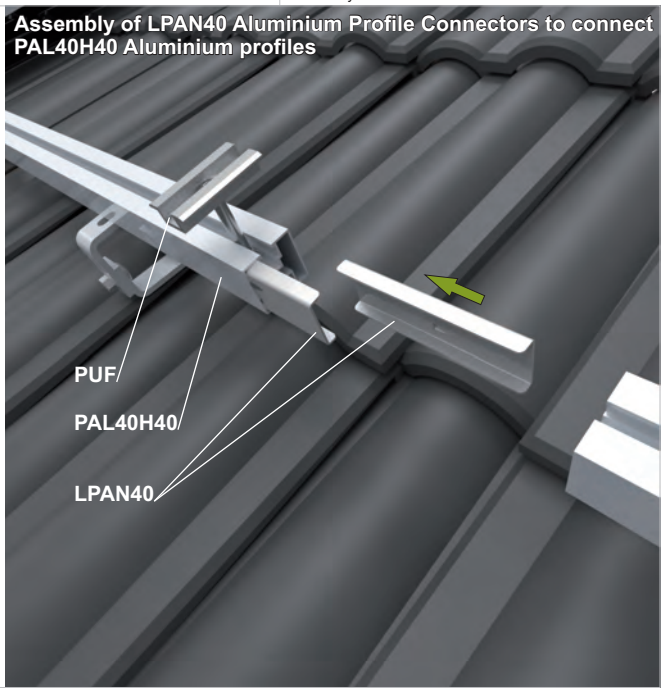
Advantages:
- improved aesthetics of PV Installations
- improved safety of inSteellers during Installation

N
STM

MATERIAL
Poliethylene. Silver RAL 9006

Note: orders for PV farms ≥0.5 MW delivered in collective packages

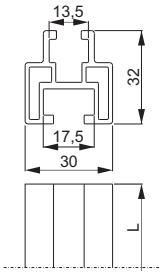




STM - Standard stock product (available in stock)
ST - Standard product (on order)
N - New product

Aluminum Profile

PAL30H32...



PAL30H32...

CODE	lenght L mm	1 pcs. kg	catalogue no.	pcs.
PAL30H32/1,15	1150	0,84	893210	1
PAL30H32/2,1	2100	2,10	893221	1
PAL30H32/2,2	2200	2,20	893222	1
PAL30H32/3,15	3150	3,15	893231	1
PAL30H32/3,3	3300	3,30	893233	1

Advantages:
- **stable panel support in structures for sloping roofs and flat roofs**
- **the width of the sockets in the profile prevents screws and hexagonal nuts from turning (M8 for the upper socket and M10 for the lower socket)**
- **special profile cross-section to increase its strength**

N STM

PRODUCTS AVAILABLE IN Q2 2021

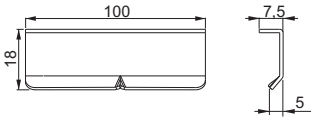
APPLICATION
Supporting panels in structures for sloping roofs and flat roofs, mounting panels to the supporting structure

MATERIAL
Aluminium (EN AW-6063)
Available finishes:
L- powder coating RAL9005

Note: orders for PV farms ≥0.5 MW delivered in collective packages

Aluminium Profile Connector

LPAN30



LPAN30

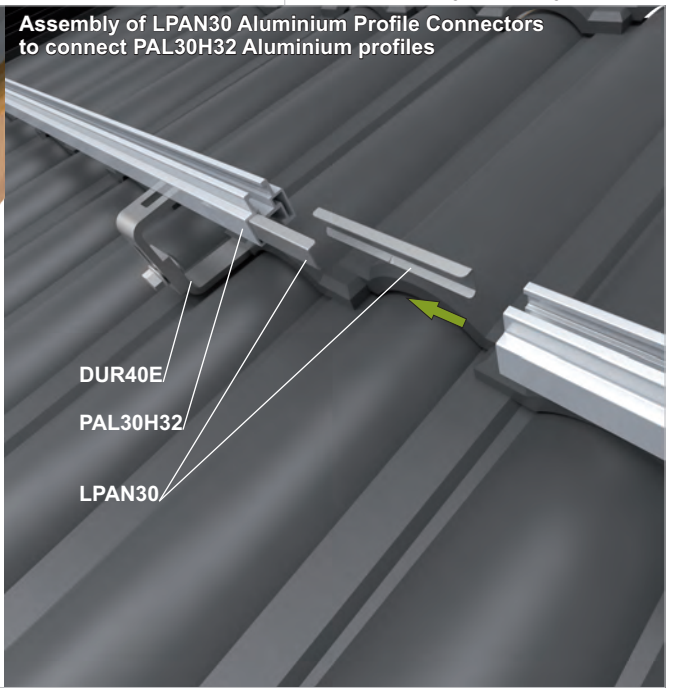
CODE	1 pcs. kg	catalogue no.	pcs.
LPAN30	0,03	890630	100

Advantages:
- **end cuttings for easy pre-positioning of the connector into the profile**
- **the shape of the connector provides a very stable Profile connection**
- **depth limiters for the connector, which prevent sliding the profile too far**
- **made of Magnelis®-coated material with very high corrosion resistance**
- **high strength parameters of the connection**

N STM

APPLICATION
Screwless connection of aluminium profiles

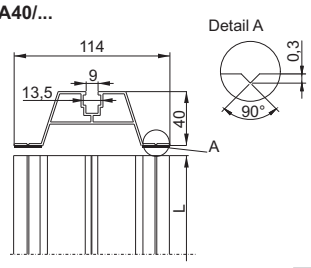
MATERIAL
S250GD steel in Magnelis® coating



STM - Standard stock product (available in stock)
ST - Standard product (on order)
N - New product

Aluminum Mounting Rail

SMA40/...



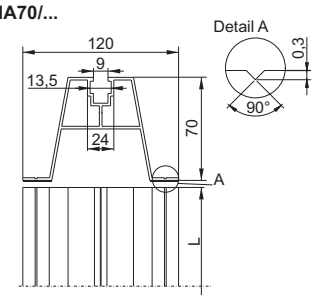
SMA40/...

CODE	lenght L mm	kg 1 pcs	catalogue no.	pcs.
SMA40/033	330	0,39	**890433**	45
SMA40/6	6050	7,02	**890466**	20

Advantages:
- rail height 40 mm ensures quick Installation and good ventilation under PV panels
- special section to increase strength of the element
- the contact surfaces between the rail and the roof equipped with sealing rubber in SMA40/033
- special groove (detail A in the picture) allows for easy positioning of the screws when screwing in

For the assembly use min. 4 x SMDP6x25E Screws

SMA70/...



SMA70/...

CODE	lenght L mm	kg 1 pcs	catalogue no.	pcs.
SMA70/033	330	0,58	**890733**	20
SMA70/6	6050	10,44	**890766**	20

Advantages:
- rail height 70 mm ensures quick Installation and good ventilation under PV panels
- special section to increase strength of the element
- the contact surfaces between the rail and the roof equipped with sealing rubber in SMA70/033
- special groove (detail A in the picture) allows for easy positioning of the screws when screwing in

For the assembly use min. 4 x SMDP6x25E Screws

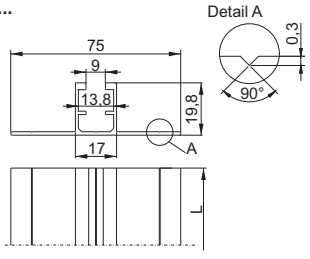
APPLICATION
Fixing PV panels to trapezoidal metal sheet, metal tiles sheets or corrugated metal sheets, e.g. DS-V6aN structure

MATERIAL
Aluminium (EN AW-6063)
Available finishes:
L- powder coating RAL9005

Note: orders for PV farms ≥0.5 MW delivered in collective packages

Aluminum Mounting Rail

SM...



SM...

CODE	lenght L mm	kg 1 pcs	catalogue no.	pcs.
SM400	400	0,25	**890040**	50
SM6500	6500	4,08	**890046**	50

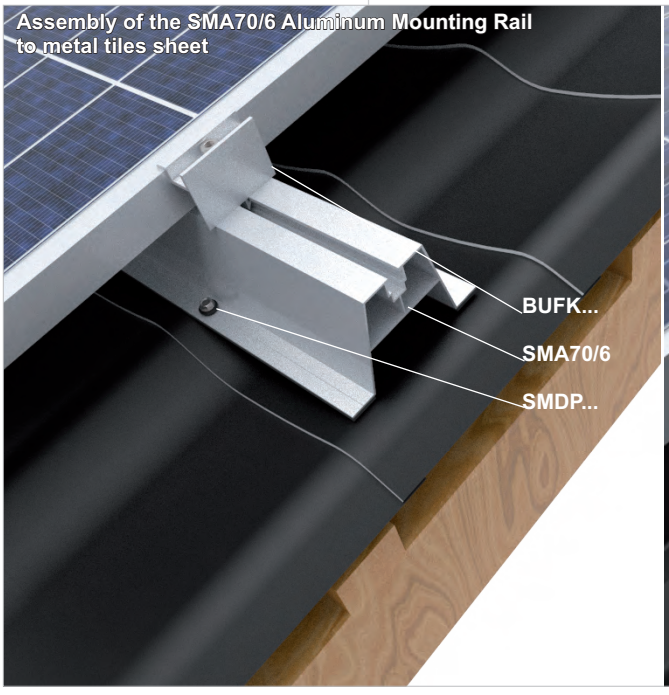
Note:
The rail is not equipped with sealing rubber.
Using EPDMW2x40 Cellular Rubber is recommended.

Advantages:
- special groove (detail A in the picture) allows easy positioning of the screws when screwing in
- low height to allow for aesthetic Installation of the panels close to the roof surface

For the assembly use min. 4 x SMDP6,0x25E Screws

APPLICATION
Fixing PV panels to trapezoidal metal sheet, metal tiles sheets or corrugated metal sheets, e.g. DS-V6bN structure

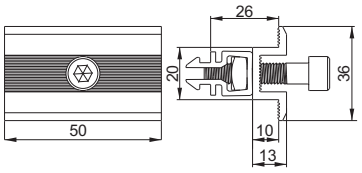
MATERIAL
Aluminium (EN AW-6063)
Available finishes:
L- powder coating RAL9005



STM - Standard stock product (available in stock)
ST - Standard product (on order)
N - New product

Middle Holder Click

PUFK



APPLICATION
Fixing PV panels to aluminium profiles, aluminium mounting rails and UPDCNMC and UPGC...NMC holders

PUFK

CODE	1 pcs kg	catalogue no.	pcs.	
PUFK	0,04	890300	50	

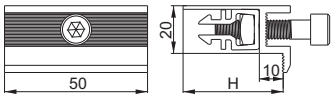
The set includes a clamp, SAM8... screw, NKWM8E square nut and click clip

Advantages:
- **quick snap-in assembly**
- **possibility of installation in SM... rails, PAL... profiles, UPDCNMC and UPGC...NMC holders**

STM

Side Holder Click

BUFK...



APPLICATION
Fixing PV panels to aluminium profiles, aluminium mounting rails and UPDCNMC and UPGC...NMC holders

BUFK...

CODE	dimension H mm	1 pcs kg	catalogue no.	pcs.
BUFK32	32	0,05	897432	50
BUFK34	34	0,06	897434	50
BUFK35	35	0,06	897435	50
BUFK38	38	0,07	897438	50
BUFK40	40	0,07	897440	50
BUFK42	42	0,07	897442	50
BUFK45	45	0,08	897446	50
BUFK50	50	0,08	897450	50

The set includes a clamp, SAM8... screw, NKWM8E square nut and click clip

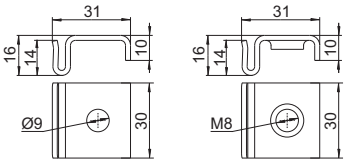
Advantages:
- **quick snap-in assembly**
- **possibility of installation in SM... rails, PAL... profiles, UPDCNMC and UPGC...NMC holders**

STM

MATERIAL
Aluminium (EN AW-6063)
Available finishes:
L- powder coating RAL9005

Middle Holder for Freestanding Structures

UPPMC **UPPM8MC**



APPLICATION
Fixing PV panels to channels without drilling holes in the profile, in case that the mounting points of the clamps do not coincide with the factory profile perforation

UPP...MC

≠ 2,0 mm

CODE	1 pcs kg	catalogue no.	MOQ pcs.	pcs.	
UPPMC	0,03	897301	100	200	ST
UPPM8MC	0,03	897311	100	100	STM

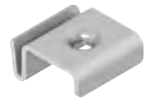
Advantages:
- **made of Magnelis®-coated material with very high corrosion resistance**
- **allows Installation without drilling in case there are no holes for the clamp mounting**
- **variable setting**
- **Installation on profile edge with thickness up to 3,0 mm**
- **M8 threaded hole in UPPM8MC**

For the Installation of UPPMC use 1 x SAM8x...E Screw and NKZM8E Nut

For the Installation of UPPM8MC use 1 x SAM8x...E Screw

Note: orders for PV farms ≥0.5 MW delivered in collective packages

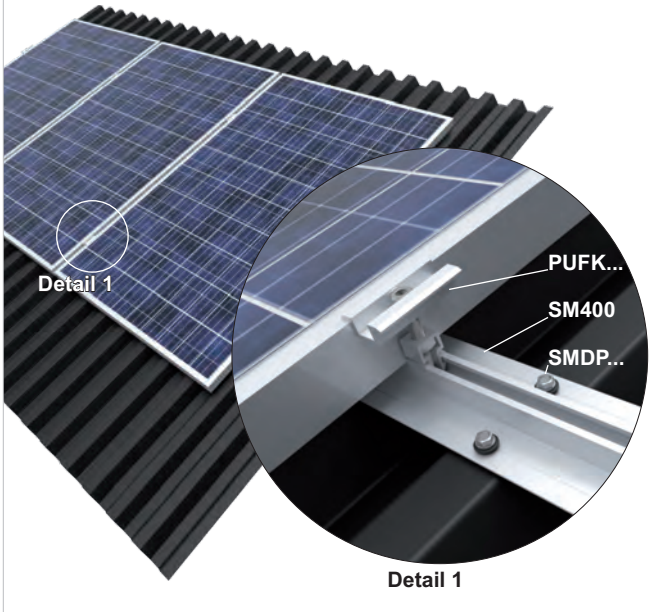
N
ST



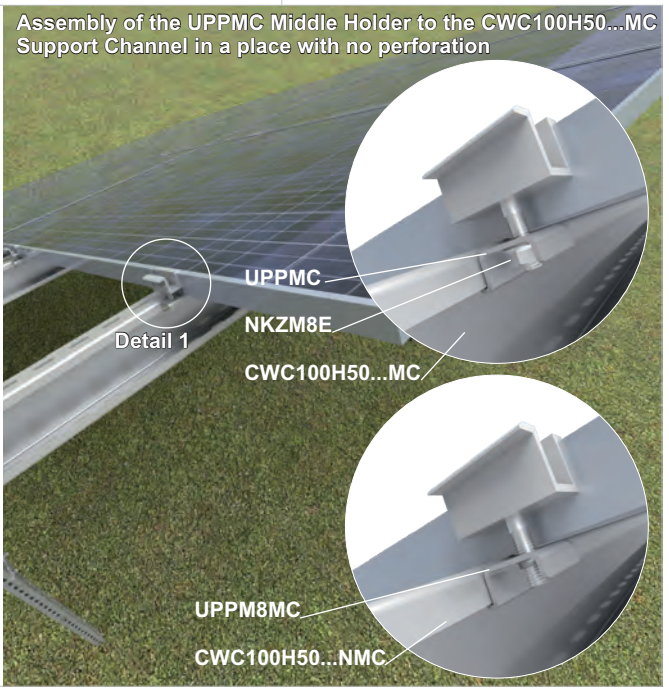
N
STM

MATERIAL
S350GD steel in Magnelis® coating

Assembly of the PUFK Middle Holder Click to the SM400 Aluminum Mounting Rail



Assembly of the UPPMC Middle Holder to the CWC100H50...MC Support Channel in a place with no perforation



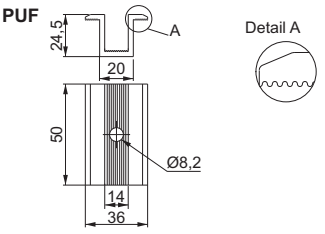
STM - Standard stock product (available in stock)
ST - Standard product (on order)
N - New product

Sheet thickness ≠ [mm]: 1,0 | 1,2 | 1,5 | 2,0 | 3,0 | 4,0

PATTERN COPYRIGHTED

Middle Holder

PUF

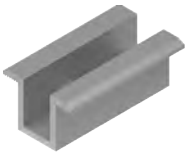


APPLICATION
Fixing PV panels to aluminium profiles, aluminium mounting rails, UPDCNMC and UPGC...NMC holders or channels

PUF

CODE	1 pcs kg	catalogue no.	pcs.
PUF	0,02	897300	100

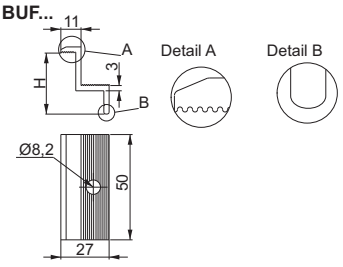
Advantages:
- longitudinal grooves at the panel pressure point and at the contact surface between the clamp and the profile increase the stability of the fixing
- special cross-section to increase the strength of the element
- notches for improved grip



N STM

Side Holder

BUF...

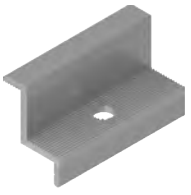


APPLICATION
Fixing PV panels to aluminium profiles, aluminium mounting rails, UPDCNMC and UPGC...NMC holders or channels

BUF...

CODE	dimension H mm	1 pcs kg	catalogue no.	pcs.
BUF30	30	0,02	897330	50
BUF32	32	0,02	897332	50
BUF33	33	0,02	897333	50
BUF35	35	0,02	897335	50
BUF38	38	0,02	897338	50
BUF40	40	0,02	897340	50
BUF42	42	0,02	897342	50
BUF45	45	0,02	897345	50
BUF50	50	0,03	897350	50

Advantages:
- longitudinal grooves at the panel pressure point and at the contact surface between the clamp and the profile increase the stability of the fixing
- special cross-section to increase the strength of the element
- notches for improved grip

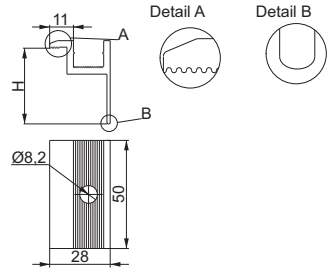


N STM

MATERIAL
Aluminium (EN AW-6063)
Available finishes:
L- powder coating RAL9005

Universal Side Holder

UBUF...

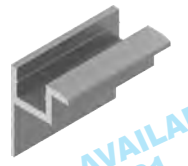


APPLICATION
Fixing PV panels to aluminium profiles, aluminium mounting rails, UPDCNMC and UPGC...NMC holders or channels

UBUF...

CODE	dimension H mm	1 pcs kg	catalogue no.	pcs.
UBUF32	32	0,02	897632	50
UBUF33	33	0,02	897633	50
UBUF35	35	0,02	897635	50
UBUF38	38	0,02	897638	50
UBUF40	40	0,02	897640	50
UBUF42	42	0,02	897642	50
UBUF45	45	0,02	897745	50
UBUF50	50	0,03	897650	50

Advantages:
- longitudinal grooves at the panel pressure point and at the contact surface between the clamp and the profile increase the stability of the fixing
- possibility of using with a standard screw or with a screw and snap-in element
- special cross-section to increase the strength of the elementp

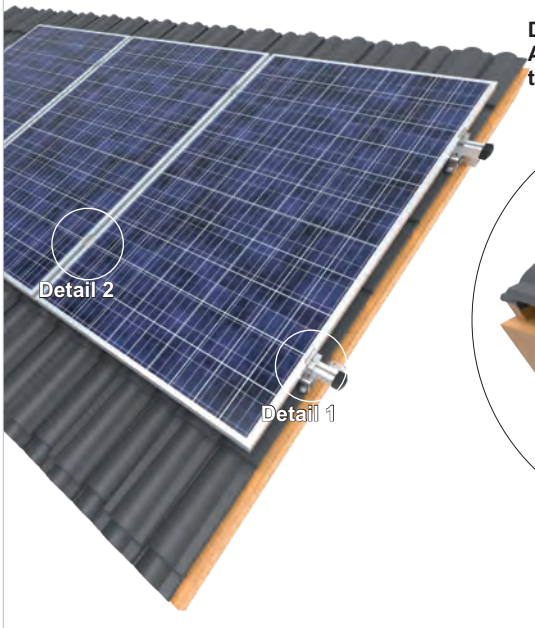


N STM

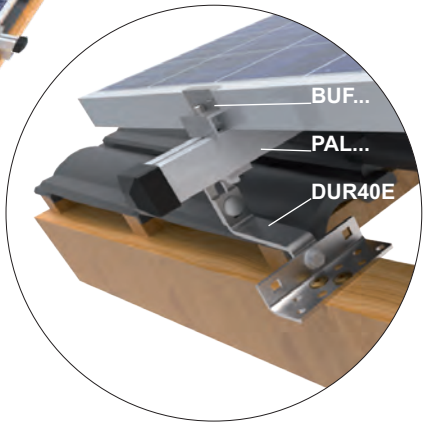
PRODUCTS AVAILABLE IN Q2 2021

MATERIAL
Aluminium (EN AW-6063)
Available finishes:
L- powder coating RAL9005

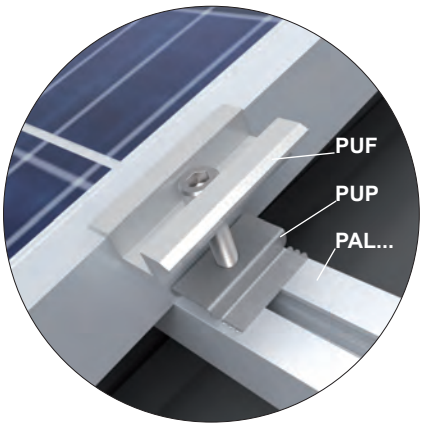
Note: orders for PV farms ≥0.5 MW delivered in collective packages



Detail 1:
Assembly of BUF… Side Holder to PAL... Aluminum Profile

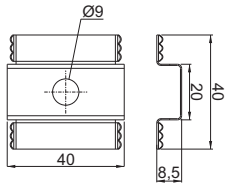


Detail 2:
Assembly of PUF… Middle Holder to PAL40H40 Aluminum Profile



STM - Standard stock product (available in stock)
ST - Standard product (on order)
N - New product

Grounding Washer
PUP



APPLICATION
Installation at the contact surface between the panel frames and the supporting structure to ensure electrical continuity

PUP

CODE	1 pcs	catalogue no.	pcs.
PUP	0,05	897303	100

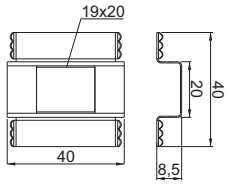
Advantages:
- no need to use earth connections in form of cables
- reduction of installation time
- allows the use of standard middle panel holders
- security enhancement
- ensured electrical continuity

N
STM

MATERIAL
Stainless steel

Note: orders for PV farms ≥0.5 MW delivered in collective packages

Grounding Washer
PUPK

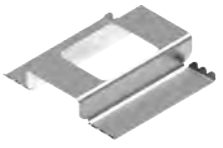


APPLICATION
Installation at the contact surface between the panel frames and the supporting structure to ensure electrical continuity

PUPK

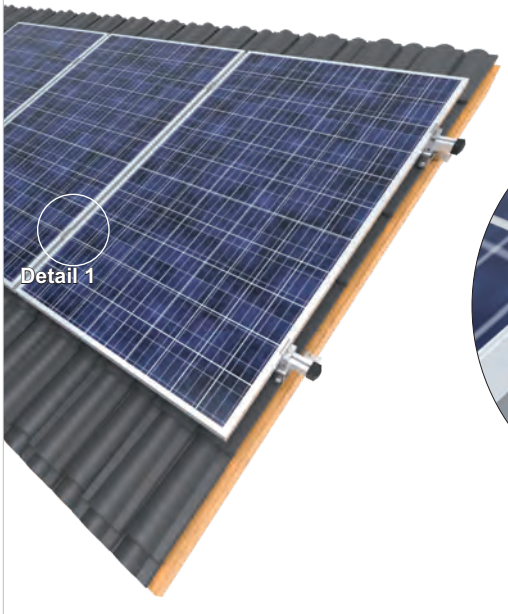
CODE	1 pcs	catalogue no.	pcs.
PUPK	0,05	897304	100

Advantages:
- no need to use earth connections in form of cables
- allows the use of click middle panel holders
- security enhancement
- ensured electrical continuity

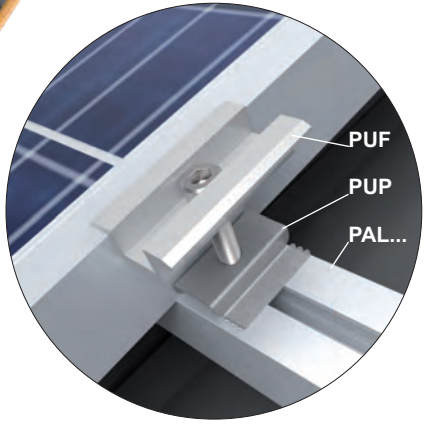


N
STM

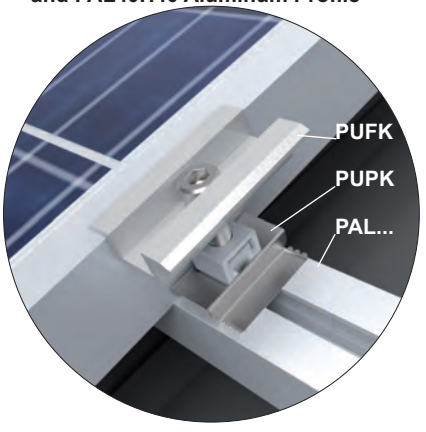
MATERIAL
Stainless steel



Option 1, Detail 1:
Assembly of PUP Grounding Washer with PUF Middle Holder and PAL40H40 Aluminum Profile



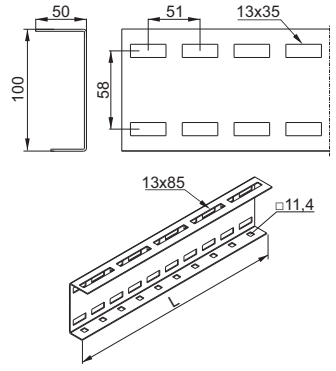
Option 2 click, Detail 1:
Assembly of PUPK Grounding Washer with PUFK Middle Holder Click and PAL40H40 Aluminum Profile



STM - Standard stock product (available in stock)
ST - Standard product (on order)
N - New product

Profile

BDFC100...NMC



APPLICATION
Profile for determining the inclination angle of freestanding structures

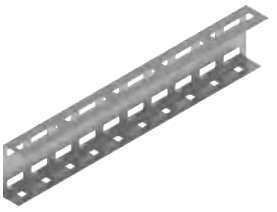
BDFCH100...NMC

≠ 2,0 mm

CODE	lenght L mm	1 pcs. kg	catalogue no.	pcs.	MOQ pcs.	
BDFCH100/2,75NMC	2754	6,40	863725	1	100	ST
BDFCH100/3,2NMC	3164	7,35	863132	1	1	STM

Advantages:
- extended perforation in the upper part allows for the Installation of panels of various dimensions without the need to drill additional holes in the profile
- dense and enlarged perforation in the side enables the Installation of structure within the angle range of 20-35 degrees
- perforation in the lower part allows the bracing profiles to be screwed on without the need to use additional elements
- made of Magnelis®-coated material with very high corrosion resistance

For the assembly use SGKFM10x20 Screw Sets

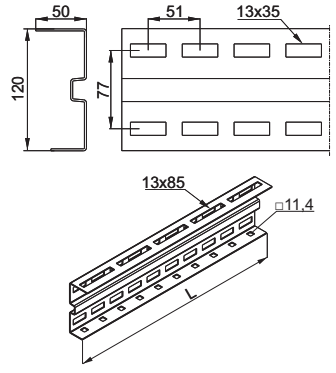


N STM ST

MATERIAL
S350GD steel in Magnelis® coating

Profile

BDFCH120...NMC



APPLICATION
Profile for determining the inclination angle of freestanding structures

BDFCH120...NMC

≠ 2,0 mm

CODE	lenght L mm	1 pcs. kg	catalogue no.	pcs.	MOQ pcs.	
BDFCH120/3,6NMC	3570	10,67	863335	1	100	ST
BDFCH120/4,4NMC	4386	13,12	863343	1	1	STM
BDFCH120/4,8NMC	4794	14,33	863347	1	100	ST
BDFCH120/5,4NMC	5406	16,17	863354	1	100	ST

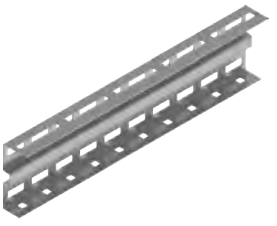
BDFTH120...NMC

≠ 3,0 mm

CODE	lenght L mm	1 pcs. kg	catalogue no.	pcs.	MOQ pcs.	
BDFTH120/6NMC	6018	25,98	863461	1	100	ST
BDFTH120/6,4NMC	6426	27,74	863464	1	1	STM
BDFTH120/6,8NMC	6834	29,50	863468	1	100	ST

Advantages:
- extended perforation in the upper part allows for the Installation of panels of various dimensions without the need to drill additional holes in the profile
- quick Installation of BDF...H120 angled profiles with CWC100H50 channels (purlins) thanks to the extension of the upper part of the angled profiles up to 50 mm and shifting of the holes, which enables a convenient approach from below with a socket wrench and a screw gun
- dense and enlarged perforation in the side enables the Installation of structure within the angle range of 20-35 degrees
- perforation in the lower part allows the bracing profiles to be screwed on without the need to use additional elements
- made of Magnelis®-coated material with very high corrosion resistance

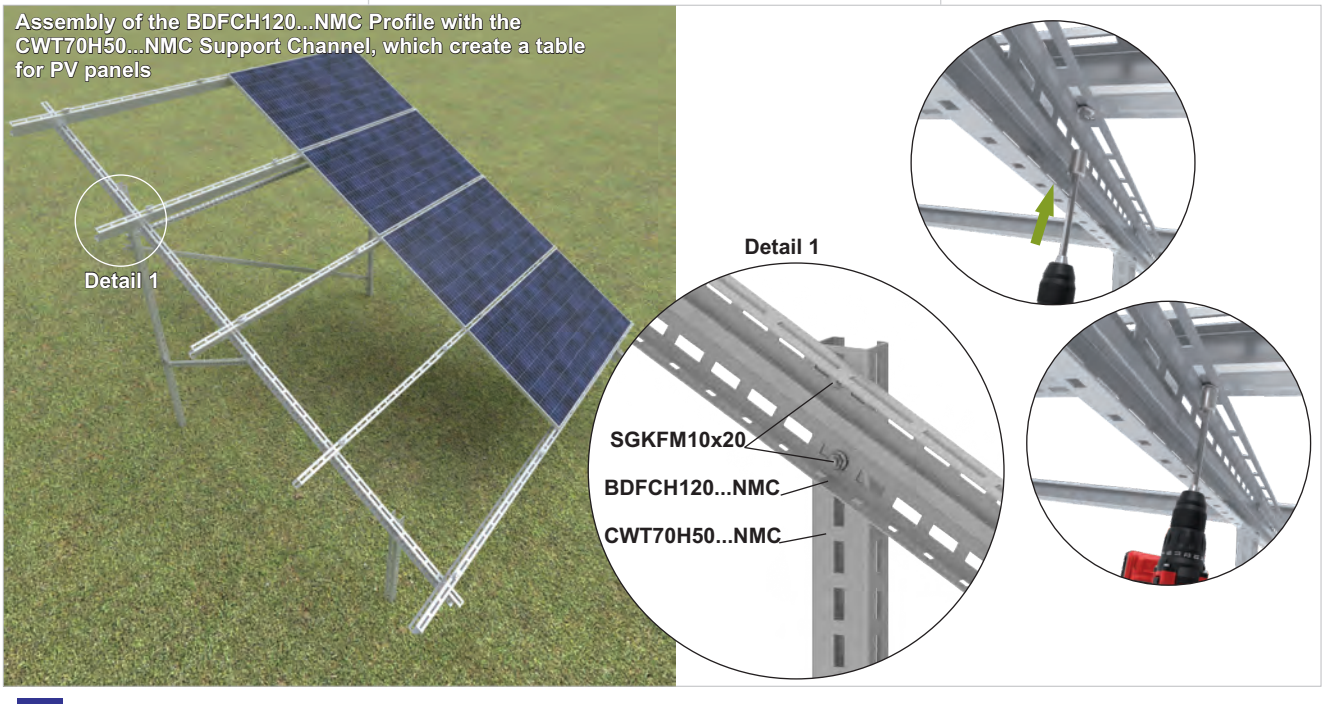
For the assembly use SGKFM10x20 Screw Sets



N STM ST

MATERIAL
S350GD steel in Magnelis® coating

Note: orders for PV farms ≥0.5 MW delivered in collective packages

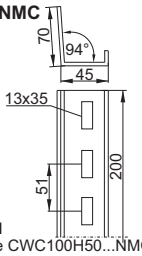


STM - Standard stock product (available in stock)
ST - Standard product (on order)
N - New product

Sheet thickness ≠ [mm]: 1,0 1,2 1,5 2,0 3,0 4,0

Channel Connector

LKTT45H70NMC



APPLICATION
Connecting the CWC100H50...NMC Support Channels

LKTT45H70NMC

≠ 2,0 mm

CODE	1 pcs.	catalogue no.	pcs.
LKTT45H70MC	0,54	867670	10

Advantages:
- mounting from the inside of CWC100H50...NMC channels does not cause any collision with a panel placed on the external side of the channel
- Installation of screws only in one wall
- special 94° bend geometry, thanks to which while tightening the connector, joined channels are straight
- mounting of the connector through the open part of CWC100H50...NMC profiles without the need for insertion

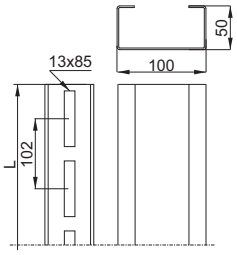
For the assembly use 4 x SGKFM10x20 Screw Sets

N STM

MATERIAL
S350GD steel in Magnelis® coating

Support Channel

CWC100H50...NMC



APPLICATION
Direct support of panels and mounting of panel fixing holders

CWC100H50...NMC

≠ 2,0 mm

CODE	lenght L mm	1 pcs.	catalogue no.	pcs.	MOQ pcs.	
CWC100H50/3,3NMC	3264	9,96	867633	4	4	STM
CWC100H50/4,4NMC	4386	13,38	867644	4	4	STM
CWC100H50/6,6NMC	6630	20,23	867566	4	100	ST

Advantages:
- extended and condensed perforation allows panels of different sizes to be assembled without drilling additional holes in the profile
- extended perforation allows for the use of quick fit channel nuts
- identical size of perforation in both walls allows assembly in any position

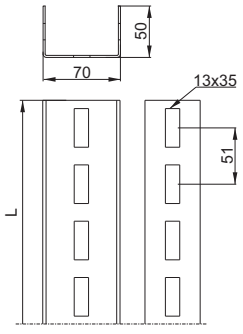
For the assembly use SGKFM10x20 Screw Sets

N STM ST

MATERIAL
S350GD steel in Magnelis® coating

Channel

CT70H50...NMC



APPLICATION
Load-bearing structure element - vertical support posts for free-standing structures

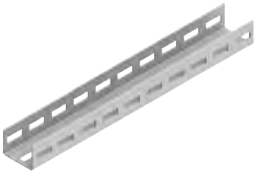
CT70H50...NMC

≠ 3,0 mm

CODE	lenght L mm	1 pcs.	catalogue no.	pcs.	MOQ pcs.	
CT70H50/1NMC	1020	3,20	864510	4	100	ST
CT70H50/2NMC	1989	6,25	864520	4	100	ST
CT70H50/3NMC	3009	9,45	864530	4	4	STM
CT70H50/4NMC	3978	12,49	864540	4	4	STM

Advantages:
- dense perforation enables the levelling of unevenness created during the assembly of the structure in inhomogeneous ground and enables the assembly of the structure with a slightly changed angle of inclination
- made of Magnelis®-coated material with very high corrosion resistance
- enlarged and condensed perforation matched to the BDFCH profiles, so as to enable Installation of structure within the range of 20-35 degrees of inclination of the panels in relation to the ground
- better blocking of the SGKFM10x20 locking screws (with mushroom heads) due to the change of the oval holes into rectangular

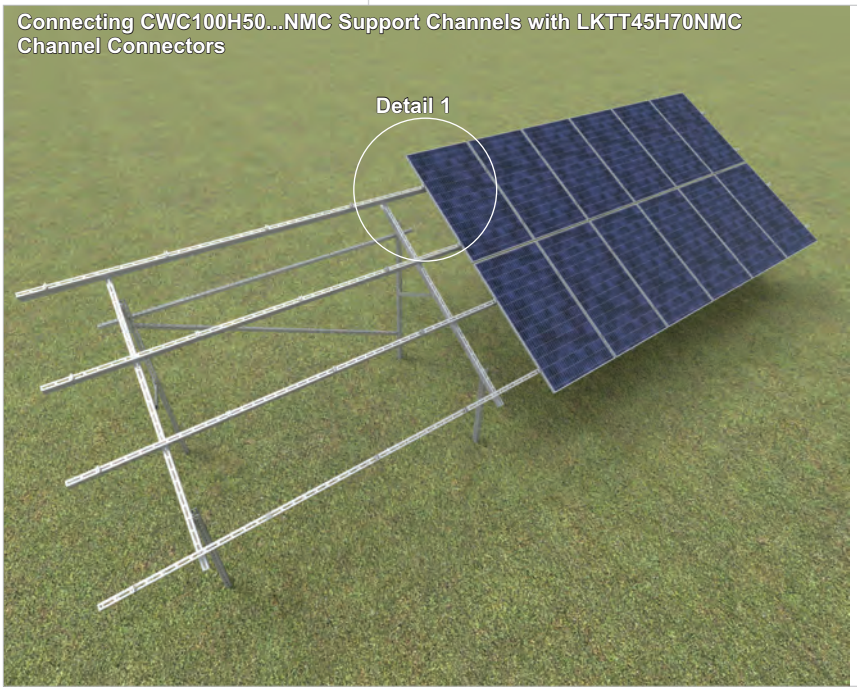
For the assembly use SGKFM10x20 Screw Sets



N STM ST

MATERIAL
S350GD steel in Magnelis® coating

Note: orders for PV farms ≥0.5 MW delivered in collective packages

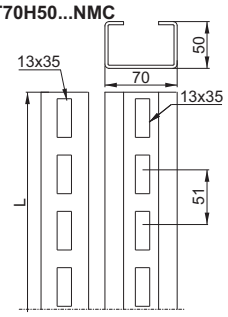


STM - Standard stock product (available in stock)
ST - Standard product (on order)
N - New product

Sheet thickness ≠ [mm]: 1,0 1,2 1,5 2,0 3,0 4,0

Support Channel

CWT70H50...NMC



CWT70H50...NMC

≠ 3,0 mm

CODE	lenght L mm	1 pcs. kg	catalogue no.	MOQ pcs.		
CWT70H50/1NMC	1020	3,73	867810	4	100	ST
CWT70H50/2NMC	1989	7,27	867820	4	4	STM
CWT70H50/2,4NMC	2397	9,18	867824	4	100	ST
CWT70H50/3NMC	3009	11,00	867830	4	4	STM
CWT70H50/3,2NMC	3213	11,74	867832	4	100	ST
CWT70H50/3,4NMC	3413	12,48	867834	4	100	ST
CWT70H50/4,4NMC	4386	16,03	867844	4	4	STM

Advantages:
- increased tolerance of depth of insertion of support posts into the ground and easier levelling of panels due to extension of holes to 35 mm
- better blocking of the SGKFM10x20 locking screws (with mushroom heads) due to the change of the oval holes into rectangular
- enlarged and condensed perforation matched to the BDFCH profiles, so as to enable Installation of structure within the range of 20-35 degrees of inclination of the panels in relation to the ground
- made of Magnelis®-coated material with very high corrosion resistance

For the assembly use SGKFM10x20 Screw Sets

N STM ST

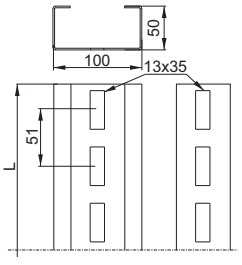
APPLICATION
Load-bearing structure element - vertical support posts for free-standing structures

MATERIAL
S350GD steel in Magnelis® coating

Note: orders for PV farms ≥0.5 MW delivered in collective packages

Support Channel

CWE100H50...NMC



CWE100H50...NMC

≠ 4,0 mm

CODE	lenght L mm	1 pcs. kg	catalogue no.	MOQ pcs.		
CWE100H50/1,5NMC	1479	8,22	865115	8	100	ST
CWE100H50/3,2NMC	3213	17,85	865132	8	100	ST
CWE100H50/3,6NMC	3621	20,12	865136	8	8	STM

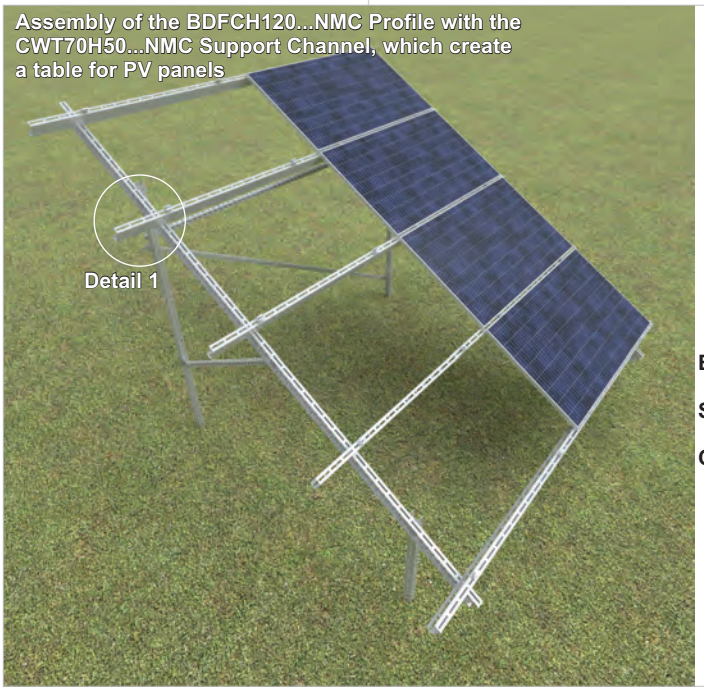
Advantages:
- dense perforation enables the levelling of unevenness created during the assembly of the structure in inhomogeneous ground and enables the assembly of the structure with a slightly changed angle of inclination
- made of Magnelis®-coated material with very high corrosion resistance
- better blocking of the SGKFM10x20 locking screws (with mushroom heads) due to the change of the oval holes into rectangular

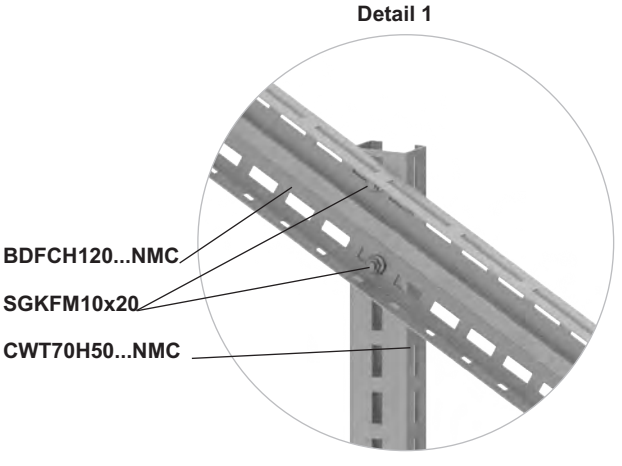
For the assembly use SGKFM10x20 Screw Sets

N STM ST

APPLICATION
Load-bearing structure element - vertical support posts for free-standing structures

MATERIAL
S250GD steel in Magnelis® coating



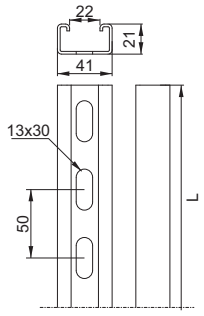


STM - Standard stock product (available in stock)
ST - Standard product (on order)
N - New product

Sheet thickness ≠ [mm]: 1,0 1,2 1,5 2,0 3,0 4,0

Mounting Channel

CMP41H21...MC



APPLICATION
Bracing of freestanding structures

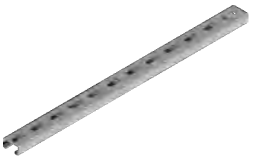
CMP41H21...MC

≠ 1,5 mm

CODE	lenght L mm	kg 1 pcs.	catalogue no.	pcs.
CMP41H21/1MC	1000	1,15	620100	8
CMP41H21/3,5MC	3500	3,79	620135	8

Advantages:
- producted in various lengths, which significantly extends the Installation possibilities
- a "double bend" on the open side of the channel section, which provides additional strength and stiffness to the element
- made of steel in Magnelis® coating with very high corrosion resistance

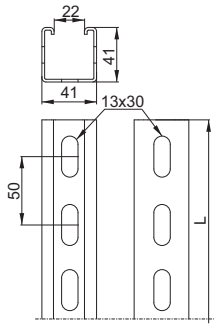
For the assembly use SGKFM10x20 Screw Sets



MATERIAL
S250GD steel in Magnelis® coating

Mounting Channel

CMP41H41...MC



APPLICATION
Load-bearing structure element for flat roofs, bracing of freestanding structures

CMP41H41...MC

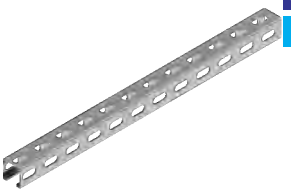
≠ 1,5 mm

CODE	lenght L mm	kg 1 pcs.	catalogue no.	pcs.	MOQ pcs.	
CMP41H41/1MC	1000	1,70	856210	8	8	STM
CMP41H41/1,2MC	1200	2,03	856211	8	8	STM
CMP41H41/1,5MC	1500	2,55	856215	8	8	STM
CMP41H41/1,7MC	1700	2,89	851117	8	100	ST
CMP41H41/2MC	2000	3,40	851120	8	100	ST
CMP41H41/2,2MC	2200	3,74	851122	8	8	STM
CMP41H41/3MC	3000	3,96	851132	8	8	STM
CMP41H41/3,5MC	3500	5,95	851135	8	8	STM
CMP41H41/3,7MC	3700	6,29	852137	8	8	STM
CMP41H41/6MC	6000	7,92	851162	8	100	ST

Advantages:
- producted in various lengths, which significantly extends the Installation possibilities
- a "double bend" on the open side of the channel section, which provides additional strength and stiffness to the element
- made of steel in Magnelis® coating with very high corrosion resistance

For the assembly use SGKFM10x20 Screw Sets

Note: orders for PV farms ≥0.5 MW delivered in collective packages

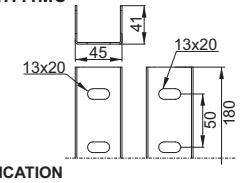


STM
ST

MATERIAL
S250GD steel in Magnelis® coating

Channel Connector

LC41H41MC



APPLICATION
Connecting CMP41H41 Channels

LC41H41MC

≠ 1,5 mm

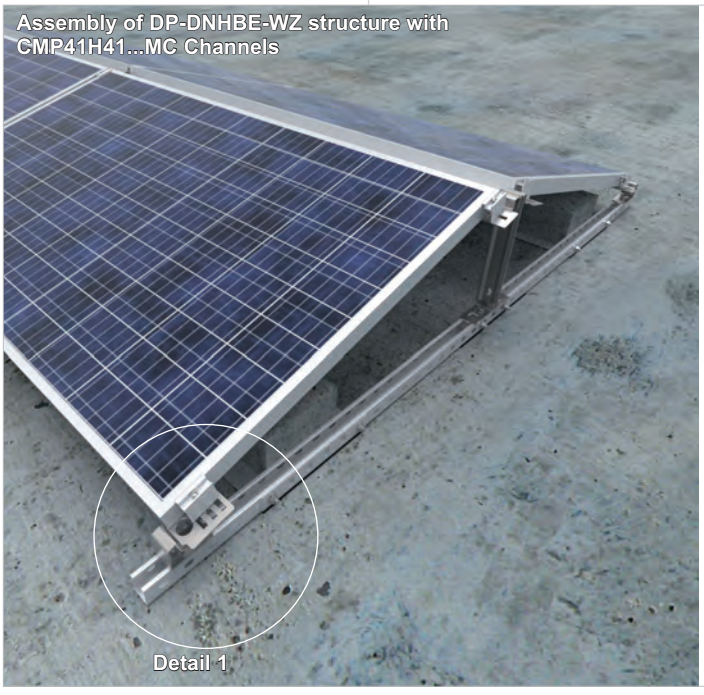
CODE	kg 1 pcs.	catalogue no.	pcs.
LC41H41MC	0,30	851541	50

Advantages:
- perforation in 3 sides allows different variants of screw placement
- made of steel in Magnelis® coating with very high corrosion resistance

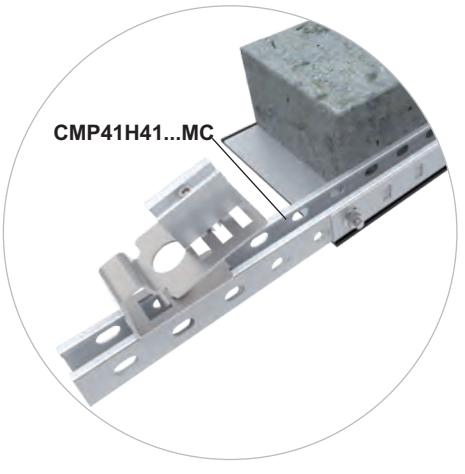
For the assembly use 4 x SGKFM10x20 Screw Sets

STM

MATERIAL
S250GD steel in Magnelis® coating



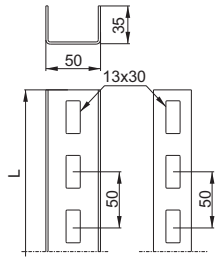
Detail 1



STM - Standard stock product (available in stock)
ST - Standard product (on order)
N - New product

Sheet thickness ≠ [mm]: 1,0 1,2 1,5 2,0 3,0 4,0

Channel
CC50H35...MC



APPLICATION
Creation of triangular structures for flat roofs

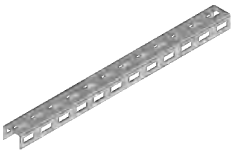
CC50H35...MC

≠ 2,0 mm

CODE	lenght L mm	kg 1 pcs.	catalogue no.	pcs.	MOQ pcs.	
CC50H35/0,85MC	850	1,48	895385	1	100	ST
CC50H35/1MC	1000	1,75	895335	1	1	STM
CC50H35/1,15MC	1150	2,00	895325	1	100	ST
CC50H35/1,7MC	1700	2,97	895375	1	1	STM

Advantages:
- made of steel in Magnelis® coating with very high corrosion resistance
- quick creation of triangular structures on flat roofs

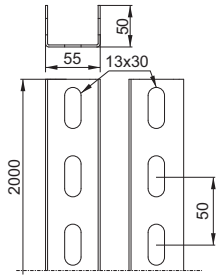
For the assembly use SGKFM10x20 Screw Sets



N STM ST

MATERIAL
S350GD steel in Magnelis® coating

Channel
CC55H50/2MC



APPLICATION
Creation of triangular structures for flat roofs

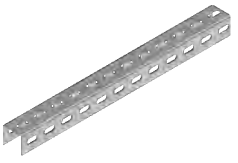
CC55H50/2MC

≠ 2,0 mm

CODE	kg 1 pcs.	catalogue no.	pcs.
CC55H50/2MC	4,05	895326	1

Advantages:
- made of steel in Magnelis® coating with very high corrosion resistance
- quick creation of triangular structures on flat roofs

For the assembly use SGKFM10x20 Screw Sets

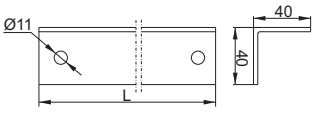


N STM

MATERIAL
S350GD steel in Magnelis® coating

Note: orders for PV farms ≥0.5 MW delivered in collective packages

Angle Profile
KT...A



APPLICATION
Creation of triangular structures for flat roofs

KT...A

≠ 3,0 mm

CODE	lenght L mm	kg 1 pcs.	catalogue no.	pcs.	MOQ pcs.
KT850A	850	1,53	898085	1	50
KT1000A	1000	1,80	898099	1	50
KT1150A	1150	2,01	898115	1	50
KT1700A	1700	3,06	898170	1	50
KT2000A	2000	3,60	898210	1	50
KTST1700A	1700	3,06	898175	1	50

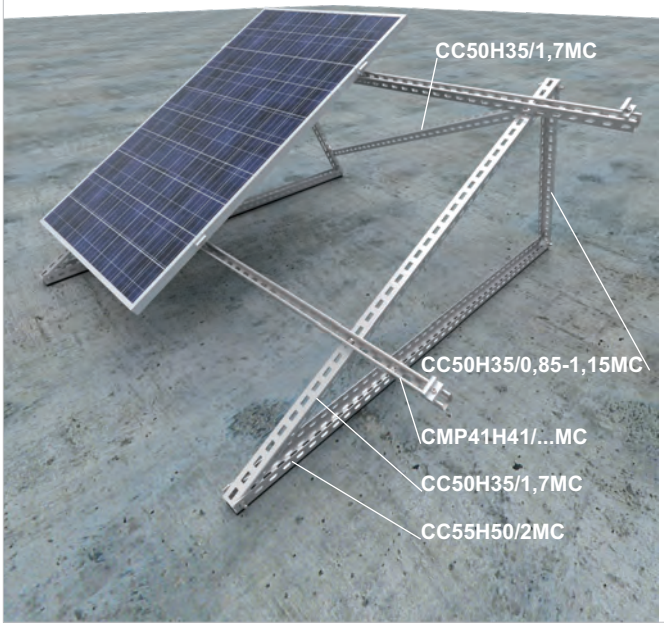
Note:
Perforation suitable for different panel sizes to enable Installation in designated Installation zones on the panel frame.

For the assembly use SSZ10x20E Screws and NKZM10E Nuts.

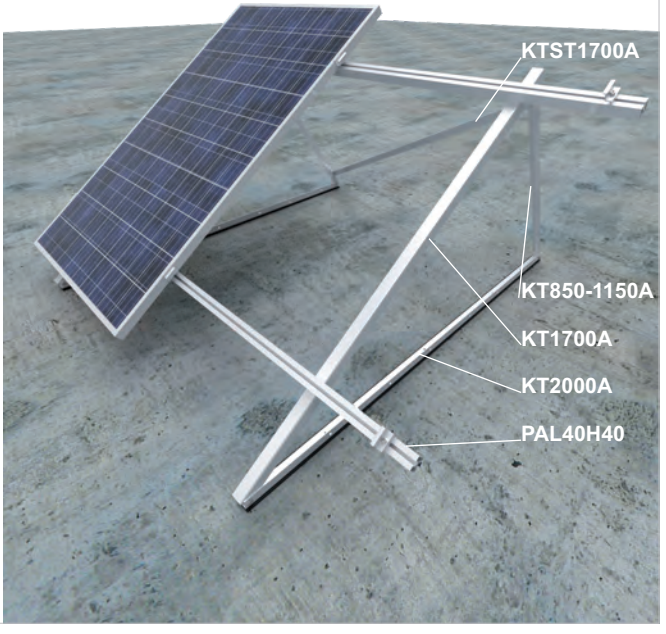
N ST

MATERIAL
Aluminium

Assembly of DP-DTVKN structure with CC50H35...MC and CC55H50...MC Channels



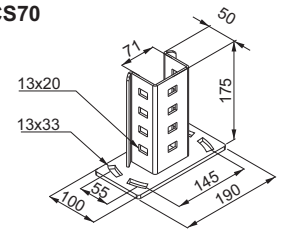
Assembly of DP-DTAVKN structure with KT...A Angle Profiles



STM - Standard stock product (available in stock)
ST - Standard product (on order)
N - New product

Sheet thickness ≠ [mm]: 1,0 1,2 1,5 2,0 3,0 4,0

Base Plate
PCS70



APPLICATION
Assembly of vertical profile CT70H50... and CWT70H50... as a support post of the structure to GSW76x...N ground screw

PCS70

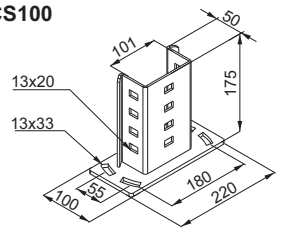
CODE	1 pcs [kg]	catalogue no.	pcs.
PCS70	1,81	751217	5

Advantages:
- increased strength due to specially shaped reinforcing folds
- holes in the base plate allowing adjustment of the position during assembly

For assembly to:
- ground screw use 4 x SMM10x30F Screw Sets

MATERIAL
S235 steel, hot-dip galvanized acc. to PN-EN ISO 1461:2011

Base Plate
PCS100



APPLICATION
Assembly of vertical profile CWE100H50... as a support post of the structure to GSW76x...N ground screw

PCS100

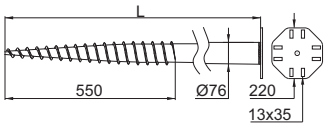
CODE	1 pcs [kg]	catalogue no.	pcs.
PCS100	2,17	751216	5

Advantages:
- increased strength due to specially shaped reinforcing folds
- holes in the base plate allowing adjustment of the position during assembly

For assembly to:
- ground screw use 4 x SMM10x30F Screw Sets

MATERIAL
S235 steel, hot-dip galvanized acc. to PN-EN ISO 1461:2011

Ground Screw
GSW76x...N



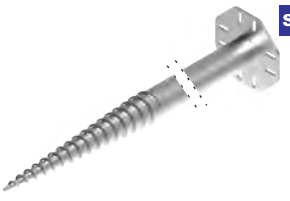
APPLICATION
Assembly of PCS70 and PCS100 base plates

GSW76x...N

CODE	lenght L mm	1 pcs. [kg]	catalogue no.	pcs.
GSW76x1600N	1600	11,00	897716	1
GSW76x2200N	2200	12,90	897722	1

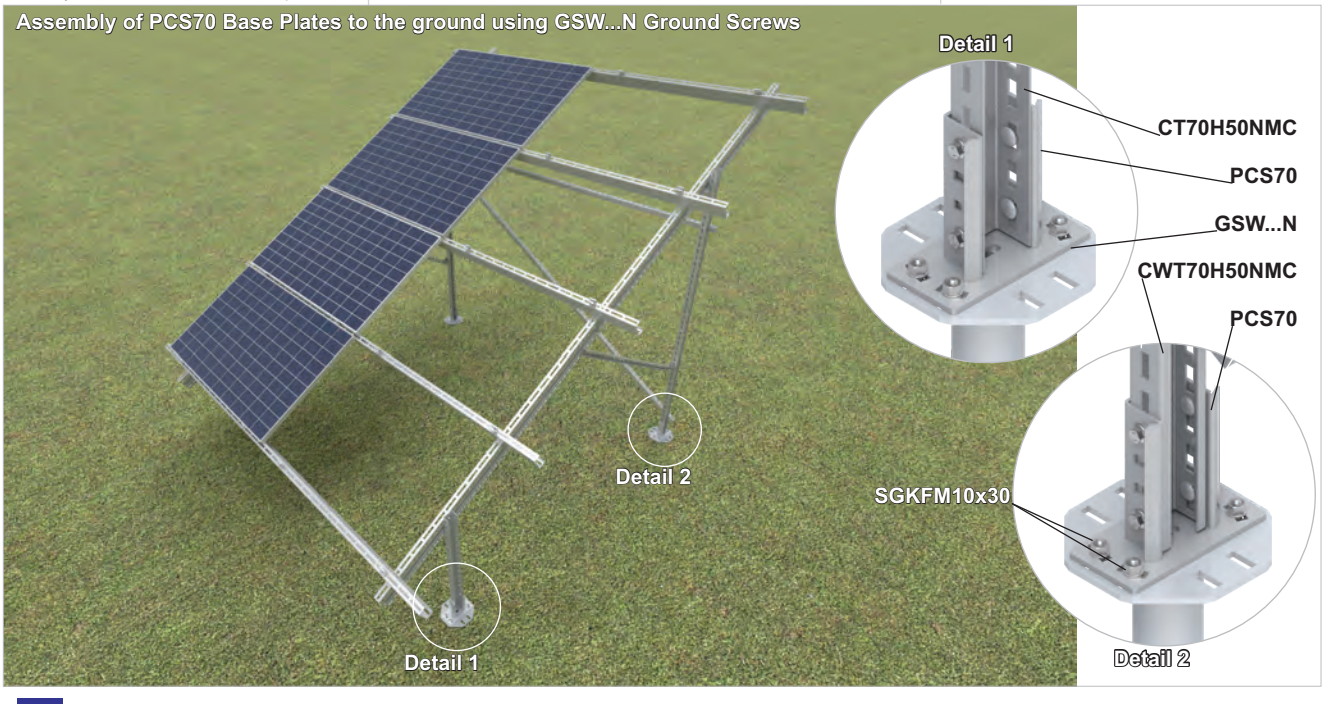
Advantages:
- longitudinal perforation enables screw assembly with PCS70 or PCS100 base plates
- Installation of small and medium-sized freestanding structures without the need for using pile driver
- increased bearing capacity (compaction) of the soil when screwing in the screw
- hot-dip galvanized material for very high corrosion resistance

For the assmebly of a post with ground screw use 4 x SGKFM10x30 Screw Sets



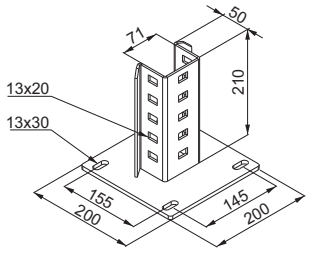
MATERIAL
Steel, hot-dip galvanized acc. to PN-EN ISO 1461:2011

Note: orders for PV farms ≥0.5 MW delivered in collective packages



STM - Standard stock product (available in stock)
ST - Standard product (on order)
N - New product

Base Plate
PCB70



APPLICATION
Assembly of vertical profile CT70H50... and CWT70H50... as a support post of the structure to concrete foundation

PCB70

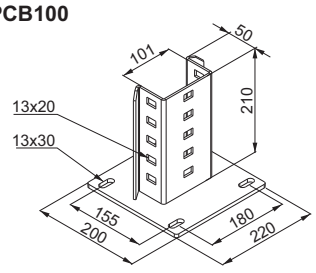
CODE	1 pcs kg	catalogue no.	pcs.
PCB70	4,32	751218	5

Advantages:
- increased strength due to specially shaped reinforcing folds
- holes in the base plate allowing adjustment of the position during assembly
- dense perforation in the vertical part allows mounting height adjustment of the support post
- high mounting stability due to the enlarged base plane

For assembly to:
- concrete foundation use 4 x PSRM10x90F Anchor Bolts

MATERIAL
S235 steel, hot-dip galvanized acc. to PN-EN ISO 1461:2011

Base Plate
PCB100



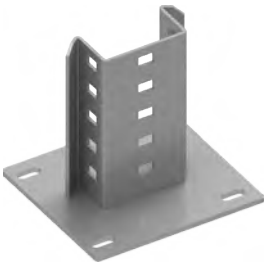
APPLICATION
Assembly of vertical profile CWE100H50 as a support post of the structure to concrete foundation

PCB100

CODE	1 pcs kg	catalogue no.	pcs.
PCB100	4,87	751219	5

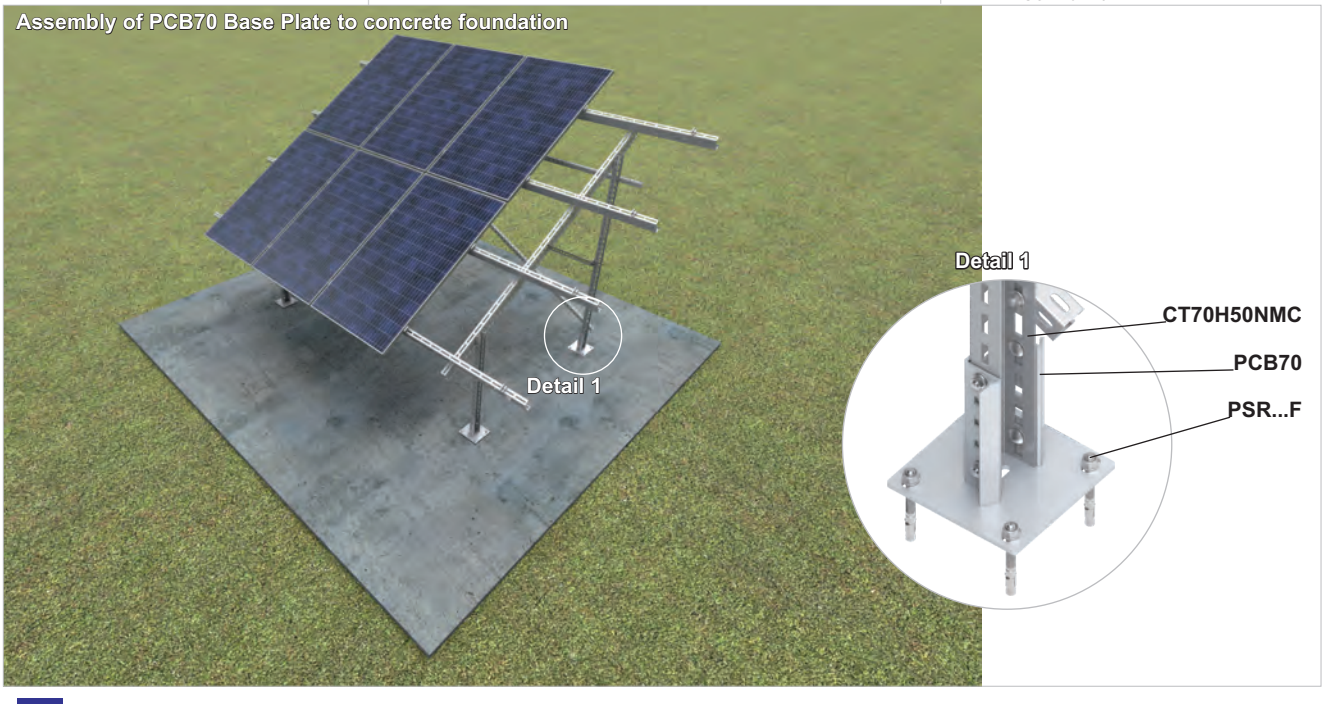
Advantages:
- increased strength due to specially shaped reinforcing folds
- holes in the base plate allowing adjustment of the position during assembly
- dense perforation in the vertical part allows mounting height adjustment of the support post
- high mounting stability due to the enlarged base plane

For assembly to:
- concrete foundation use 4 x PSRM10x90F Anchor Bolts



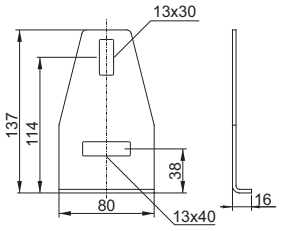
MATERIAL
S235 steel, hot-dip galvanized acc. to PN-EN ISO 1461:2011

Note: orders for PV farms ≥0.5 MW delivered in collective packages



STM - Standard stock product (available in stock)
ST - Standard product (on order)
N - New product

Channel Connector
LCJ70MC



APPLICATION
Connection of bracings made of CMP... channels with CT70H50...NMC or CWT70H50...NMC vertical support posts of double-supported freestanding structures

LCJ70MC

± 3,0 mm

CODE	1 pcs. kg	catalogue no.	pcs.
LCJ70MC	0,18	850251	30

Advantages:
- longitudinal perforation allows for mounting the element to support posts in the correct position
- made of steel in Magnelis® coating with very high corrosion resistance

For the assembly use 2 x SGKFM10x20 Screw Sets

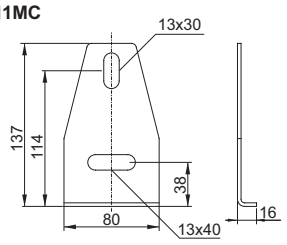
Note: orders for PV farms ≥0.5 MW delivered in collective packages

N

STM

MATERIAL
S350GD steel in Magnelis® coating

Channel Connector
LCPT11MC



APPLICATION
Connection of bracings made of CMP... channels with CT70H50...MC or CWT70H50...MC vertical support posts of double-supported freestanding structures

LCPT11MC

± 3,0 mm

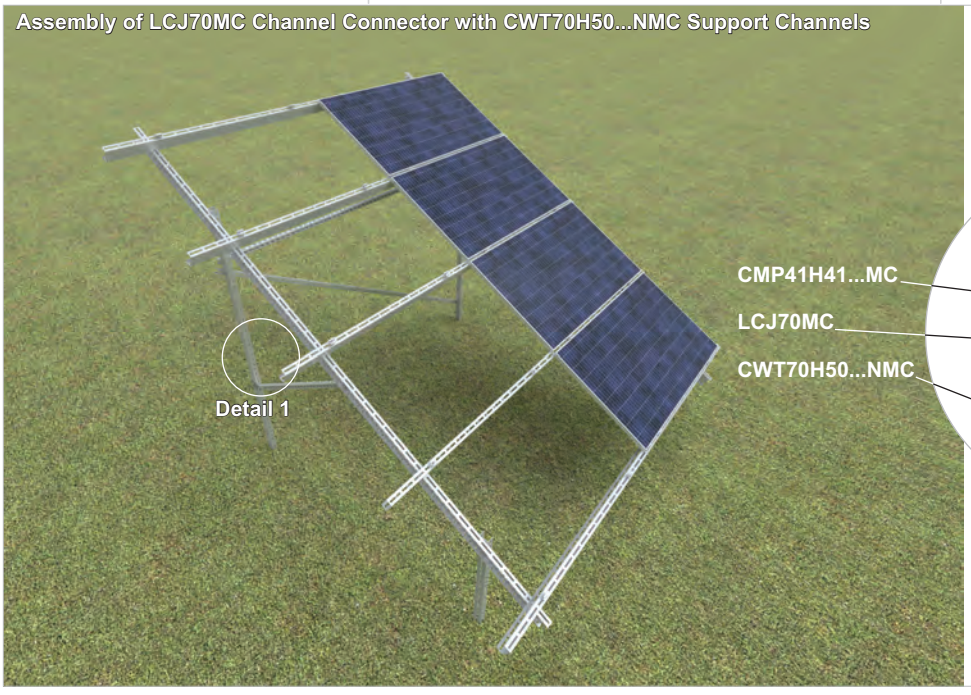
CODE	1 pcs. kg	catalogue no.	pcs.
LCPT11MC	0,18	850151	30

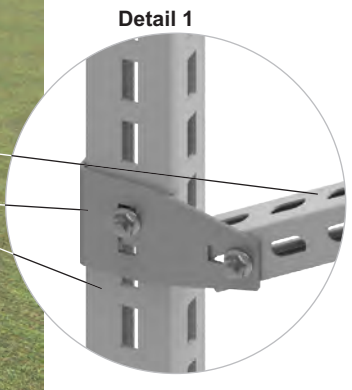
Advantages:
- longitudinal perforation allows for mounting the element to support posts in the correct position
- made of steel in Magnelis® coating with very high corrosion resistance

For the assembly use 2 x SGKFM10x20 Screw Sets

AVAILABLE WHILE STOCKS LAST

MATERIAL
S350GD steel in Magnelis® coating

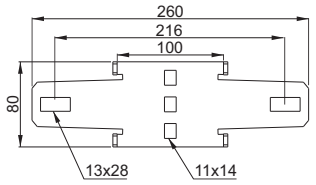




STM - Standard stock product (available in stock)
ST - Standard product (on order)
N - New product

Sheet thickness ≠ [mm]: 1,0 1,2 1,5 2,0 3,0 4,0

Channel Connector
LCD100MC



APPLICATION
Connection of bracings made of CMP... channels with CWE100H50...NMC vertical support posts of single-support freestanding structures

LCD100MC

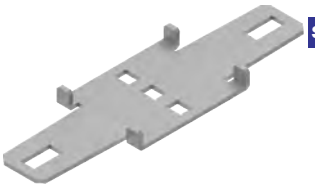
≠ 4,0 mm

CODE	1 pcs. [kg]	catalogue no.	pcs.
LCD100MC	0,45	850150	20

Advantages:
- longitudinal perforation allows for mounting the element to support posts in the correct position
- made of steel in Magnelis® coating with very high corrosion resistance
- provides a stable connection between support posts and bracings made of channels
- assembly to support post with 1 or 2 screws possible

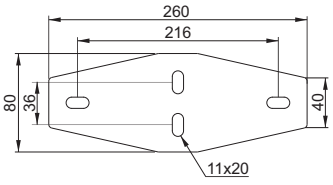
For the assembly use 3 x SGKFM10x20 Screw Sets

Note: orders for PV farms ≥0.5 MW delivered in collective packages



MATERIAL
S350GD steel in Magnelis® coating

Channel Connector
LCPE11DMC



APPLICATION
Connection of bracings made of CMP... channels with CWE100H50...NMC vertical support posts of single-support freestanding structures

LCPE11DMC

≠ 4,0 mm

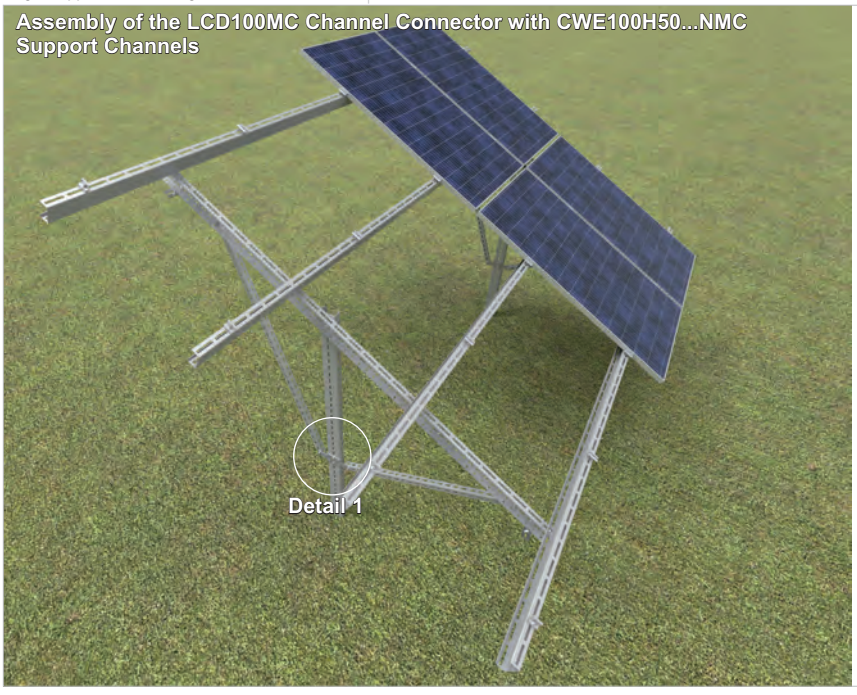
CODE	1 pcs. [kg]	catalogue no.	pcs.
LCPE11DMC	0,45	850240	20

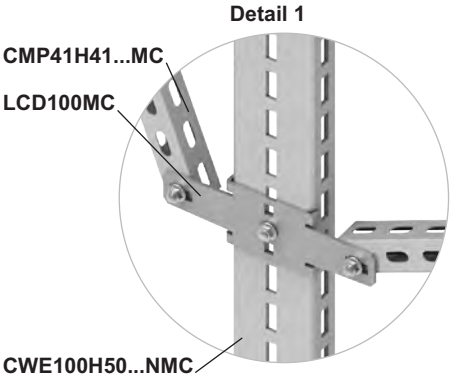
Advantages:
- longitudinal perforation allows for mounting the element to support posts in the correct position
- made of steel in Magnelis® coating with very high corrosion resistance

For the assembly use 4 x SGKFM10x20 Screw Sets

AVAILABLE WHILE STOCKS LAST

MATERIAL
S350GD steel in Magnelis® coating



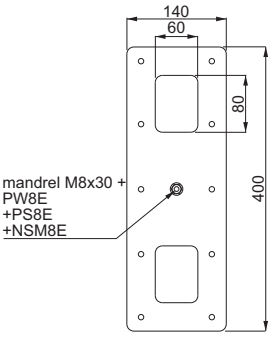


STM - Standard stock product (available in stock)
ST - Standard product (on order)
N - New product

Sheet thickness ≠ [mm]: 1,0 1,2 1,5 2,0 3,0 4,0

Steel Fixing Plate for Flat Roofs

SPM1



APPLICATION
Installation to a flat roof covered with roofing felt or membrane

SPM1

≠ 2,0 mm

CODE	kg 1 pcs	catalogue no.	pcs.
SPM1	0,80	858023	10

Advantages:
- non-invasive Installation to roofs covered with roofing felt or membrane
- geometry and load capacity adapted to the BAKS structures
- low weight, which does not overload the roof
- the set includes an enlarged washer, a spring washer and a stainless steel nut
- threaded mandrel M8x30 permanently fixed to the plate

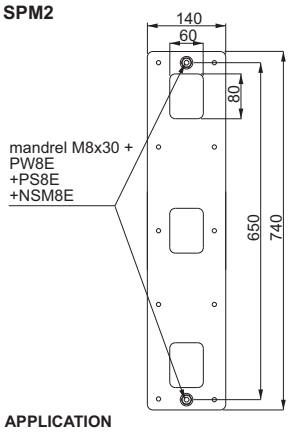
Note:
Installation instructions of the plate for flat roof can be found on the website www.baks.com.pl/en/

N STM

MATERIAL
S350GD steel in Magnelis® coating

Steel Fixing Plate for Flat Roofs

SPM2



APPLICATION
Installation to a flat roof covered with roofing felt or membrane

SPM2

≠ 2,0 mm

CODE	kg 1 pcs	catalogue no.	pcs.
SPM2	1,50	858024	10

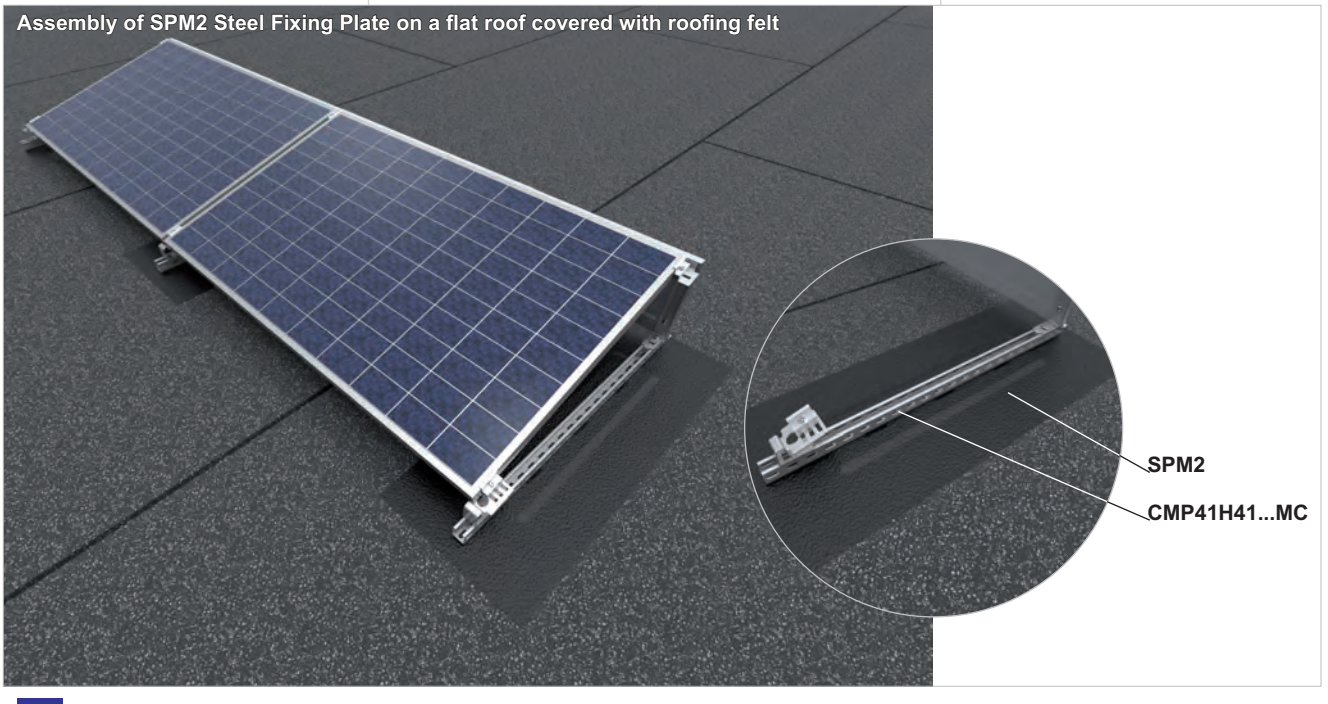
Advantages:
- non-invasive Installation to roofs covered with roofing felt or membrane
- geometry and load capacity adapted to the BAKS structures
- low weight, which does not overload the roof
- the set includes 2 enlarged washers, 2 spring washers and 2 stainless steel nuts
- threaded mandrel M8x30 permanently fixed to the plate

Note:
Installation instructions of the plate for flat roof can be found on the website www.baks.com.pl/en/

N STM

MATERIAL
S350GD steel in Magnelis® coating

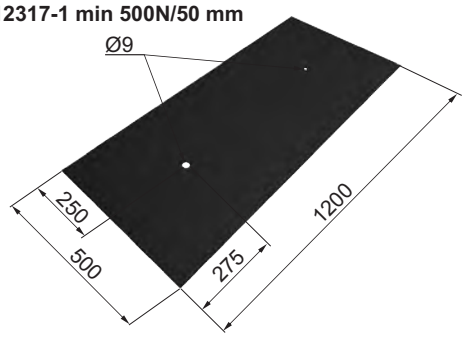
Note: orders for PV farms ≥0.5 MW delivered in collective packages



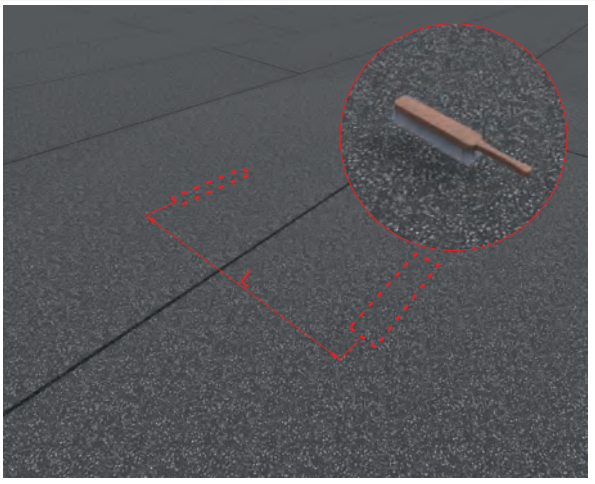
STM - Standard stock product (available in stock)
ST - Standard product (on order)
N - New product

Sheet thickness ≠ [mm]: 1,0 1,2 1,5 2,0 3,0 4,0

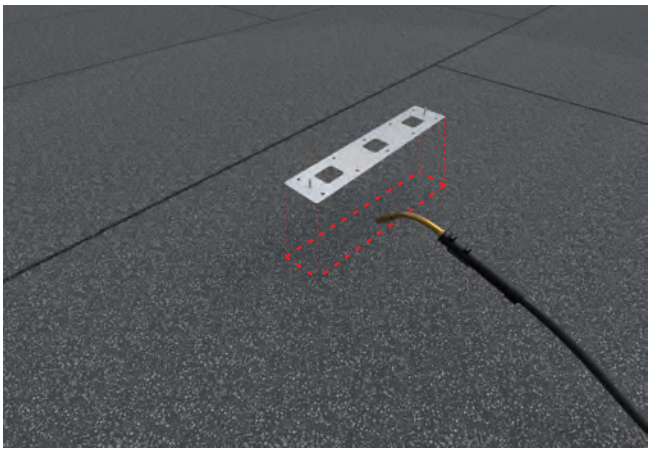
Assembly instructions for SPM2 Steel Fixing Plate to roofing felt
Note:
Requirements of the roofing felt to be used:
1) EN 12310-1 min 150N
2) EN 12311-1 min 300N/50 mm
3) EN 12316-1 min 125N/50 mm
4) EN 12317-1 min 500N/50 mm



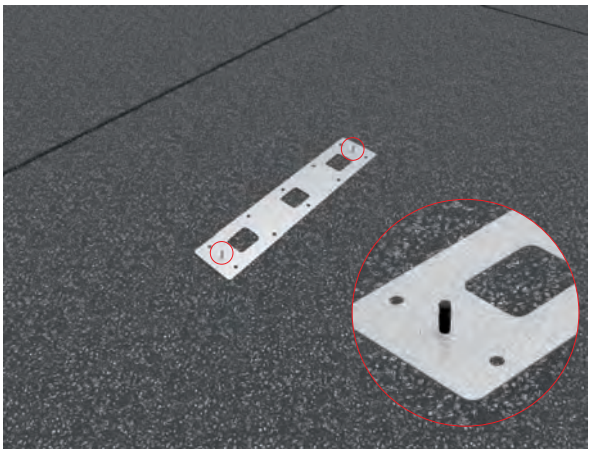
1. Before starting to inSteell the SPM2 plates, cut out a fragment of roofing felt with minimum dimensions of 500 x 1200 mm, then cut out holes with a diameter of Ø9 mm in the locations of screws



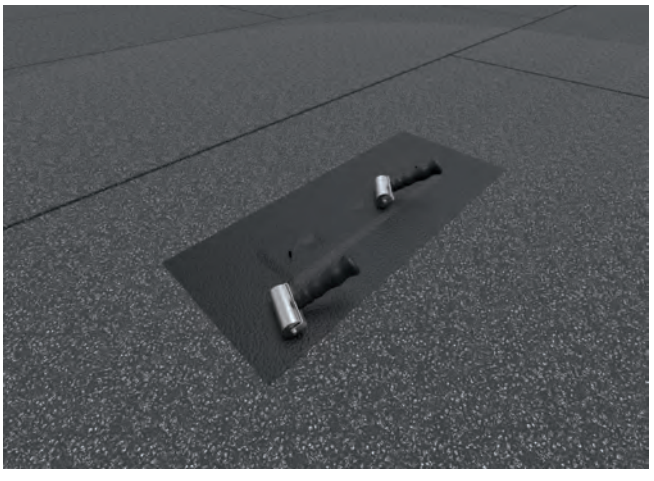
2. Measure the distance between the SPM2 plates, mark the points and then use a wire brush to clean the 500 x 1200 mm area of the roofing felt on the roof



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

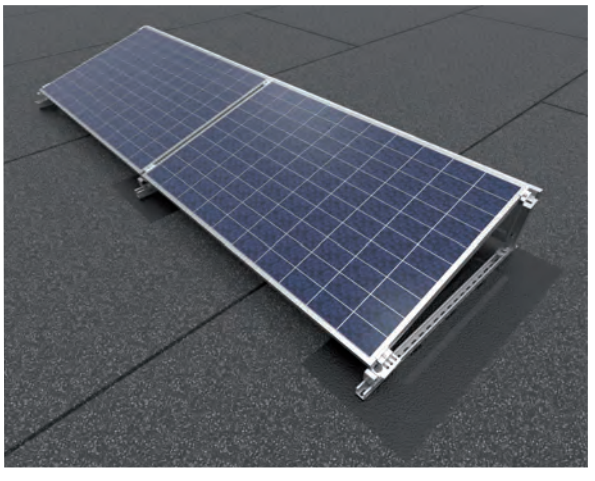


4. SPM2 plate should be placed on heated areas, pressed against prepared surface, protruding threads should be secured with NOP50 protection cap



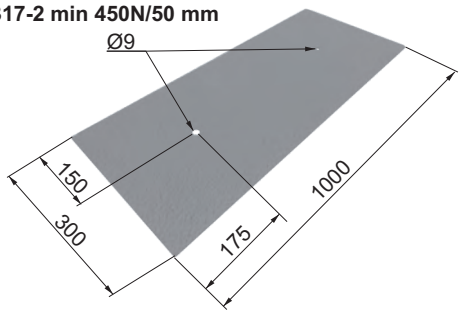
5. Warm up the prepared roofing felt, cover the plate with it and then press it with a roofing roller in the locations of the holes

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

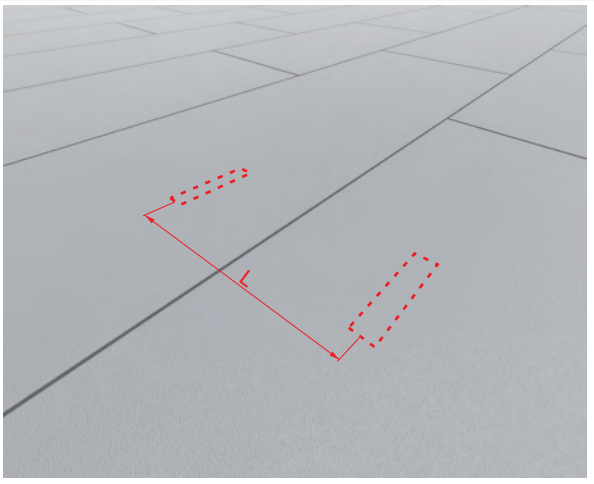


7. Correctly installed structure using SPM2 plate and DP-DNHWE mounting system

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 min 110N
2) EN 12311-2 min 500N/50 mm
3) EN 12316-2 min 150N/50 mm
4) EN 12317-2 min 450N/50 mm

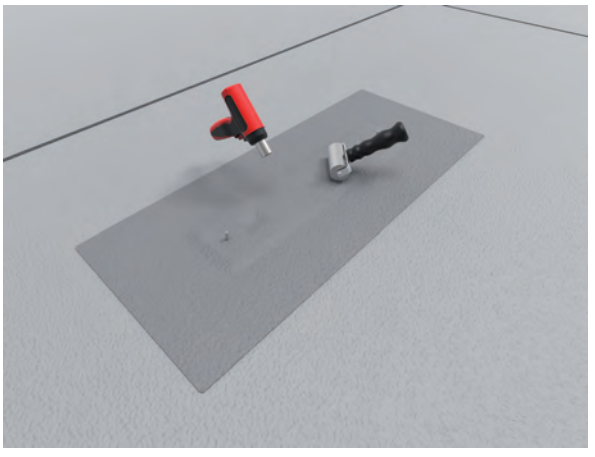


1. Before starting to inSteell the SPM2 plates, cut out a fragment of membrane with minimum dimensions of 300 x 1000 mm, then cut out holes with a diameter of Ø9 mm in the locations of screws, finally round the corners of the membrane.

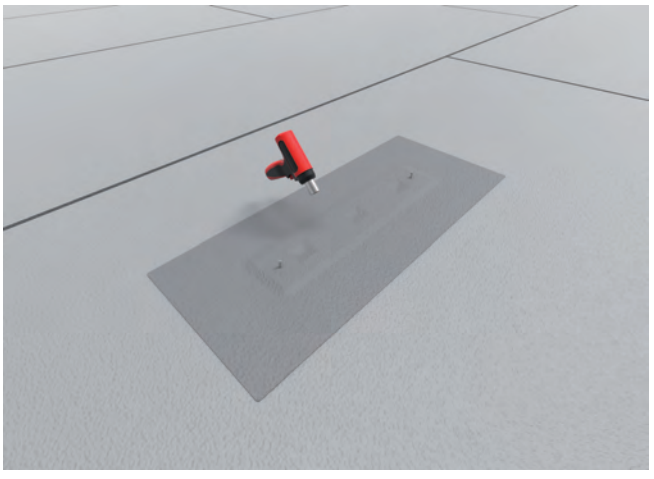


2. Measure the distance between the SPM2 plates, then mark the points.

3. Place the SPM2 plate on the designated place

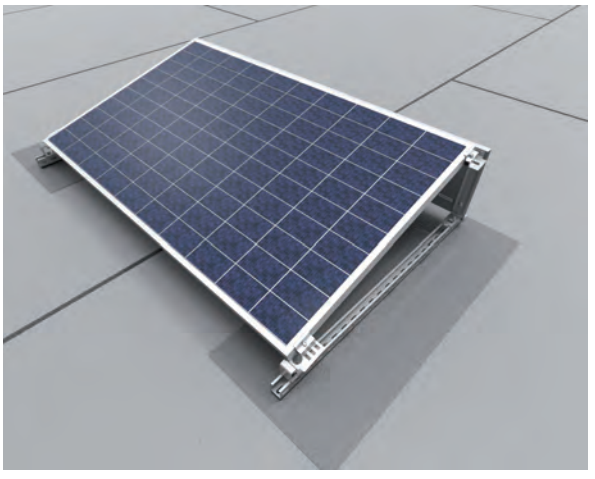


4. Cover the SPM2 plate with the prepared membrane and start the installation with a manual welding machine. Initially weld an hole of 60 x 80 mm, after proper heating press the membrane with a roofing roller. Repeat for the remaining holes.



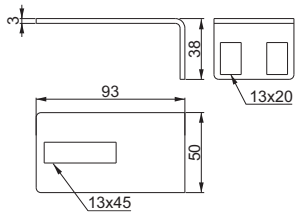
5. Once the holes are welded, weld all sides around the SPM2 plate.

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

Connector
LCCNMC



APPLICATION
Assembly of bracings made of CMP... profiles to BDFCH... profiles in freestanding structures, , fixing CWC100H50...MC profile to BDFCH120...MC profiles when the Installation place does not coincide with the factory perforation

LCCNMC

≠ 3,0 mm

CODE	1 pcs kg	catalogue no.	pcs.
LCCNMC	0,08	858022	50

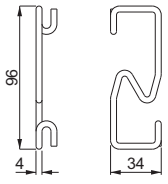
Advantages:
- longitudinal perforation allows for mounting the element in the correct position
- made of steel in Magnelis® coating with very high corrosion resistance
- allows to connect the profiles without drilling

For the assembly use 2 x SGKFM10x20 Screw Sets

N STM

MATERIAL
S350GD steel in Magnelis® coating

Wire Clip
SPV



APPLICATION
Protection against falling out of cables routed inside of CWC100H50...MC or CWC100H50...NMC channel

SPV

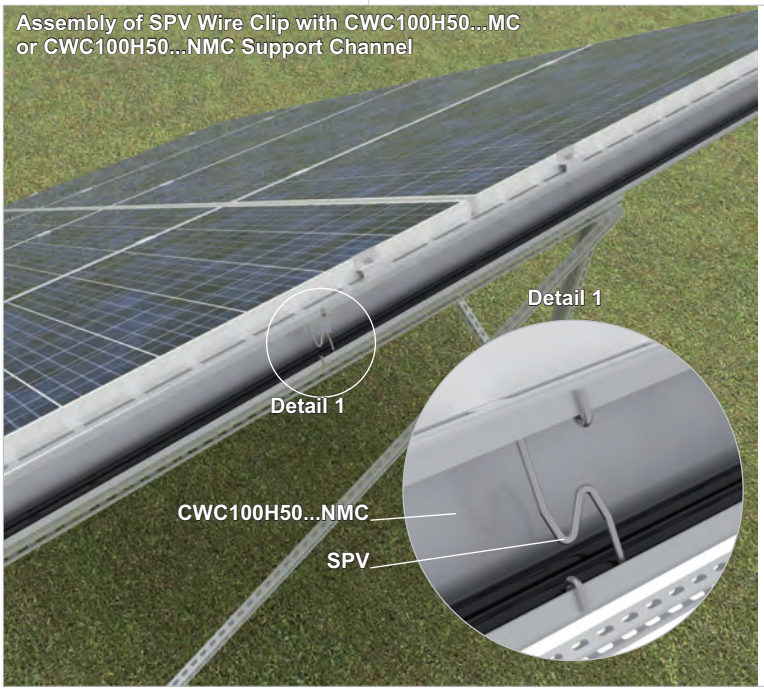
CODE	1 pcs kg	catalogue no.	pcs.
SPV	0,03	864205	100

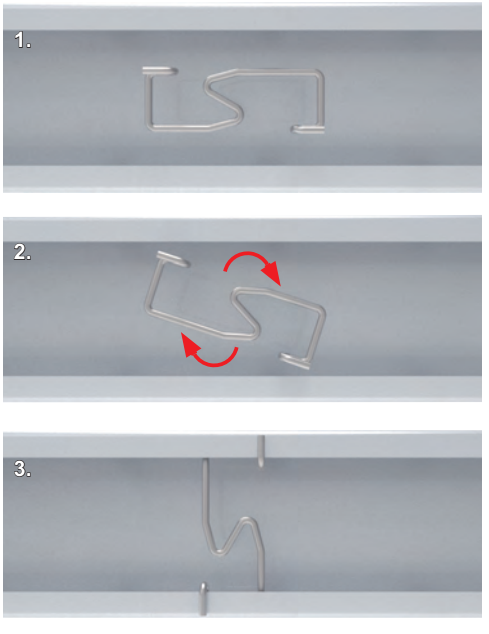
Advantages:
- very quick Installation and removal of the clip, allowing cables to be added at any time
- the round cross-section of the clip protects the cables from damage
- low weight allowing to carry a large number of pieces by one inSteeller
- made of stainless steel with very good anti-corrosion properties and high mechanical strength
- Installation possible anywhere in CWC100H50...NMC channel

N STM

MATERIAL
Stainless steel

Note: orders for PV farms ≥0.5 MW delivered in collective packages

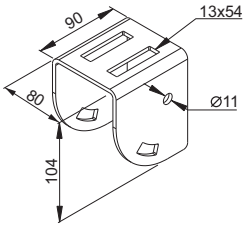




STM - Standard stock product (available in stock)
ST - Standard product (on order)
N - New product

Sheet thickness ≠ [mm]: 1,0 1,2 1,5 2,0 3,0 4,0

Head Plate – Variable
PVUMC



PVUMC

≠ 4,0 mm

CODE	1 pcs [kg]	catalogue no.	pcs.
PVUMC	0,45	740615	10

Advantages:
- smooth adjustment of the structure inclination angle in the range of 20°- 35°
- longitudinal perforation allows for mounting the element in the correct position
- made of steel in Magnelis® coating with very high corrosion resistance

For the assembly use SGKFM10x20 Screw Sets

N

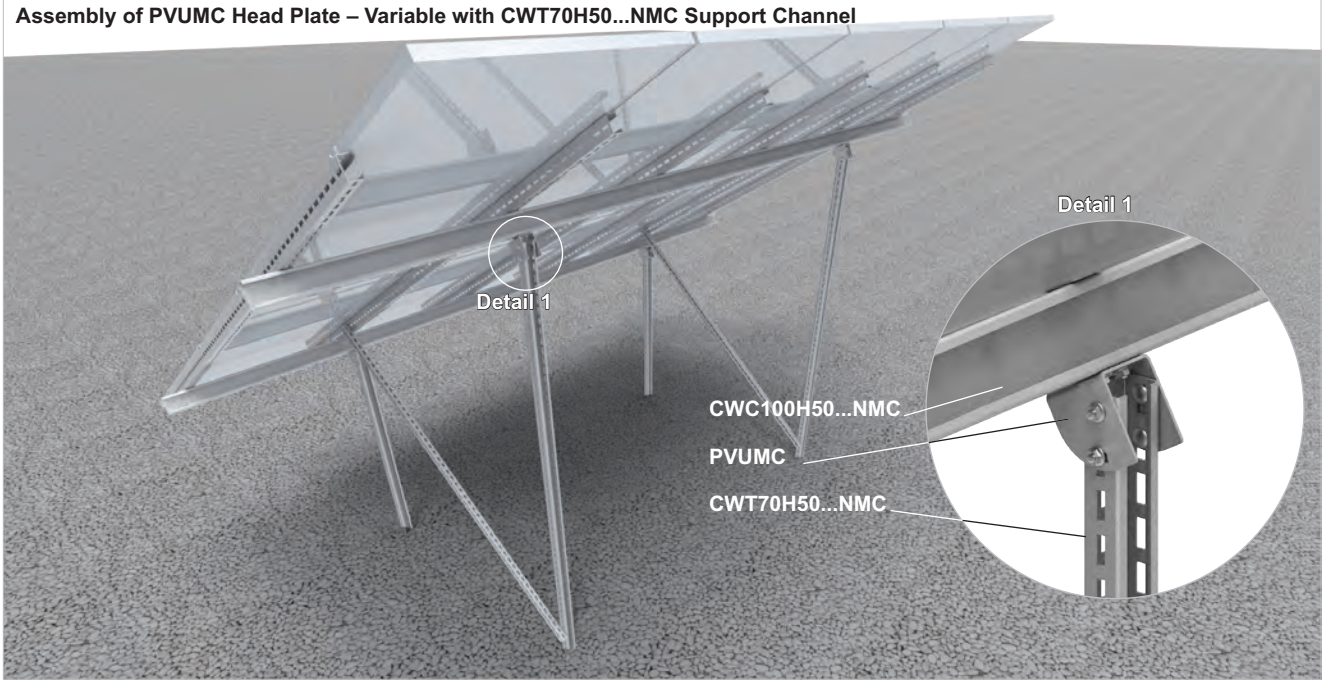
STM

Note: orders for PV farms ≥0.5 MW delivered in collective packages

APPLICATION
Assembly of W-V2G2-BI structure (inclination angle setting) with bifacial panels

MATERIAL
S250GD steel in Magnelis® coating

Assembly of PVUMC Head Plate – Variable with CWT70H50...NMC Support Channel

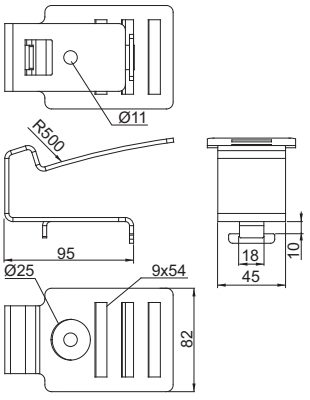


STM - Standard stock product (available in stock)
ST - Standard product (on order)
N - New product

Sheet thickness ≠ [mm]: 1,0 1,2 1,5 2,0 3,0 4,0

Panel's Bottom Holder

UPDCNMC



APPLICATION
Installation of PV panels on flat roofs

UPDCNMC

≠ 3,0 mm

CODE	PV panel inclination angle	1 pcs kg	catalogue no.	pcs.	
UPDCNMC	10°,15°, 20°	0,37	857006	30	

Advantages:
- longitudinal holes for mounting the panels give the possibility of shifting in case of unevenness of the substrate to which the structure is mounted
- possibility to configure the structure east-west
- allows smooth adjustment of the spacing of the panel holders
- holder fixed to channel by one screw with a channel nut
- easy and quick assembly
- high strength parameters
- high quality and aesthetic design
- universal holder for 3 panel fixing angles

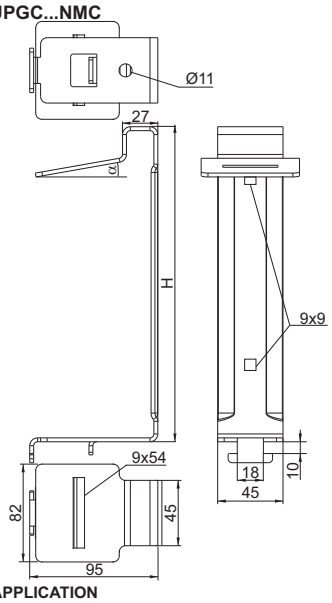
For the assembly use 1 x SRM10x30F Screw Set

N
STM

MATERIAL
S350GD steel in Magnelis® coating

Panel's Top Holder

UPGC...NMC



APPLICATION
Installation of PV panels on flat roofs

UPGC...NMC

≠ 3,0 mm

CODE	dimension H mm	PV panel inclination angle α	1 pcs kg	catalogue no.	pcs.	MOQ pcs.	
UPGC10NMC	241	10°	0,70	858011	12	50	ST
UPGC15NMC	323	15°	0,90	858018	10	10	STM
UPGC20NMC	415	20°	1,10	858223	8	8	STM

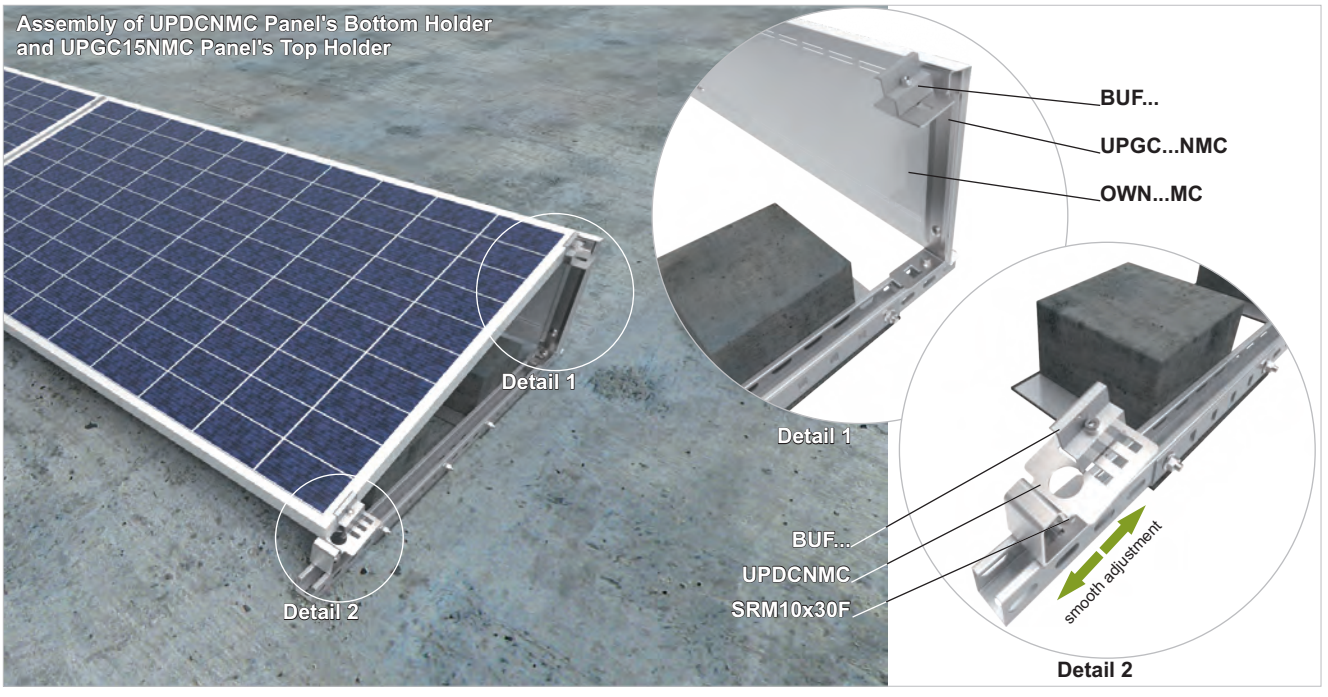
Advantages:
- longitudinal holes for mounting the panels give the possibility of shifting in case of unevenness of the substrate to which the structure is mounted
- possibility to configure the structure east-west or to use wind shields
- allows smooth adjustment of the spacing of the panel holders
- holder fixed to channel by one screw with a channel nut
- easy and quick assembly
- high strength parameters
- high quality and aesthetic design

For the assembly use 1 x SRM10x30F Screw Set

Note: orders for PV farms ≥0.5 MW delivered in collective packages

N
STM
ST

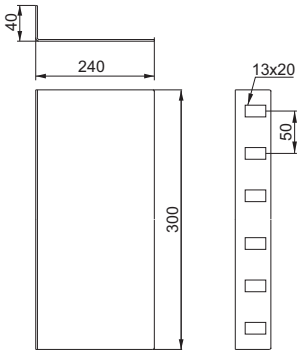
MATERIAL
S350GD steel in Magnelis® coating



STM - Standard stock product (available in stock)
ST - Standard product (on order)
N - New product

Sheet thickness ≠ [mm]: 1,0 1,2 1,5 2,0 3,0 4,0

Base Plate
PDOP300MC



APPLICATION
Laying the ballast and ballasting the structure

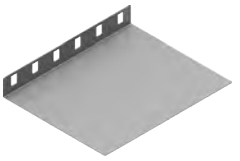
PDOP300MC

≠ 1,5 mm

CODE	1 pcs. kg	catalogue no.	pcs.
PDOP300MC	1,05	858430	10

Advantages:
- overall dimensions adjusted to the most popular sizes of concrete blocks
- special perforation allowing the mounting of base plates for different types of structures
- made of Magnelis®-coated material with very high corrosion resistance

For the assembly use 2 x SGKFM10x20 Screw Sets



N STM

MATERIAL
S250GD steel in Magnelis® coating

Vibration Damping Rubber
SB...

APPLICATION
Separation between support structure elements and roofing

SBV...

≠ 5 mm

CODE	width a mm	lenght L mm	1 pcs. kg	catalogue no.	pcs.	
SBV50x100	50	100	0,18	895500	50	STM
SBV50x500	50	500	0,90	895501	50	STM
SBV250x350	250	350	0,32	895507	30	STM

SBR...

≠ 10 mm

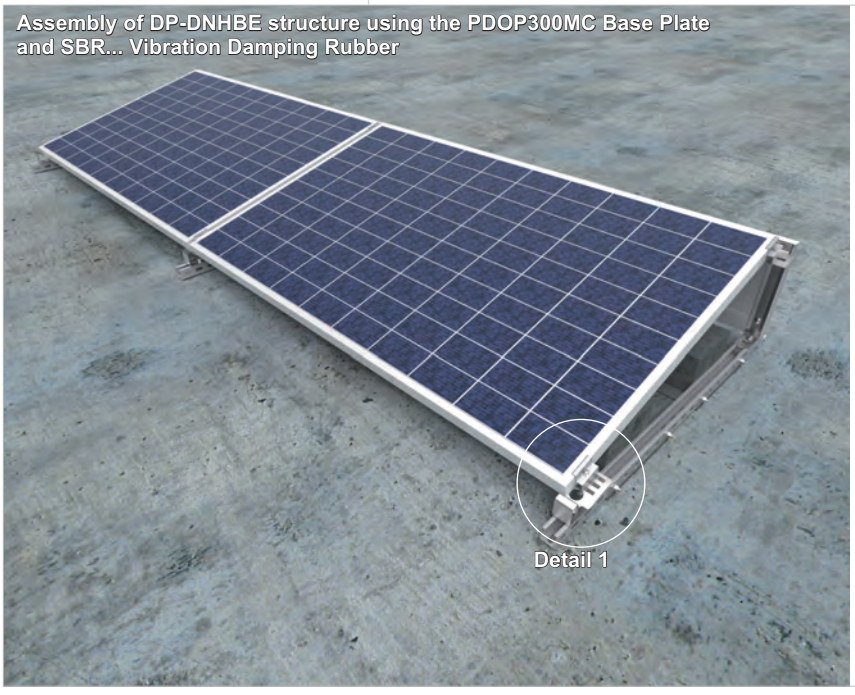
CODE	width a mm	lenght L mm	1 pcs. kg	catalogue no.	pcs.	MOQ pcs.	
SBR50x500	50	500	0,18	890001	50	50	ST
SBR150x500	150	500	0,55	890002	20	50	ST
SBR250x350	250	350	0,64	890007	30	50	ST

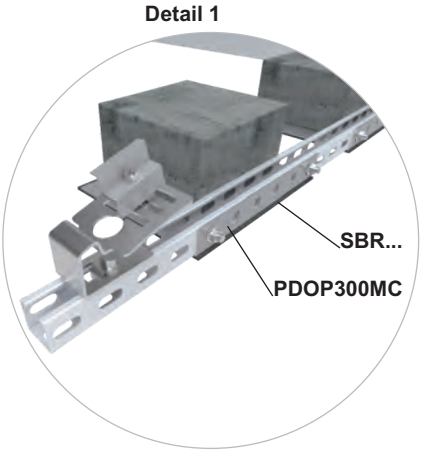
Advantages:
- special rubber that absorbs vibrations and does not absorb water
- dimensions adapted to elements of BAKS structures

Note: orders for PV farms ≥0.5 MW delivered in collective packages

N STM ST

MATERIAL
Styrene-butadiene rubber

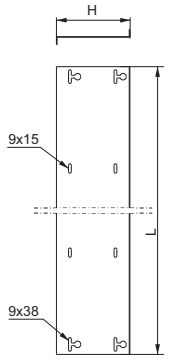




STM - Standard stock product (available in stock)
ST - Standard product (on order)
N - New product

Sheet thickness ≠ [mm]: 1,0 1,2 1,5 2,0 3,0 4,0

Wind Shield
OWP...NMC



OWPP...NMC

≠ 0,7 mm

CODE	height H mm	lenght L mm	1 pcs. kg	catalogue no.	pcs.	MOQ pcs.
OWPP10NMC	238	1730	4,01	859711	10	30
OWPP15NMC	320	1730	5,15	859716	10	30
OWPP20NMC	409	1730	6,38	859721	10	30

The OWPP... Wind Shield for panels with the length 1626-1663 mm

OWP...NMC

≠ 0,7 mm

CODE	height H mm	lenght L mm	1 pcs. kg	catalogue no.	pcs.	MOQ pcs.
OWP1P10NMC	238	1767	4,10	859811	1	30
OWP1P15NMC	320	1767	5,26	859816	1	30
OWP1P20NMC	409	1767	6,52	859821	1	30
OWP2P10NMC	238	2047	4,75	859911	1	30
OWP2P15NMC	320	2047	6,09	859916	1	30
OWP2P20NMC	409	2047	7,55	859921	1	30
OWP3P10NMC	238	2084	4,83	858111	1	30
OWP3P15NMC	320	2084	6,20	858016	1	30
OWP3P20NMC	409	2084	7,69	858021	1	30
OWP4P10NMC	238	1825	4,23	858211	1	30
OWP4P15NMC	320	1825	5,43	858216	1	30
OWP4P20NMC	409	1825	6,73	858321	1	30

The OWP1... Wind Shield for panels with the length 1664-1700 mm
The OWP4... Wind Shield for panels with the length 1722-1758 mm
The OWP2... Wind Shield for panels with the length 1943-1980 mm
The OWP3... Wind Shield for panels with the length 1981-2018 mm

Advantages:
- Installation to the structure allows for the reduction of the ballast required to ballast the structure
- special cut-outs allow the shield to be put on by one person without having to move and hold the screws from the other side
- universal sizes adapted for different panel lengths

Note:
In case of orders for less than 30 pcs of Wind Shields using OWN...MC Universal Wind Shields is recommended

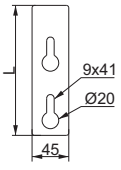
For the assembly use 4 x SGKFM8x20 Screw Sets

N ST

APPLICATION
Mounting to structures for flat roofs with 10°, 15° and 20° inclination angles to improve the aerodynamic strength of the structures

MATERIAL
S250GD steel in Magnelis® coating

Wind Shield Pressure Plate
PDOW...NMC



PDOW...NMC

≠ 3,0 mm

CODE	lenght L mm	1 pcs. kg	catalogue no.	pcs.
PDOW10NMC	234	0,30	858811	10
PDOW15NMC	316	0,42	858816	10
PDOW20NMC	405	0,55	858821	10

Advantages:
- stabilisation of the wind shields, prevention of shield vibrations in high winds
- made of Magnelis®-coated material with very high corrosion resistance

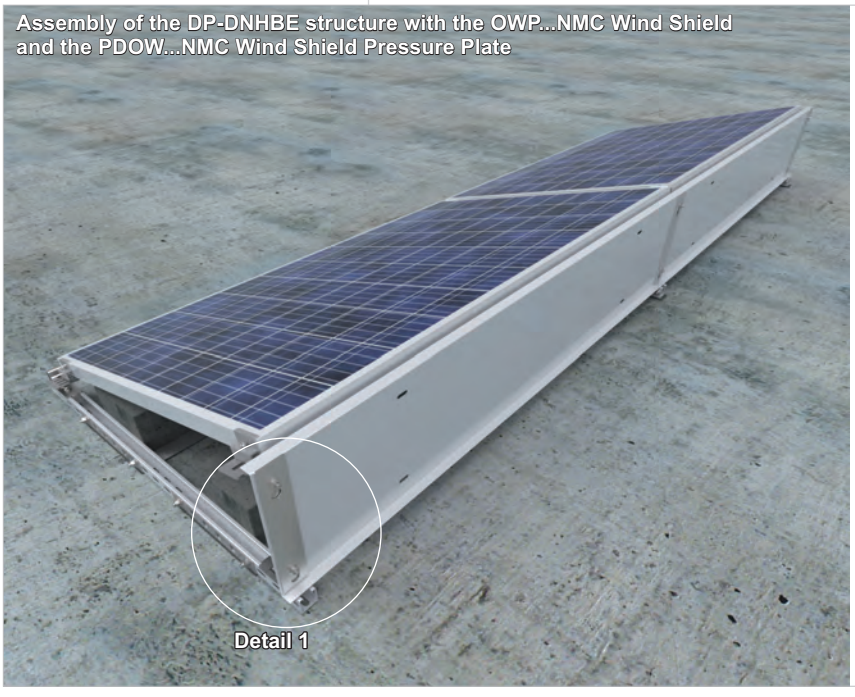
For the assembly use 2 x SGKFM8x20 Screw Sets

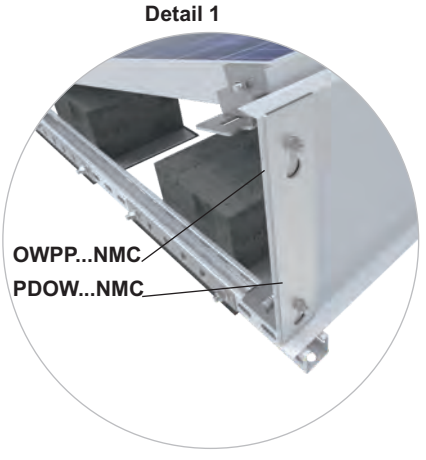
N STM

APPLICATION
Pressing the wind shield

MATERIAL
S350GD steel in Magnelis® coating

Note: orders for PV farms ≥0.5 MW delivered in collective packages





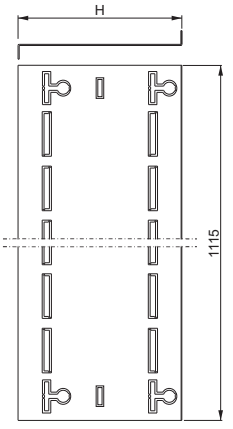
STM - Standard stock product (available in stock)
ST - Standard product (on order)
N - New product

Sheet thickness ≠ [mm]: 1,0 1,2 1,5 2,0 3,0 4,0

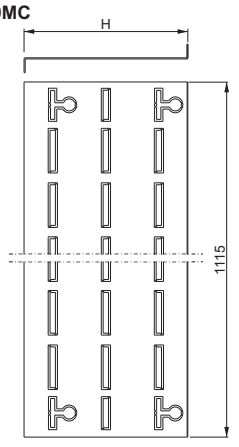
Universal Wind Shield – Adjustable

(one set includes 2 pcs with a length of 1115 mm each)

OWN10-15MC



OWN20MC



APPLICATION
Mounting to structures for flat roofs with 10°, 15° and 20° inclination angles to improve the aerodynamic strength of the structures and reduction of the required ballast

OWN...MC

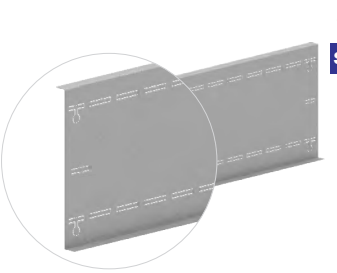
CODE	height H mm	kg 1 set	≠ 1,0 mm catalogue no.	set
OWN10MC	238	4,96	859712	5
OWN15MC	320	6,40	859713	5
OWN20MC	409	7,96	859714	5

Advantages:
- large length adjustment range: 1200-2165 mm
- dense perforation allowing the wind shield to be adjusted for different panels
- specially designed cut-outs to allow the hole plug to be broken off without leaving sharp edges in the product
- made of Magnelis®-coated material with very high corrosion resistance
- Installation to the structure allows for the reduction of the ballast required to ballast the structure
- special cut-outs allow the shield to be put on by one person without having to move and hold the screws from the other side

For the assembly use 6 - 8 x SGKFM8x14 Screw Sets
One set includes 2 pcs with a length of 1115 mm each

Note:
When using one set of OWN...MC wind shields, they can be adjusted to any structure width within the range of 1200-2165 mm

Production of wind shields with a wider range of length adjustment possible on request

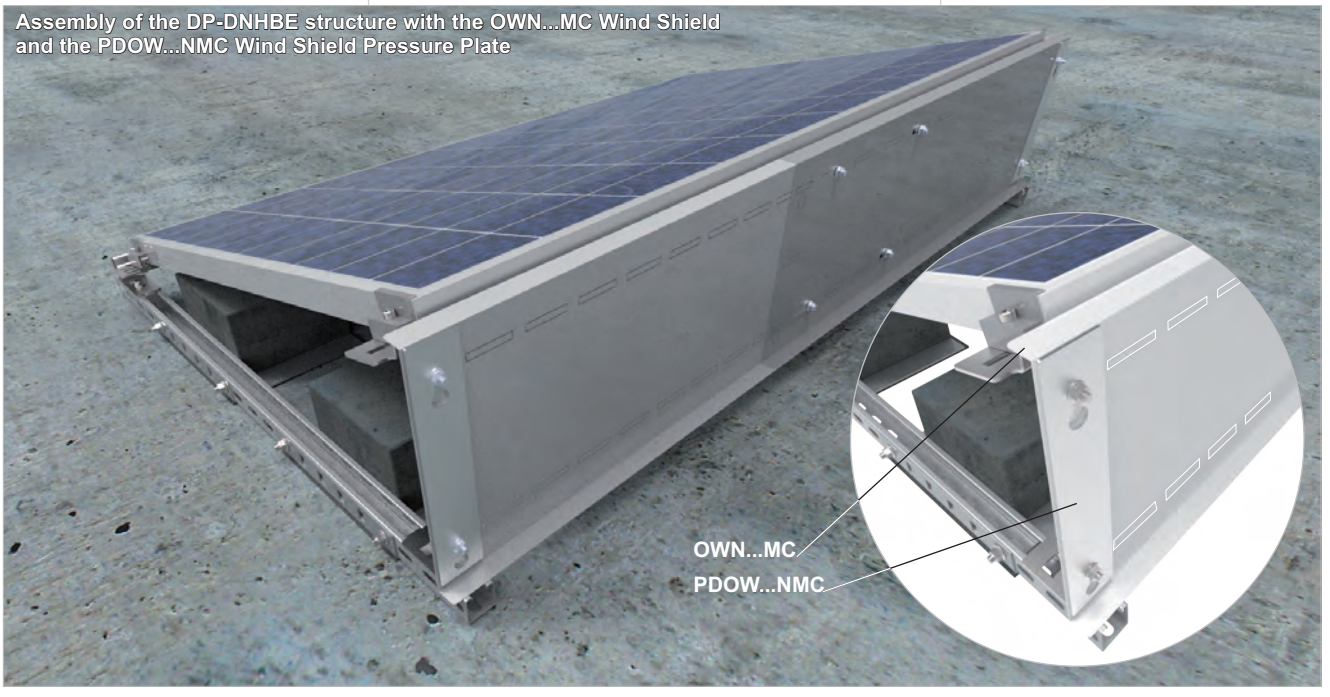


N

STM

Note: orders for PV farms ≥0.5 MW delivered in collective packages

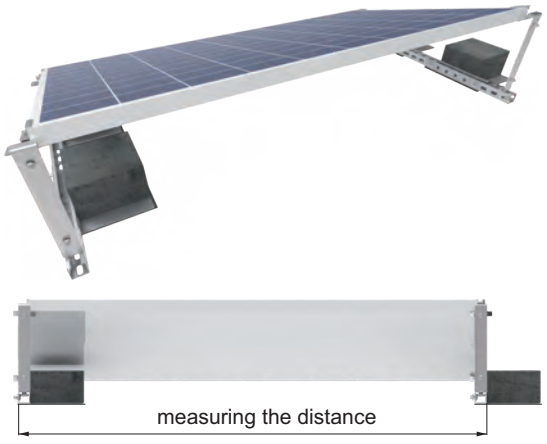
MATERIAL
S250GD steel in Magnelis® coating



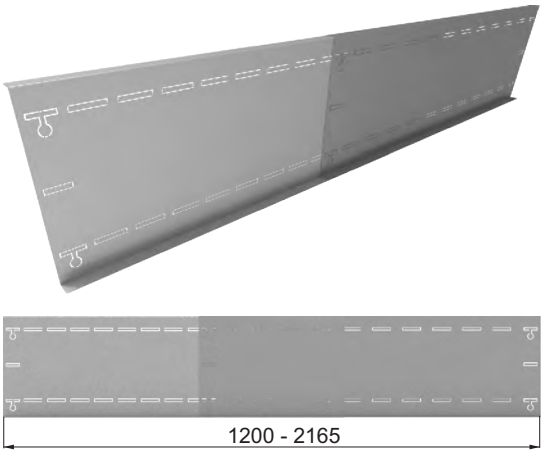
STM - Standard stock product (available in stock)
ST - Standard product (on order)
N - New product

Sheet thickness ≠ [mm]: 1,0 1,2 1,5 2,0 3,0 4,0

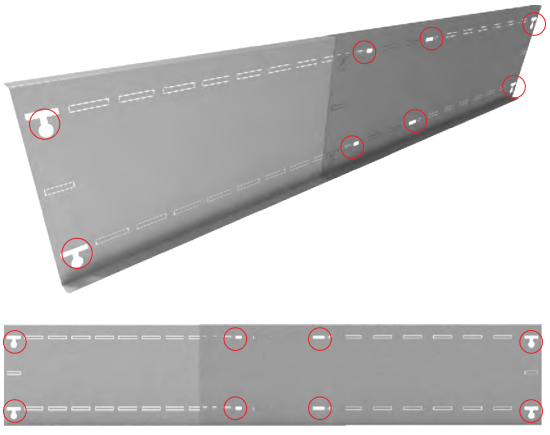
Assembly instructions for wind shields



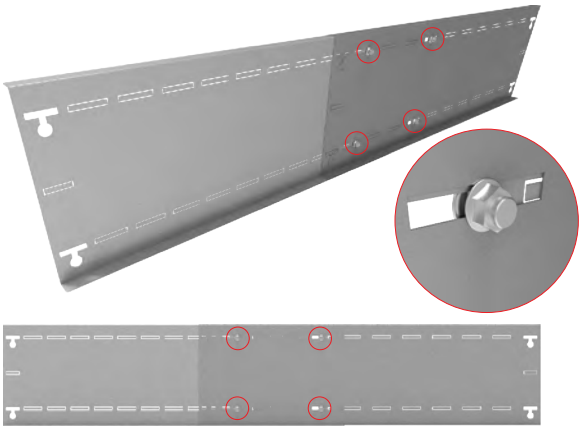
1. Measure the outer distance between the UPGC...NMC holders to which the panel is mounted.



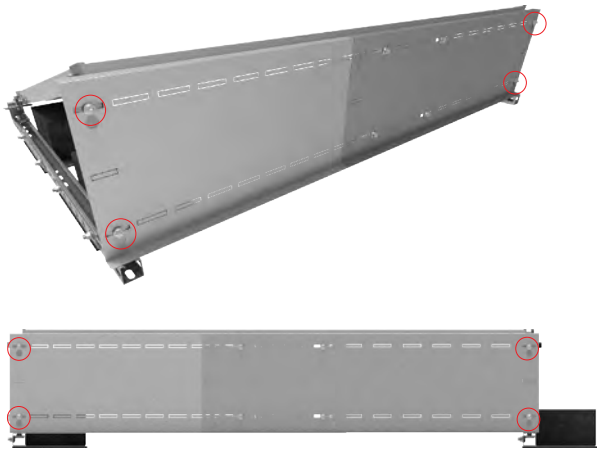
2. Before fitting and tightening the shields to the holders, they should be extended to the length measured previously in the point 1. The length adjustment range of the shields is 1200 - 2165 mm



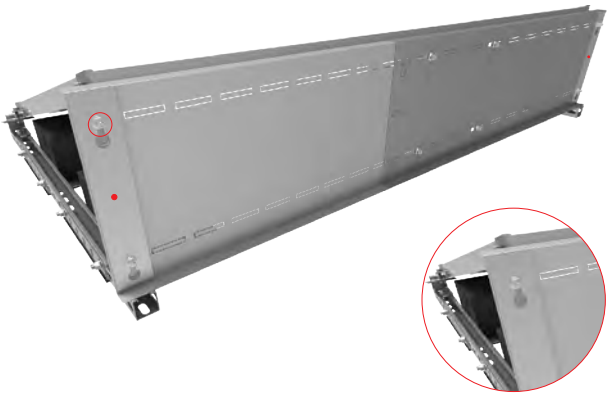
3. Using a flathead screwdriver, break out the holes at the beginning and end of the OWN...MC shields and the two holes overlapping in the shields



4. In the overlapping holes screw the shields together using 4 x SGKFM8x14 Screw Sets

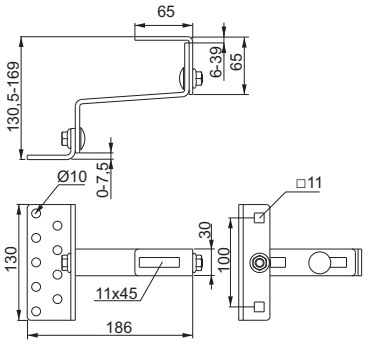


5. Put the screwed shields on the four loose screws previously mounted on the UPGC...NMC holders



6. Add the PDOW...NMC pressure plates to the already in Steelled wind shields and tighten them with nuts

Adjustable Roof Fixing
DUR40E



APPLICATION
Mounting PV structure elements to a roof covered with ceramic tiles

DUR40E

CODE	1 pcs kg	catalogue no.	pcs.
DUR40E	1,05	898140	20

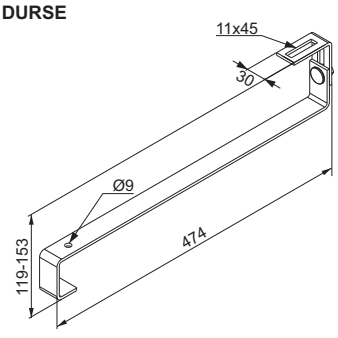
Adjustable Roof Fixing for roofs covered with ceramic tiles

Advantages:
- wide adjustment range in two planes
- possibility of using with any ceramic tile
- possibility of using for various rafter sizes
- 9 holes in the base allow trouble-free mounting to the rafters

For the assembly use: min. 2 x DDW8x100 Wood Screws

MATERIAL
Stainless steel

Uchwyt dachowy
DURSE



APPLICATION
Mounting PV structure elements to a roof covered with ceramic tiles

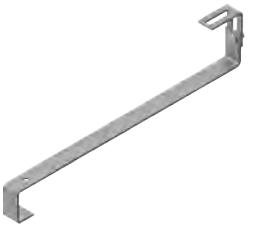
DURSE

CODE	1 pcs kg	catalogue no.	pcs.
DURSE	0,84	898141	20

Note:
It is recommended to use the fixing as an occasional solution only in places where the rafter cannot be located.

Advantages:
- Installation to roof truss battens
- wide adjustment range

For the assembly use 1 x DDW6x60E Wood Screw

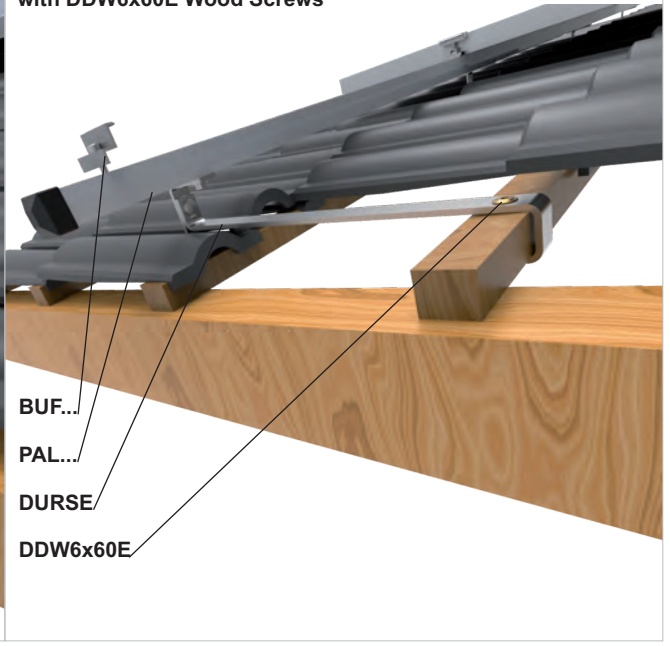


MATERIAL
Stainless steel

Note: orders for PV farms ≥0.5 MW delivered in collective packages

Assembly of DUR40E Adjustable Roof Fixing to the rafter with DDW8x100 Wood Screws

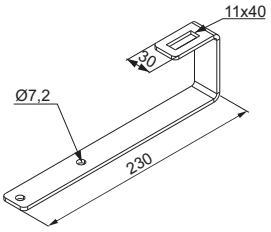
Assembly of DURSE Adjustable Roof Fixing to the rafter with DDW6x60E Wood Screws



STM - Standard stock product (available in stock)
ST - Standard product (on order)
N - New product

Roof Fixing

DUF60E



APPLICATION
Mounting PV structure elements to a roof covered with bituminous tiles

DUF60E

CODE	kg 1 pcs	catalogue no.	pcs.
DUF60E	0,25	897960	20

Advantages:
- longitudinal hole for adjusting the position of the aluminium profile
- extended longer arm to make screwing easier
- product made of stainless steel with high corrosion resistance

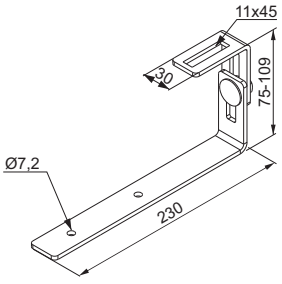
For the assembly use 2 x DDW6x60E Wood Screws

N STM

MATERIAL
Stainless steel

Adjustable Roof Fixing

DUFR60E



APPLICATION
Mounting PV structure elements to a roof covered with bituminous tiles

DUFR60E

CODE	kg 1 pcs	catalogue no.	pcs.
DUFR60E	0,39	897860	20

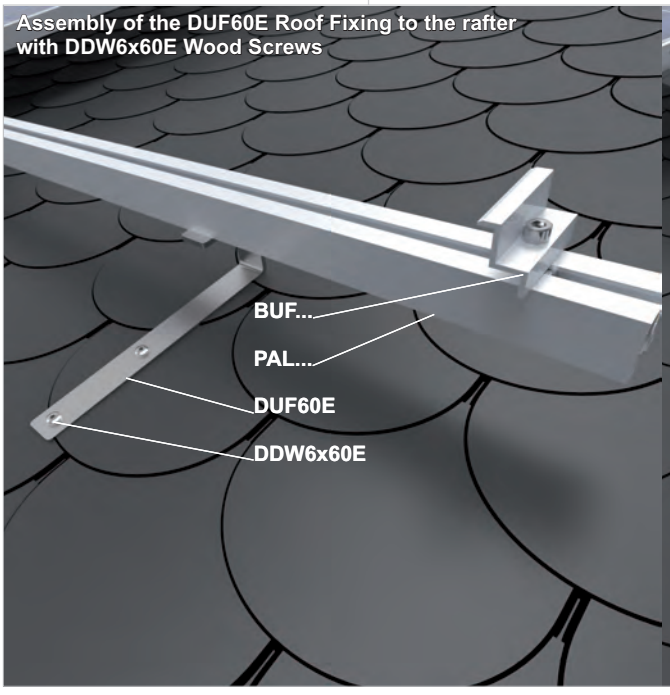
Advantages:
- height adjustment of the upper element allows to level the holders and compensate for unevenness on the roof
- longitudinal hole for adjusting the position of the aluminium profile
- extended longer arm to make screwing easier
- product made of stainless steel with high corrosion resistance

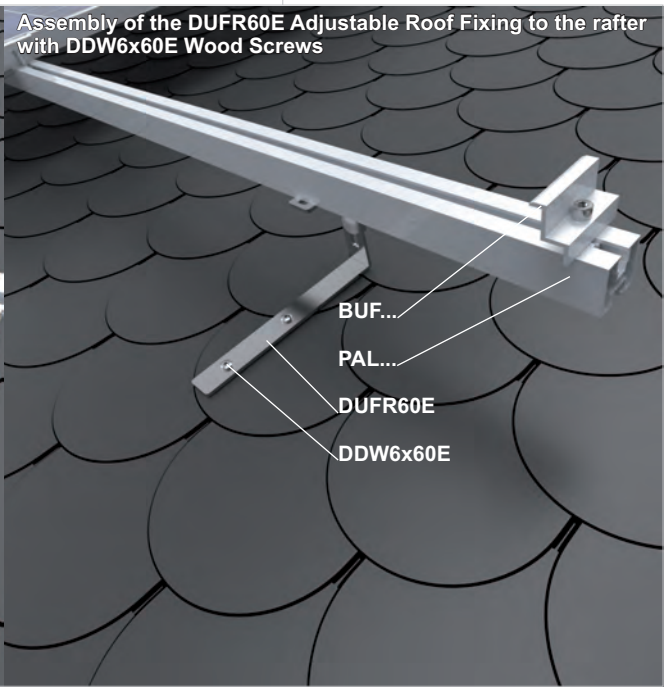
For the assembly use 2 x DDW6x60E Wood Screws

N STM

MATERIAL
Stainless steel

Note: orders for PV farms ≥0.5 MW delivered in collective packages

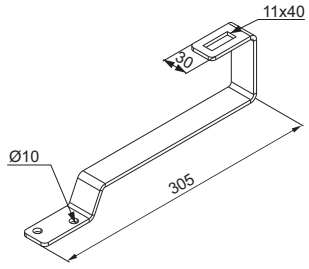




STM - Standard stock product (available in stock)
ST - Standard product (on order)
N - New product

Roof Fixing

DUF75E



APPLICATION
Mounting PV structure elements to a roof covered with scale-shaped tiles

DUF75E

CODE	kg 1 pcs	catalogue no.	pcs.
DUF75E	0,30	897975	20

Advantages:
- length suitable for most types of tiles
- longitudinal hole for adjusting the position of the aluminium profile
- product made of stainless steel with high corrosion resistance

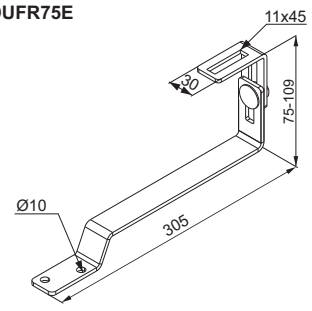
For the assembly use 2 x DDW8x100 Wood Screws

STM

MATERIAL
Stainless steel

Adjustable Roof Fixing

DUFR75E



APPLICATION
Mounting PV structure elements to a roof covered with scale-shaped tiles

DUFR75E

CODE	kg 1 pcs	catalogue no.	pcs.
DUFR75E	0,45	897965	20

Advantages:
- height adjustment of the upper element allows to level the holders and compensate for unevenness on the roof
- length suitable for most types of tiles
- longitudinal hole for adjusting the position of the aluminium profile
- product made of stainless steel with high corrosion resistance

For the assembly use 2 x DDW8x100 Wood Screws

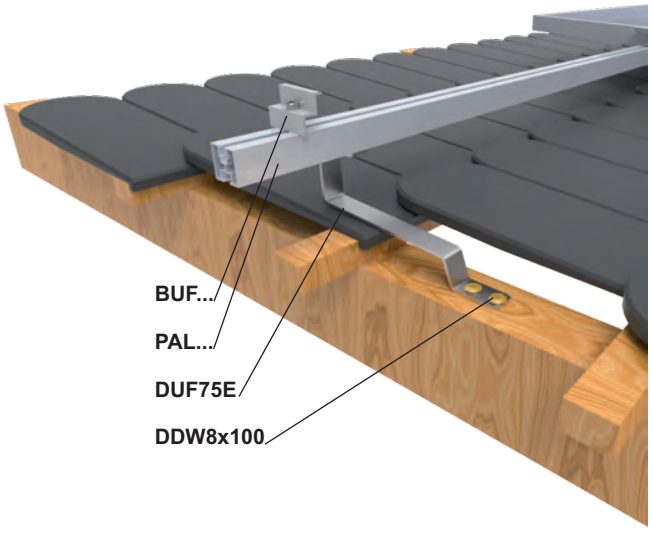
N

STM

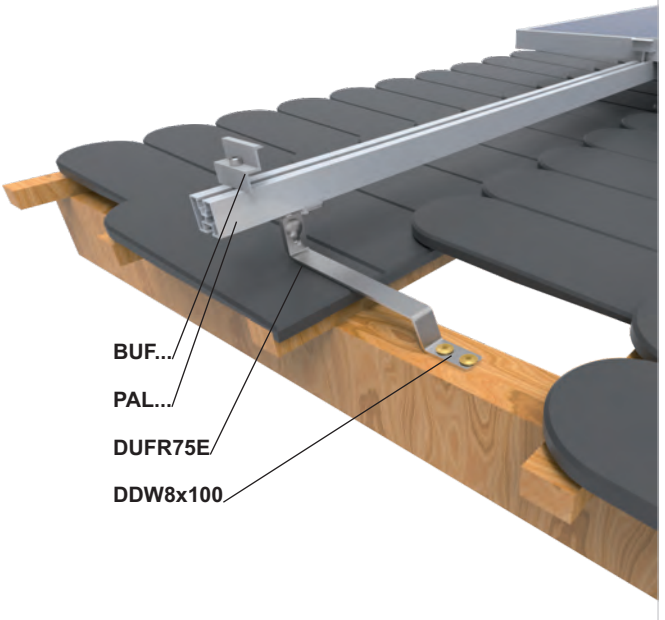
MATERIAL
Stainless steel

Note: orders for PV farms ≥0.5 MW delivered in collective packages

Assembly of the DUF75E Roof Fixing to the rafter with DDW8x100 Wood Screws

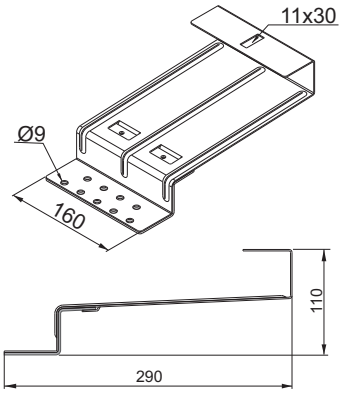


Assembly of the DUFR75E Adjustable Roof Fixing to the rafter with DDW8x100 Wood Screws



STM - Standard stock product (available in stock)
ST - Standard product (on order)
N - New product

Roof Fixing
DUFPE



APPLICATION
Mounting PV structure elements to a roof covered with scale-shaped tiles

DUFPE

CODE	kg 1 pcs	catalogue no.	MOQ pcs.	
DUFPE	0,30	897976	10	40

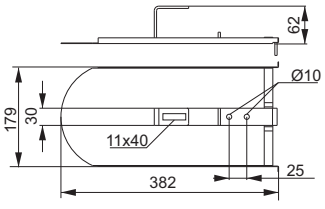
Advantages:
- length suitable for most types of tiles
- longitudinal hole for adjusting the position of the aluminium profile
- made of Magnelis®-coated material with very high corrosion resistance
- Installation of fixings without the need to saw the tiles

For the assembly use 2 x DDW8x100 Wood Screws

N ST

MATERIAL
S250GD steel in Magnelis® coating

Roof Fixing with Scale-Shaped Tile
DUF75K...



APPLICATION
Mounting PV structure elements to a roof covered with scale-shaped tiles

DUF75KE

CODE	kg 1 pcs.	catalogue no.	MOQ pcs.	
DUF75KE	0,85	897875	10	40

DUF75KMC

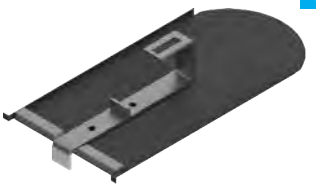
CODE	kg 1 pcs.	catalogue no.	MOQ pcs.	
DUF75KMC	0,85	897855	10	40

Advantages:
- no need to mill or cut classic roof tiles

For the assembly use 2 x DDW8x100E Wood Screws

Note: orders for PV farms ≥0.5 MW delivered in collective packages

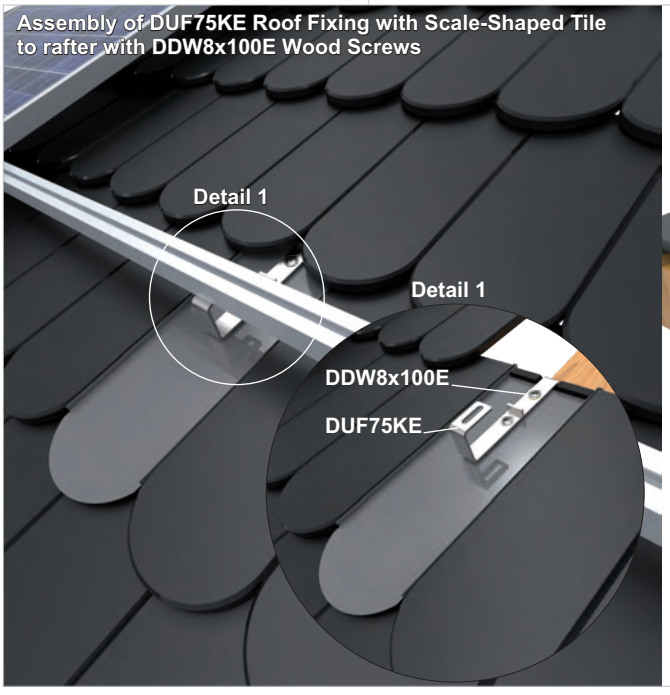
ST



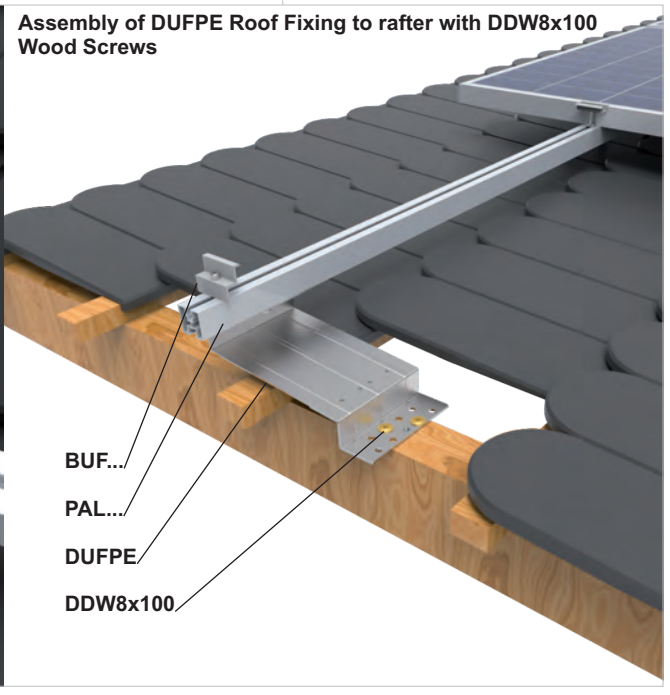
MATERIAL for DUF75KE
Hook - stainless steel
Tile - stainless steel, painted

MATERIAL for DUF75KMC
Hook - stainless steel
Tile - steel in Magnelis® coating, painted

Assembly of DUF75KE Roof Fixing with Scale-Shaped Tile to rafter with DDW8x100E Wood Screws



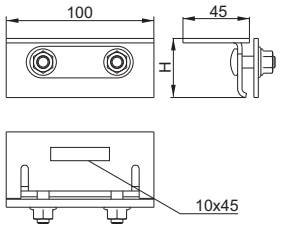
Assembly of DUFPE Roof Fixing to rafter with DDW8x100 Wood Screws



STM - Standard stock product (available in stock)
ST - Standard product (on order)
N - New product

Seam Roof Clamp

UBZRPE...



UBZRPE...

CODE	height H mm	kg 1 pcs	± 3,0 mm catalogue no.	pcs.
UBZRPE25	50	0,43	**890125**	100
UBZRPE32	55	0,46	**890132**	100

Advantages:
- non-invasive mounting to the roof (mounting to the standing seams)
- quick Installation without the need to locate roof truss elements
- high strength parameters
- high quality and aesthetic design
- the clamping element of the fixing has a strengthening overpress

Note:
A version of UBZRPE65 and UZBRE65 clamps with height H=65mm available on request

Note:
Table with the manufacturers of standing seam metal sheets to which UBZRPE25 and UBZRPE32 clamps fit

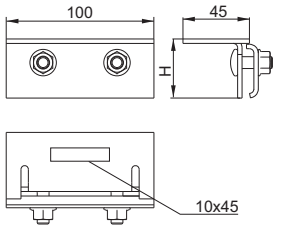
CODE	Metal Sheet Manufacturer	Seam height [mm]
UBZRPE25	Balex	25,1
	Budmat	25/27
	Metzink	25 (before folding) 28 (after folding)
	Pruszyński	25
	WlaSteel	25
UBZRPE32	BlachDom	32
	Blachotrapez	32
	RUUKKI	32

APPLICATION
Mounting PV structure elements to a roof covered with sheet metal seam plates

MATERIAL
Stainless steel

Seam Roof Clamp

UBZRE...



UBZRE...

CODE	height H mm	kg 1 pcs	± 3,0 mm catalogue no.	pcs.
UBZRE25	52	0,50	**890225**	100
UBZRE32	57	0,53	**890232**	100

Advantages:
- non-invasive mounting to the roof (mounting to the standing seams)
- quick Installation without the need to locate roof truss elements
- high strength parameters
- high quality and aesthetic design

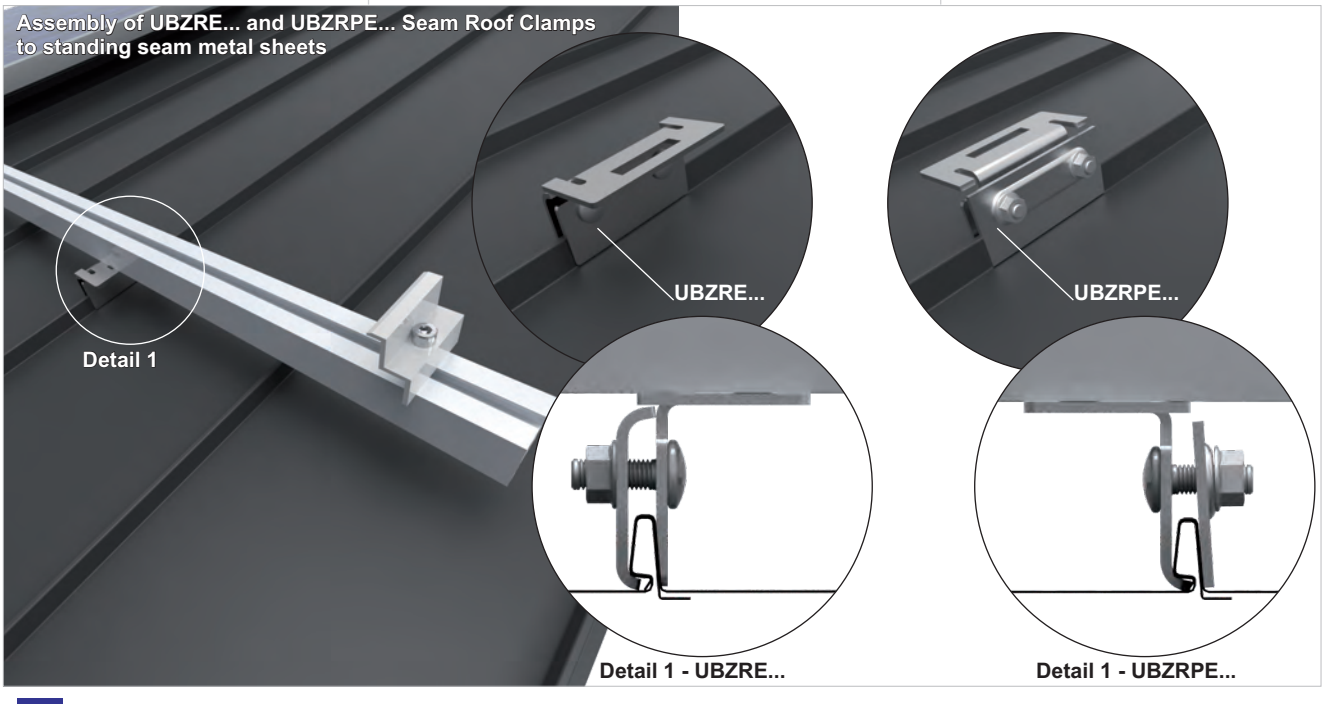
Note:
Table with the manufacturers of standing seam metal sheets to which UBZRE25 and UBZRE32 clamps fit

CODE	Metal Sheet Manufacturer	Seam height [mm]
UBZRE25	Balex	25,1
	Budmat	25/27
	Metzink	25 (before folding) 28 (after folding)
	Pruszyński	25
	WlaSteel	25
UBZRE32	BlachDom	32
	Blachotrapez	32
	RUUKKI	32

APPLICATION
Mounting PV structure elements to a roof covered with sheet metal seam plates

MATERIAL
Stainless steel

Note: orders for PV farms ≥0.5 MW delivered in collective packages

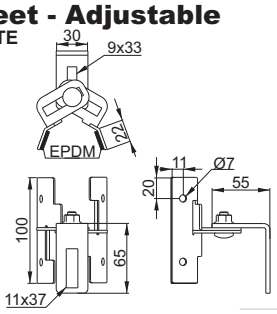


STM - Standard stock product (available in stock)
ST - Standard product (on order)
N - New product

Sheet thickness ≠ [mm]: 1,0 1,2 1,5 2,0 3,0 4,0

Roof Fixing for Trapezoidal Sheet - Adjustable

RUBTE



RUBTE

CODE	1 pcs kg	catalogue no.	pcs.
RUBTE	0,50	899501	10

Thanks to the adjustable angle the fixing fits all types of trapezoidal metal sheets.

Advantages:
- wide adjustment range for use with different trapezoidal metal sheets (width from 20 - 85 mm)
- fixing equipped with a EPDM sealing rubber on the underside
- product made of stainless steel with high corrosion resistance

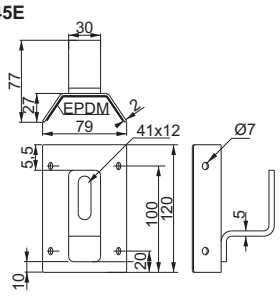
For the assembly use 4 x SMDP6x25E Self-drilling Screws

N STM

MATERIAL
Stainless steel

Roof Fixing for Trapezoidal Sheet

UBT45E



UBT45E

CODE	1 pcs kg	catalogue no.	pcs.
UBT45E	0,40	890110	100

Fixing adapted to T45 type sheet metal

Advantages:
- high strength of the fixing
- fixing equipped with a EPDM sealing rubber on the underside
- product made of stainless steel with high corrosion resistance

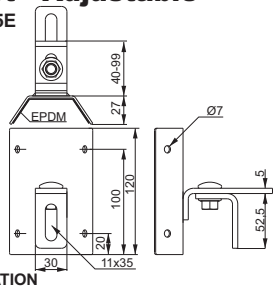
For the assembly use 4 x SMDP6x25E Self-drilling Screws

N STM

MATERIAL
Stainless steel

Roof Fixing for Trapezoidal Sheet - Adjustable

UBTR45E



APPLICATION
Mounting PV structure elements to a roof covered with trapezoidal metal sheet

UBTR45E

CODE	1 pcs kg	catalogue no.	pcs.
UBTR45E	0,50	890120	100

Fixing adapted to T45 type sheet metal

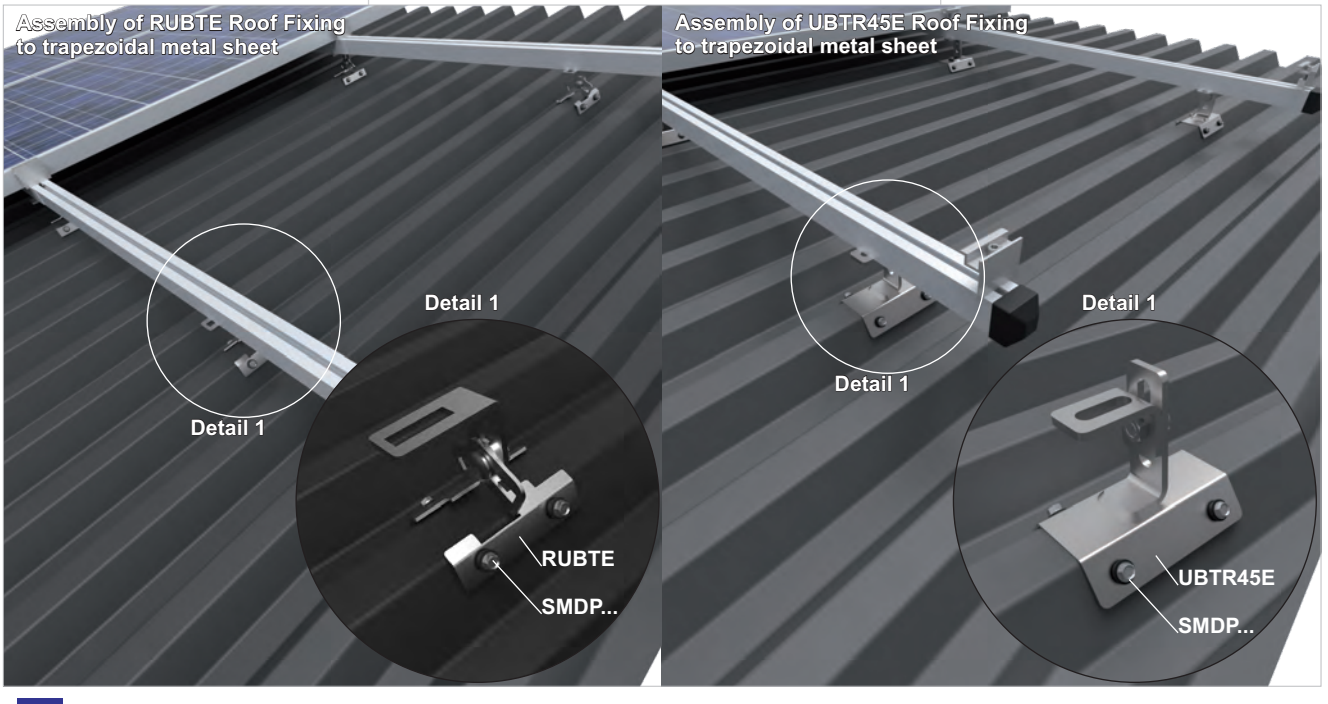
Advantages:
- wide adjustment range for levelling the structure
- fixing equipped with a EPDM sealing rubber on the underside
- product made of stainless steel with high corrosion resistance

For the assembly use 4 x SMDP6x25E Self-drilling Screws

N STM

MATERIAL
Stainless steel

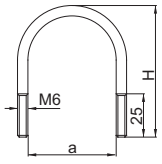
Note: orders for PV farms ≥0.5 MW delivered in collective packages



STM - Standard stock product (available in stock)
ST - Standard product (on order)
N - New product

Round U-bolt

CYB...E



CYB...E

CODE	dimension a mm	dimension H mm	kg 1 pcs.	catalogue no.	pcs.
CYB16E	18	35	0,02	**899916**	1
CYB20E	22	39	0,02	**899920**	1
CYB25E	27	44	0,02	**899925**	1
CYB32E	34	51	0,02	**899932**	1
CYB40E	42	59	0,03	**899940**	1
CYB50E	52	69	0,03	**899950**	1
CYB60E	62	79	0,03	**899960**	1
CYB63,5E	65	90	0,04	**899963**	1

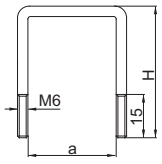
Advantages:
- **products made of stainless steel with very high corrosion resistance**
- **the sizes of U-bolts fit most of the profiles of which the balcony railings are made**
- **quick assembly of the structures to balcony railings**

APPLICATION
Fixing the structure to balcony railings with round or square section

MATERIAL
Stainless steel

Square U-bolt

CYK...E



CYK...E

CODE	dimension a mm	dimension H mm	kg 1 pcs.	catalogue no.	pcs.
CYK20E	22	41	0,02	**899820**	1
CYK25E	27	46	0,02	**899825**	1
CYK30E	32	51	0,02	**899832**	1
CYK40E	42	61	0,03	**899840**	1
CYK50E	52	71	0,03	**899850**	1
CYK60E	62	81	0,03	**899860**	1

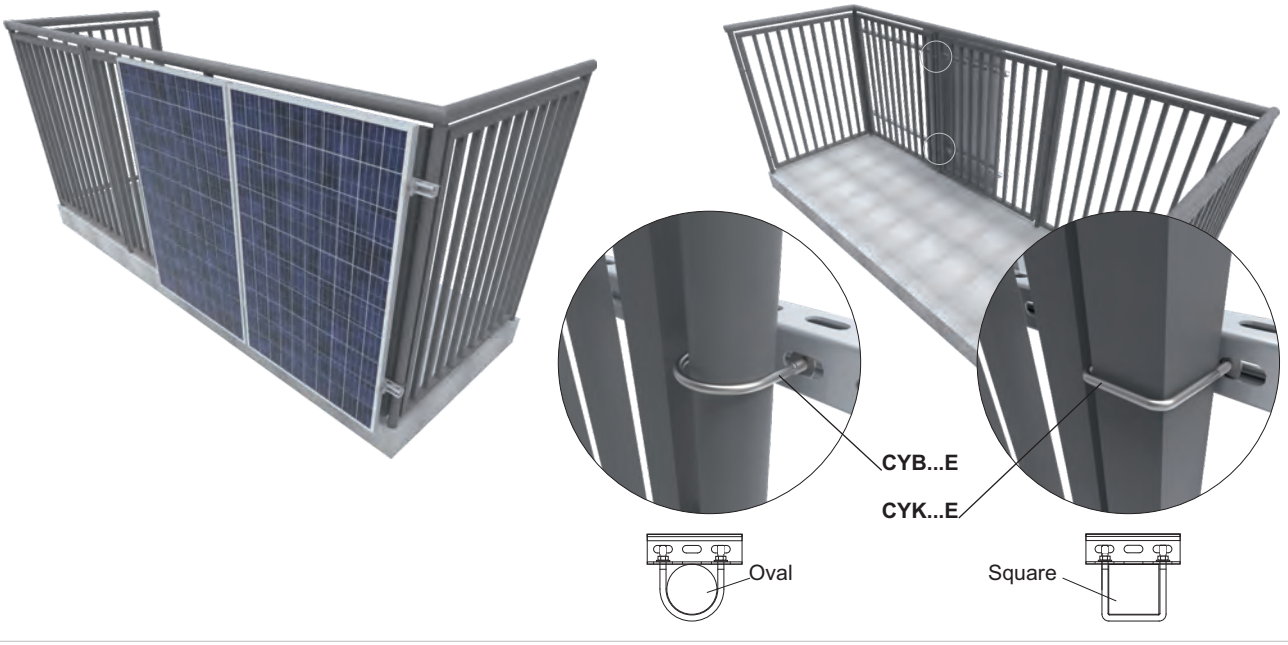
Advantages:
- **products made of stainless steel with very high corrosion resistance**
- **the sizes of U-bolts fit most of the profiles of which the balcony railings are made**
- **quick assembly of the structures to balcony railings**

APPLICATION
Fixing the structure to balcony railings with round or square section

MATERIAL
Stainless steel

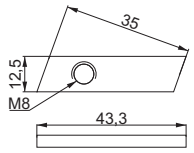
Note: orders for PV farms ≥0.5 MW delivered in collective packages

Assembly of structure for PV panels to balcony railing with CY...E U-bolts



STM - Standard stock product (available in stock)
ST - Standard product (on order)
N - New product

Channel Nut
NRM8PV



APPLICATION
Assembly of BUF... and PUF holders to CWC100H50... profiles

NRM8PV

CODE	catalogue no.	pcs.
NRM8PV	660245	100

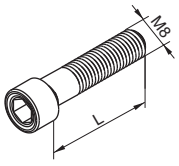
Advantages:
- quick Installation of panel fixing clamps without the need to hold on when tightening the nuts from underneath the structure
- geometry enabling the nut to lock into the CWC100H50... profile while tightening
- made of Magnelis®-coated material with very high corrosion resistance

N
STM

MATERIAL
S250GD steel in Magnelis® coating
Available finishes:
E - Stainless steel

Note: orders for PV farms ≥0.5 MW delivered in collective packages

Screw
SAM8...E



APPLICATION
Fixing screws for aluminium clamps

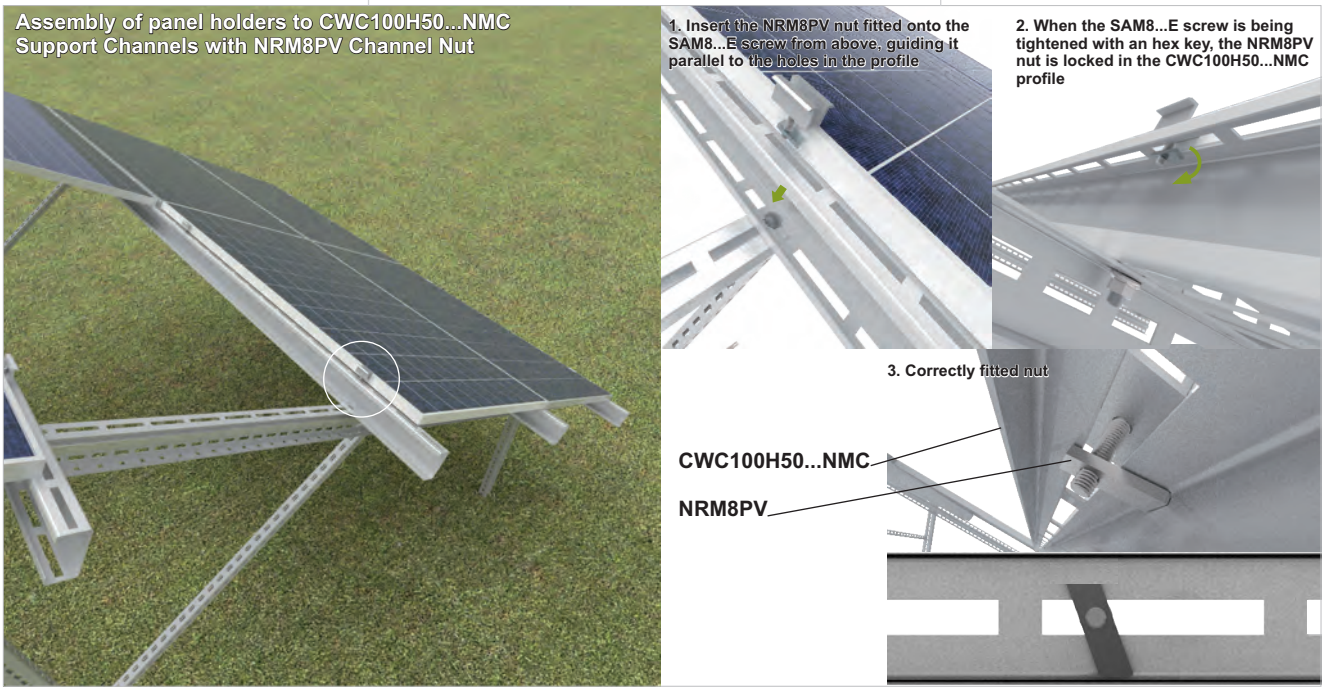
SAM8...E

CODE	lenght L mm	catalogue no.	pcs.
SAM8x25E	25	898525	100
SAM8x30E	30	898530	100
SAM8x35E	35	898535	100
SAM8x40E	40	898540	100
SAM8x45E	45	898545	100

Note:
Full threads are available in dimensions ≤ 35 mm.
Partial threads are available in dimensions ≥ 40 mm.

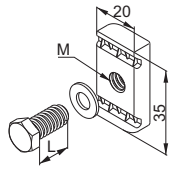
STM

MATERIAL
Stainless steel



STM - Standard stock product (available in stock)
ST - Standard product (on order)
N - New product

Screw
SRM...F



APPLICATION
Fixing the system elements to the open side of the support channels or mounting channels

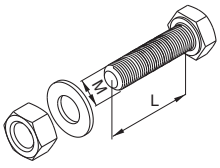
SRM...F

CODE	dimension L mm	dimension M mm	catalogue no.	pcs.
SRM8x25F	25	8	890102	100
SRM8x30F	30	8	8901024	100
SRM10x30F	30	10	6506513	100

STM

MATERIAL
Steel in zinc flake coating acc. to PN-EN ISO 10683:2014-09

Screw (set)
SMM...F



APPLICATION
Connecting structure elements

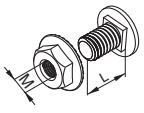
SMM...F

CODE	dimension M mm	lenght L mm	catalogue no.	pcs.
SMM8x60F	8	60	898660	100
SMM8x80F	8	80	650548	100
SMM10x20F	10	20	6508414	100

STM

MATERIAL
Steel in zinc flake coating acc. to PN-EN ISO 10683:2014-09

Screw (set)
SGKF...



APPLICATION
Connecting structure elements

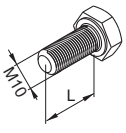
SGKF...

CODE	dimension M mm	lenght L mm	catalogue no.	set
SGKFM8x20	8	20	651820	100
SGKFM10x20	10	20	651641	100
SGKFM10x30	10	30	890111	100

STM

MATERIAL
Steel in zinc flake coating acc. to PN-EN ISO 10683:2014-09

Screw
SSZx20E



APPLICATION
Fixing structure elements

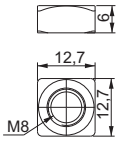
SSZ10x20E

CODE	dimension M mm	lenght L mm	catalogue no.	pcs.
SSZ10x20E	10	20	991020	100

STM

MATERIAL
Stainless steel

Square Nut
NKWM8E



APPLICATION
Fixing structure elements

NKWM8E

CODE	catalogue no.	pcs
NKWM8E	600808	100

STM

MATERIAL
Stainless steel

Note: orders for PV farms ≥0.5 MW delivered in collective packages

STM - Standard stock product (available in stock)
ST - Standard product (on order)
N - New product

Nut

NS...E

APPLICATION
Connecting structure elements

NS...E

CODE	dimension M mm	catalogue no.	pcs.
NSM6E	6	652201	100
NSM8E	8	652202	100

MATERIAL
Stainless steel

Spring Washer

PS...E

APPLICATION
Connecting structure elements

PS...E

CODE	outer diameter D mm	for the screw	catalogue no.	pcs.
PS6E	11,8	M6	166991	100
PS8E	14,8	M8	166794	100

MATERIAL
Stainless steel

Serrated Lock Nut

NKZ...

APPLICATION
Connecting structure elements

NKZM...F

CODE	dimension M mm	dimension D mm	catalogue no.	pcs.
NKZM6F	6	15	6500453	100
NKZM8F	8	17	6502453	100

NKZM...E

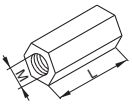
CODE	dimension M mm	dimension D mm	catalogue no.	pcs.
NKZM6E	6	15	6500451	100
NKZM8E	8	17	890008	100
NKZM10E	10	19	890009	100

MATERIAL NKZM...F
Steel in zinc flake coating acc. to PN-EN ISO 10683:2014-09

MATERIAL NKZM...E
Stainless steel

Rod Connector

NLM6E



APPLICATION
Connecting threaded rods of identical diameters

NLM6E

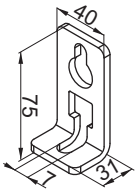
CODE	dimension M mm	lenght L mm	catalogue no.	pcs.
NLM6	6	18	651103	100

MATERIAL
Stainless steel

Note: orders for PV farms ≥0.5 MW delivered in collective packages

Rod Hanger

WPTMC



APPLICATION
Fixing threaded rods as bracings for bifacial structures

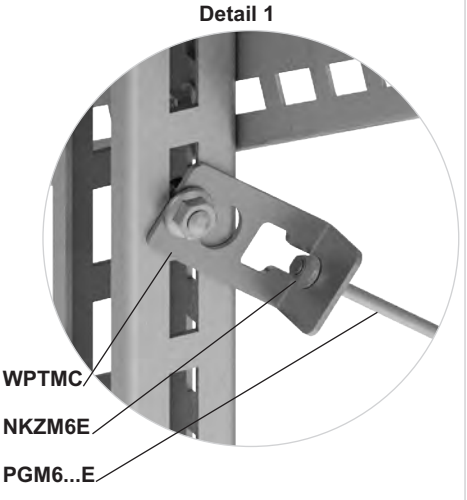
WPTMC

CODE	≠ 3,0 mm kg 1 pcs	catalogue no.	pcs.
WPTMC	0,11	731305	50

Advantages:
- special cut-outs allowing holder to be fitted on the threaded rod with pre-fitted nuts
- made of Magnelis®-coated material with very high corrosion resistance

MATERIAL
S250GD steel in Magnelis® coating
Available finishes:
E - Stainless steel

Assembly of bracings with WPTMC rod hanger

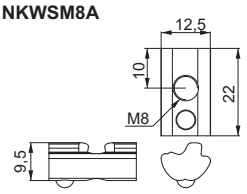


STM - Standard stock product (available in stock)
ST - Standard product (on order)
N - New product

Sheet thickness ≠ [mm]: 1,0 | 1,2 | 1,5 | 2,0 | 3,0 | 4,0

Slide Nut with a Ball

NKWSM8A



APPLICATION
Fixing system elements to aluminium profiles

NKWSM8A

CODE	catalogue no.	pcs.
NKWSM8A	600909	200

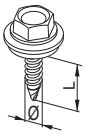
Optimum torque = 15 Nm

STM

MATERIAL
Aluminium (EN AW-6061)

Self-drilling Screw with EPDM

SMDP6,0x25E



APPLICATION
Assembly of roof fixings and mounting rails for roofs covered with trapezoidal metal sheet

SMDP6,0x25E

CODE	dimension Ø mm	lenght L mm	catalogue no.	pcs.
SMDP6,0x25E	6	25	894824	200

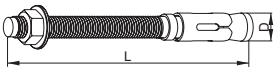
Advantages:
- made of bimetal: steel + stainless steel + zinc flake coating
- fine thread for increased pull-out strength

STM

MATERIAL
Stainless steel

Anchor Bolt

PSR...F



APPLICATION
Fixing structure to concrete foundation

PSR...F

CODE	dimension D mm	lenght L mm	catalogue no.	pcs.
PSRM8x75F	8	75	650875	100
PSRM10x90F	10	90	650093	100
PSRM12x110F	12	110	651211	100

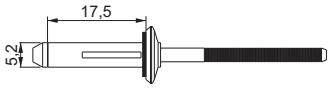
STM

MATERIAL
Steel in zinc flake coating acc. to PN-EN ISO 10683:2014-09

Note: orders for PV farms ≥0.5 MW delivered in collective packages

Aluminum Rivet with EPDM Washer

NITZP5,2x17,5A



APPLICATION
Fixing structure to roofs covered with trapezoidal metal sheet

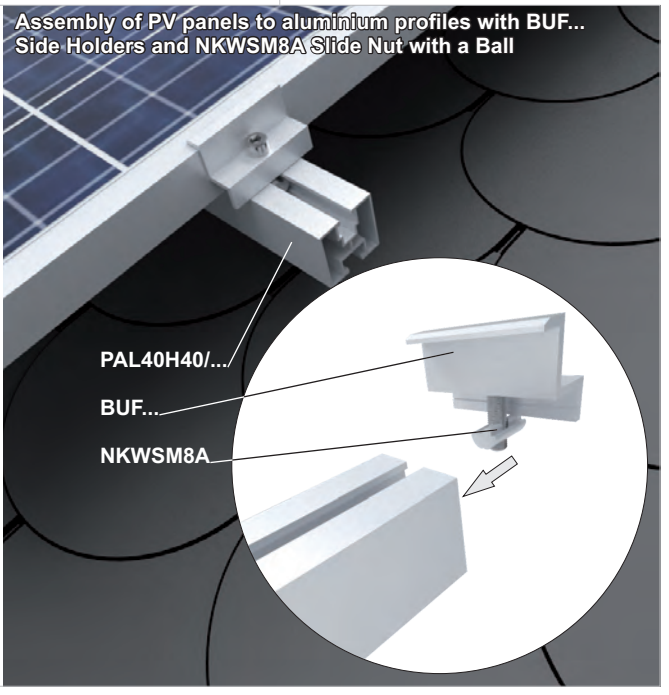
NITZP5,2x17,5A

CODE	dimension L mm	catalogue no.	pcs.
NITZP5,2x17,5A	17,5	898901	200

AVAILABLE WHILE STOCKS LAST

ST

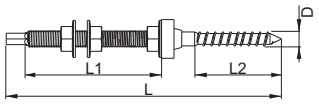
MATERIAL
Aluminium (EN AW-6061)



STM - Standard stock product (available in stock)
ST - Standard product (on order)
N - New product

Screw - Double Thread

SWD...E



APPLICATION
Fixing structure to roof rafters

SWD...E

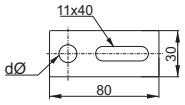
CODE	dimension D mm	lenght L mm	dimension L1 mm	dimension L2 mm	catalogue no.	pcs.
SWDM10x200E	10	200	100	70	898820	1
SWDM10x250E	10	250	140	80	898825	1
SWDM10x300E	10	300	170	100	898830	1
SWDM12x300E	12	300	170	100	898831	1

STM

MATERIAL
Stainless steel

Mounting Adapter

AD...E



APPLICATION
Connecting aluminium profiles with SWD...E double threaded screw

AD...E

≠ 5,0 mm

CODE	dimension dØ mm	catalogue no.	pcs.
AD11E	11	898311	1
AD13E	13	898312	1

STM

MATERIAL
Stainless steel

Magnetic Cap

NMSWD...

APPLICATION
The cap is adapted for using with bolts, nuts, screws and sheet metal screws

NMSWD...

CODE	dimension S mm	catalogue no.	pcs.
NMSWD10	7	898908	10
NMSWD12	9	898910	10

N
STM

MATERIAL
Steel

Torx Bit

BTX40...

APPLICATION
Screwing in DDW8... Wood Screws

BTX40

CODE	catalogue no.	pcs.
BTX40	898840	10

N
STM

Hex Bit

BSZ6...

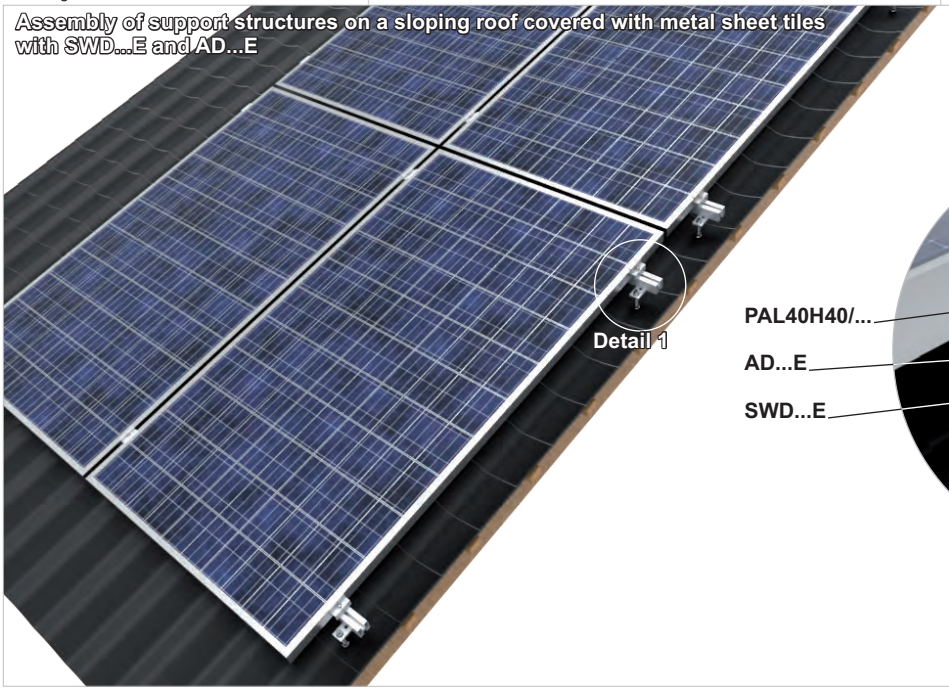
APPLICATION
Screwing in SAM8... screws

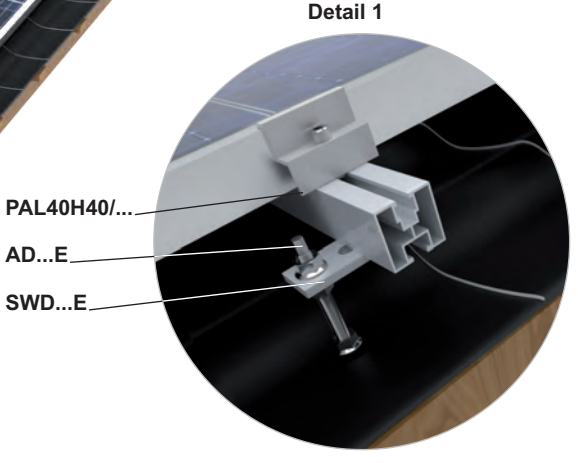
BSZ6

CODE	catalogue no.	pcs.
BSZ6	898846	10

N
STM

MATERIAL
Steel



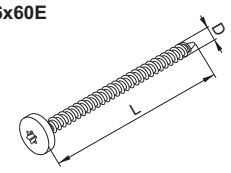


STM - Standard stock product (available in stock)
ST - Standard product (on order)
N - New product

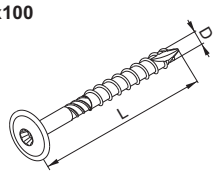
Sheet thickness ≠ [mm]: 1,0 1,2 1,5 2,0 3,0 4,0

Wood Screw

DDW6x60E



DDW8x100



APPLICATION
Fixing the DUR40E and DUF75E fixings to the rafters that constitute the roof structure

DDW...

CODE	dimension D mm	lenght L mm	catalogue no.	pcs.
DDW6x60E	6	60	**890661**	100
DDW8x100	8	100	**890810**	100
DDW8x100E	8	100	**890811**	100

STM

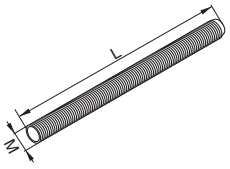
MATERIAL for DDW6x60E and DDW8x100E
Stainless steel

STM

MATERIAL for DDW8x100
Steel, electrogalvanized

Threaded Rod

PGM6...E



APPLICATION
Fixing structure

PGM6...E

CODE	thread M mm	lenght L mm	tensile strength [kN]	kg 1 pcs.	catalogue no.	pcs.
PGM6/1E	6	1000	8,44	0,12	**652110**	25
PGM6/2E	6	2000	8,44	0,23	**652120**	25
PGM6/3E	6	3000	8,44	0,35	**650400**	25

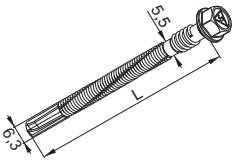
material class 5.8

STM

MATERIAL
Stainless steel

Self-drilling Screw

SMDD6,3...E



APPLICATION
Fixing elements to steel structures

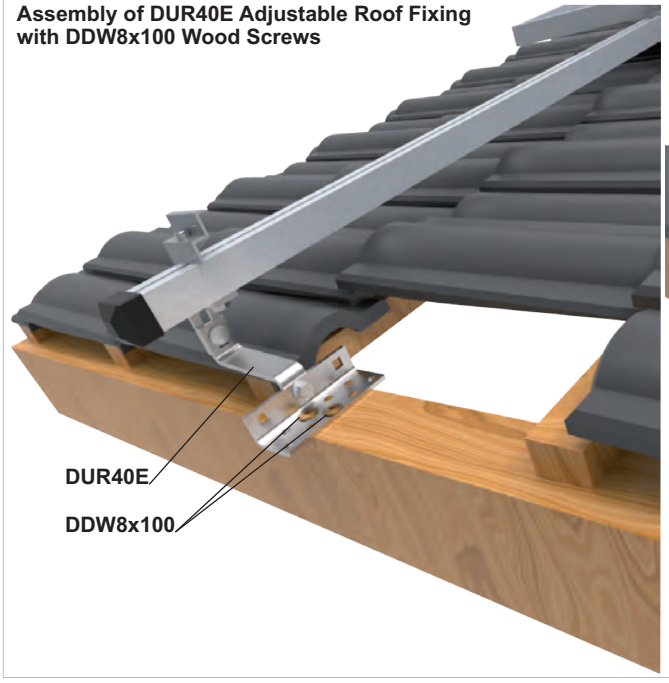
SMDD6,3...E

CODE	lenght L mm	kg 1 pcs.	catalogue no.	pcs.
SMDD6,3x75E	75	0,02	**896075**	100
SMDD6,3x95E	95	0,02	**896095**	100
SMDD6,3x115E	115	0,02	**896115**	100
SMDD6,3x135E	135	0,03	**896135**	100
SMDD6,3x155E	155	0,03	**896155**	100
SMDD6,3x175E	175	0,03	**896175**	100
SMDD6,3x195E	195	0,03	**896195**	100
SMDD6,3x235E	235	0,03	**896235**	100

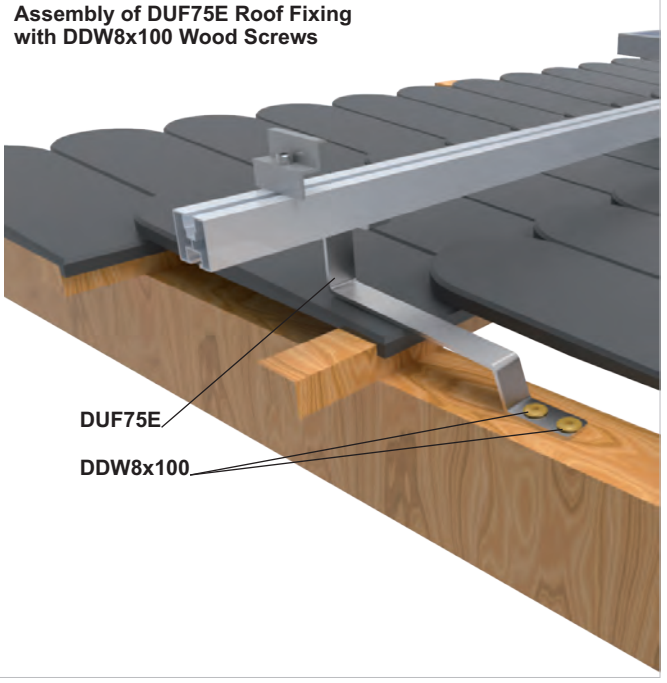
STM

MATERIAL
Bimetal

Assembly of DUR40E Adjustable Roof Fixing with DDW8x100 Wood Screws



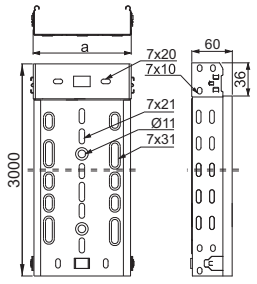
Assembly of DUF75E Roof Fixing with DDW8x100 Wood Screws



STM - Standard stock product (available in stock)
ST - Standard product (on order)
N - New product

Cable Tray

KF.../3MC



KFL...H60/3MC

≠ 0,7 mm

CODE	width a mm	kg 1 m	catalogue no.	pcs./mb
KFL50H60/3MC	50	0,98	1610235	4/12
KFL100H60/3MC	100	1,17	1612235	4/12

Advantages:
- quick and easy assembly
- stable snap connection
- deep hole embossments on the bottom increase the cable tray strength
- dense perforation with embossments ensures excellent heat exchange and is designed to allow the installation of the cable tray on BAKS bracket at any location
- Ø11 holes in the bottom of the cable tray enable suspension on a threaded rod

Note:
For large orders over 1000 m producing cable trays with the length of 6 m possible on request

Note:
Producing cable trays with the thickness of 1,0 mm possible on request

For assembly use SGKFM6x12 or SGM6x12F Screw Sets

N

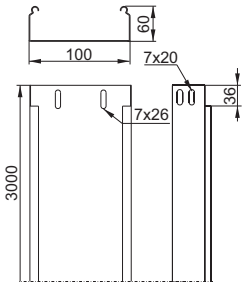
STM

APPLICATION
Cable routing

MATERIAL
S250GD steel in Magnelis® coating

Cable Tray

KB...3MC



KBL100H60/3MC

≠ 0,7 mm

CODE	width a mm	kg 1 m	catalogue no.	pcs./mb
KBL100H60/3MC	100	1,34	1620105	4/12

Possibility of joining cable trays together through sliding one into another and connector-free assembly.

Note:
For large orders over 1000 m producing cable trays with the length of 6 m possible on request

Note:
Producing cable trays with the thickness of 1,0 mm possible on request

For the assembly use SGKFM6x12 or SGM6x12F Screw Sets

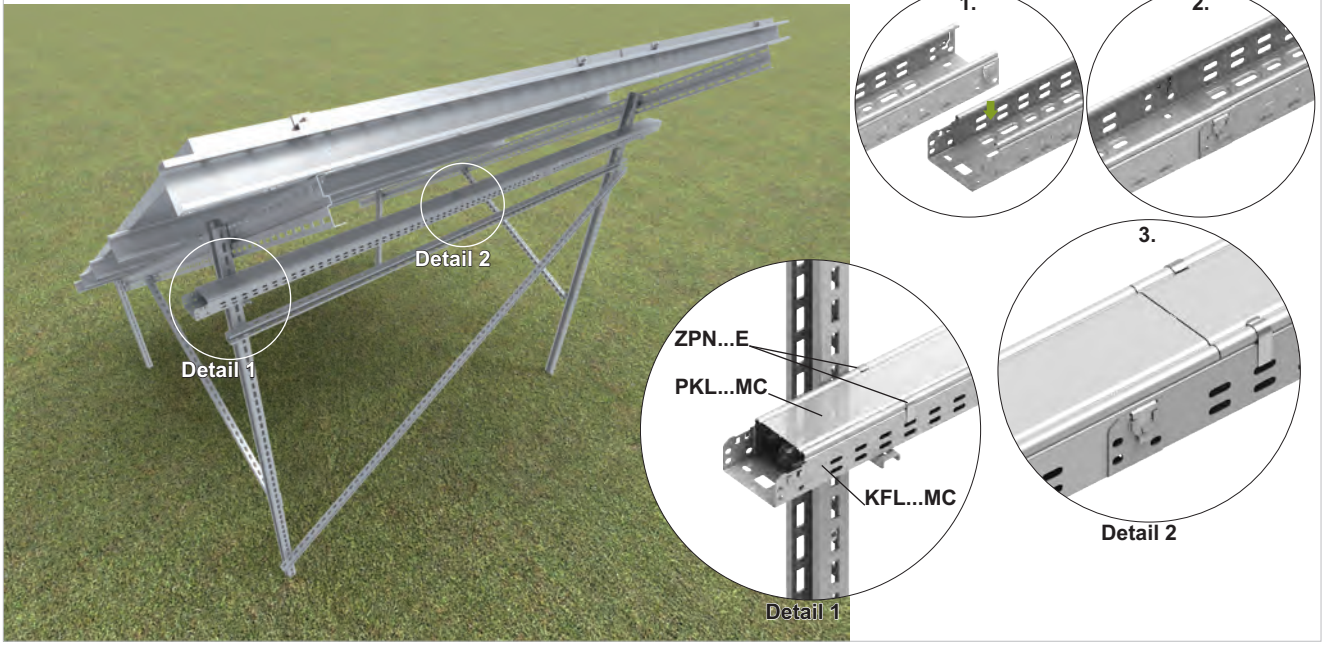
N

STM

APPLICATION
Cable routing

MATERIAL
S250GD steel in Magnelis® coating

Electrical installation in a perforated KFL100H60/3MC cable tray



STM - Standard stock product (available in stock)

ST - Standard product (on order)

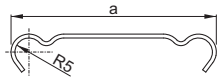
N - New product

Sheet thickness ≠ [mm]: 1,0 | 1,2 | 1,5 | 2,0 | 3,0 | 4,0

Full range of products available in the main BAKS catalogue and on the website www.baks.com.pl/en/

Cover

PK.../3MC



PKL.../3MC

≠ 0,7 mm

CODE	width a mm	lenght L mm	kg 1 m	catalogue no.	pcs./mb
PKL50/3MC	50	3000	0,42	1006055	10/30
PKL100/3MC	100	3000	0,72	1006105	10/30

N

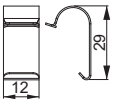
STM

APPLICATION
Protection of cables against damage

MATERIAL
S250GD steel in Magnelis® coating

Cover Clamp

ZPNH60...



ZPNH60...

CODE	catalogue no.	pcs.
ZPNH60F	165200	100
ZPNH60E	165100	100

STM

APPLICATION
Prevents the cover from slipping

MATERIAL
Band in zinc flake coating acc.
to PN-EN ISO 10683:2014-09
Stainless steel band (ZPN E)

Edge Protection Strip

TO10

TOZ

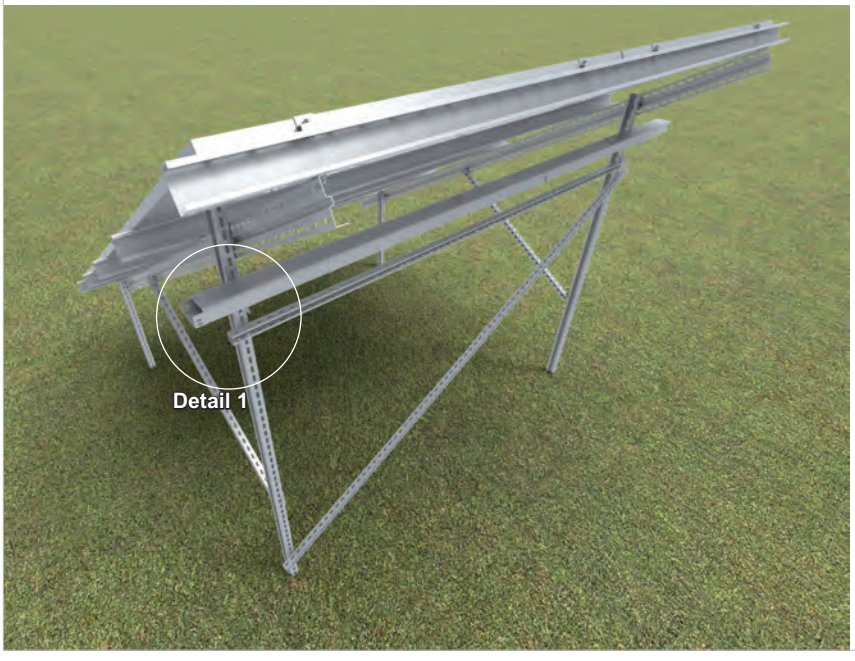
CODE	catalogue no.	mb.
TOZ	100800	10

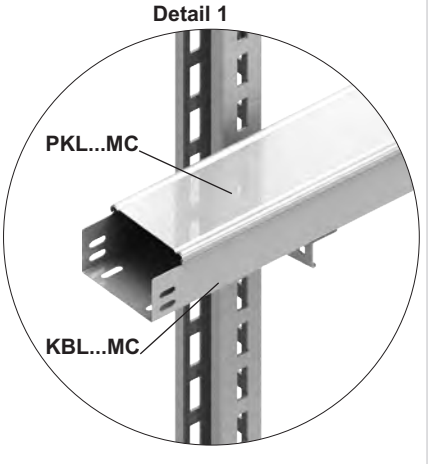
STM

APPLICATION
Protection of cables against sharp edges
in cable trays

MATERIAL
Polyvinyl chloride. Reinforcement tape.
Colour: light grey.

Electrical installation in an unperforated KBL100H60/3MC cable tray



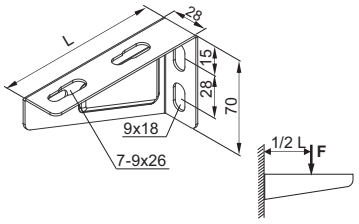


STM - Standard stock product (available in stock)
ST - Standard product (on order)
N - New product

Sheet thickness ≠ [mm]: 1,0 1,2 1,5 2,0 3,0 4,0

Full range of products available in the main BAKS catalogue
and on the website www.baks.com.pl/en/

Bracket
WWS...MC



APPLICATION
Fixing cable trays

WWS...MC

≠ 1,5 mm

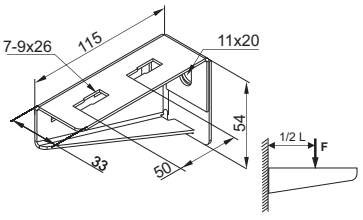
CODE	lenght L [mm]	maximum load F_{max}[kN]	1 pcs kg	catalogue no.	pcs.
WWS100MC	110	0,90	0,19	**7105105**	50
WWS150MC	160	1,00	0,19	**7105155**	50

Advantages:
- high strength parameters
- made of Magnelis®-coated material with very high corrosion resistance

STM

MATERIAL
S250GD steel in Magnelis® coating

Bracket
WWSR100MC



APPLICATION
Fixing cable trays

WWSR100MC

≠ 2,0 mm

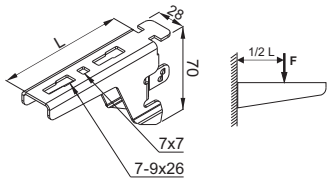
CODE	maximum load F_{max}[kN]	1 pcs kg	catalogue no.	pcs.
WWSR100MC	1,20	0,20	**7518105**	50

Advantages:
- high strength parameters
- mounted with single screw
- made of Magnelis®-coated material with very high corrosion resistance

N
STM

MATERIAL
S250GD steel in Magnelis® coating

Snap Bracket
WSZ...NMC



APPLICATION
Installation of cable trays to rear support posts of PV structures

WSZ...NMC

≠ 2,0 mm

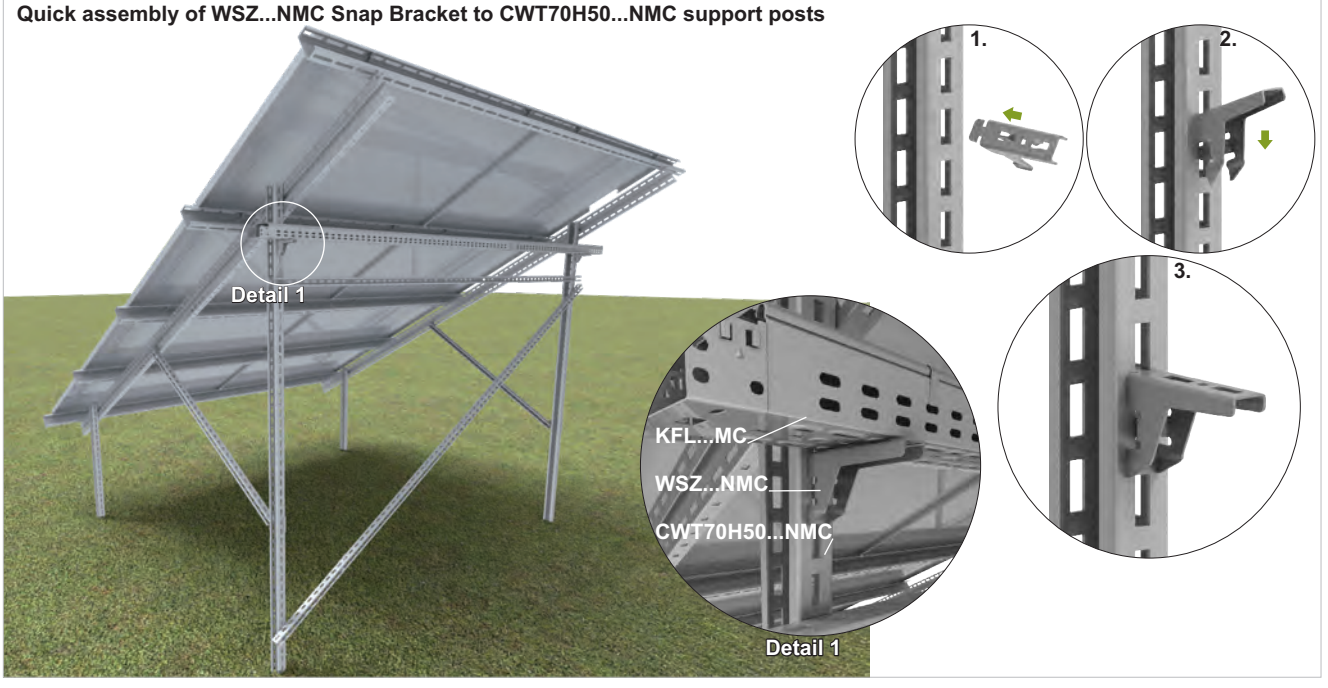
CODE	lenght L [mm]	maximum load F_{max}[kN]	1 pcs. kg	catalogue no.	pcs.
WSZ100NMC	110	1,30	0,14	**801105**	100
WSZ150NMC	160	1,20	0,21	**801155**	100

Advantages:
- high strength parameters
- quick assembly
- suitable for CT70H50/...NMC, CWT70H50/...NMC and CWE100H50/...NMC profiles
- made of Magnelis®-coated material with very high corrosion resistance

N
STM

MATERIAL
S250GD steel in Magnelis® coating

Quick assembly of WSZ...NMC Snap Bracket to CWT70H50...NMC support posts



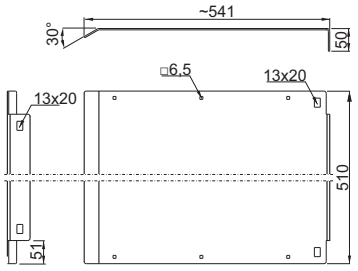
STM - Standard stock product (available in stock)
ST - Standard product (on order)
N - New product

Sheet thickness ≠ [mm]: 1,0 1,2 1,5 2,0 3,0 4,0

Full range of products available in the main BAKS catalogue and on the website www.baks.com.pl/en/

Inverter Cover

DI



APPLICATION
Protecting inverter against rain, snow, mechanical damages, etc.

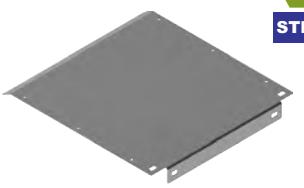
DI

≠ 3,0 mm

CODE	1 pcs. (kg)	catalogue no.	pcs.
DI	6,97	895002	1

Advantages:
- protecting inverter against rain, snow and mechanical damages
- high strength parameters
- easy and quick assembly
- possibility to extend the cover with other modules to create any width adapted to the inverter
- made of Magnelis®-coated material with very high corrosion resistance

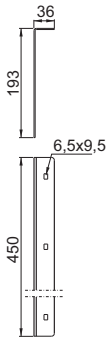
For the assembly use:
- min. 2 x SGKFM10x20 Screw Sets



MATERIAL
S350GD steel in Magnelis® coating

Inverter Cover Side

BDI



APPLICATION
Stiffening the cover, inverter side cover

BDI

≠ 2,0 mm

CODE	1 pcs. (kg)	catalogue no.	pcs.
BDI	1,60	895003	1

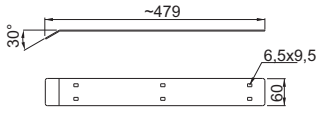
Advantages:
- protecting inverter against rain, snow and mechanical damages
- high strength parameters
- easy and quick assembly
- possibility to extend the cover with other modules to create any width adapted to the inverter
- made of Magnelis®-coated material with very high corrosion resistance
- symmetrical shape allowing installation on the left and right side of the cover

For the assembly use:
- min. 3 x SGKFM6x12 Screw Sets

MATERIAL
S350GD steel in Magnelis® coating

Inverter Cover Connector

LDI



APPLICATION
Connecting inverter covers

LDI

≠ 2,0 mm

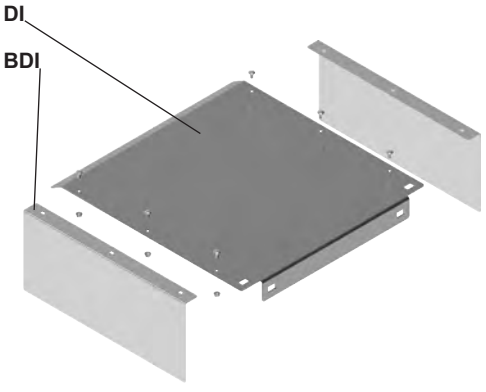
CODE	1 pcs. (kg)	catalogue no.	pcs.
LDI	0,45	895004	1

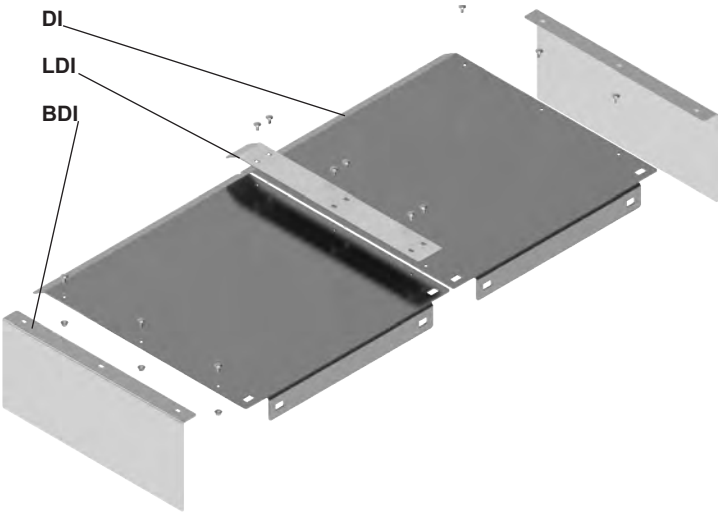
Advantages:
- protecting inverter against rain, snow and mechanical damages
- high strength parameters
- easy and quick assembly
- possibility to extend the cover with other modules to create any width adapted to the inverter
- made of Magnelis®-coated material with very high corrosion resistance
- stable connection of two covers for tightness

For the assembly use:
- min. 6 x SGKFM6x12 Screw Sets

MATERIAL
S350GD steel in Magnelis® coating

Note: orders for PV farms ≥0.5 MW delivered in collective packages



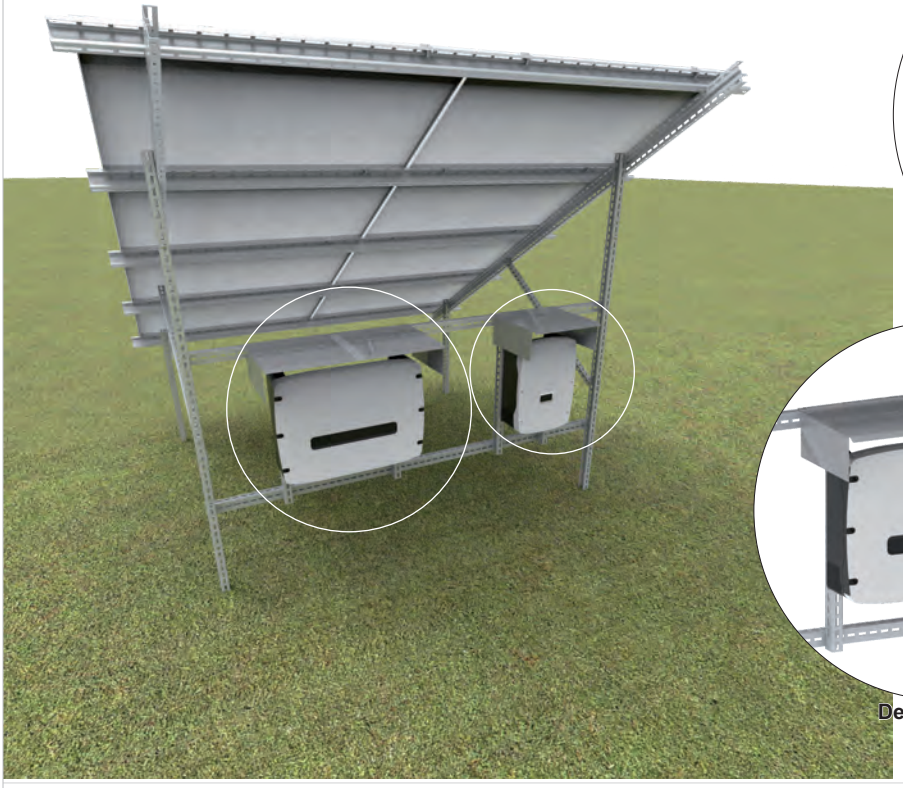


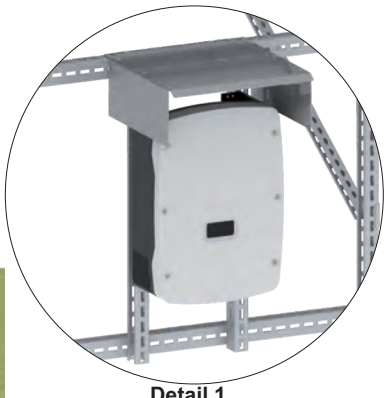
STM - Standard stock product (available in stock)
ST - Standard product (on order)
N - New product

Sheet thickness ≠ [mm]: 1,0 1,2 1,5 2,0 3,0 4,0

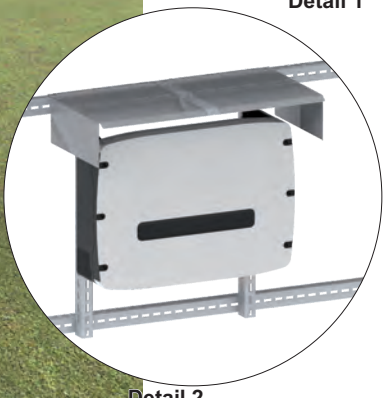
Full range of products available in the main BAKS catalogue and on the website www.baks.com.pl/en/

Assembly of a complete covering for inverter fixed to an existing freestanding structure for photovoltaic panels



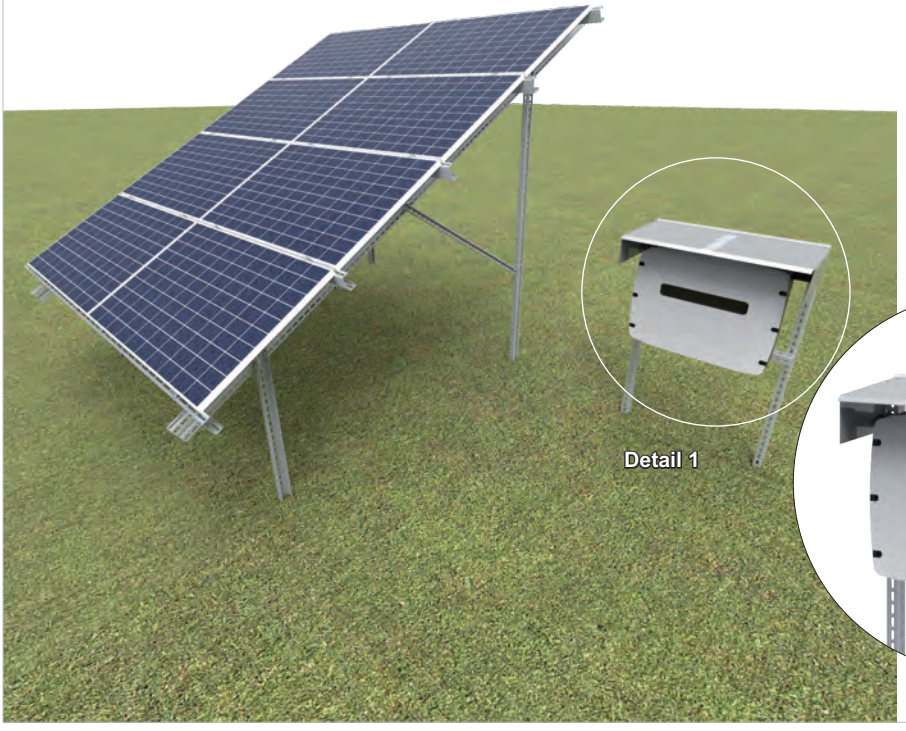


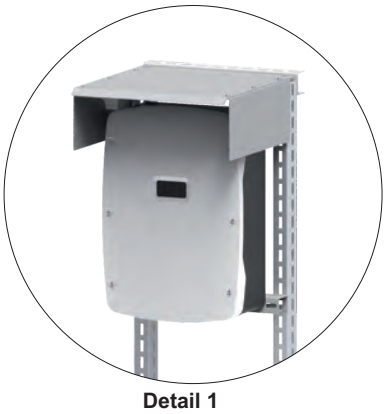
Detail 1



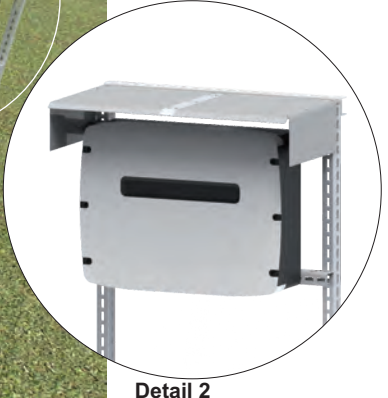
Detail 2

Assembly of a complete covering for inverter fixed to an independent freestanding structure





Detail 1



Detail 2

Zinc Paste

WSZINK...

APPLICATION
Protecting cut edges against corrosion

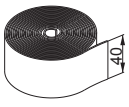
WSZINK

CODE	ml 1 pcs	catalogue no.	pcs.
WSZINK1000	1000	**650001**	1
WSZINK250	250	**650002**	1

STM

Cellular Rubber

EPDMW2x40



APPLICATION
Sealing the connections of metal roofing sheets with UBT... Roof Fixings

EPDMW2x40

CODE	catalogue no.	m.
EPDMW2x40	**890000**	10

STM

MATERIAL
EPDM elastomer

Injection Mortar

ZIO...

A set includes:
1 container 300 ml or 410 ml+ 2 mixers

APPLICATION
Fixing steel structures, rails, racks, consoles, gates, facades, window elements to: solid brick, chequer brick, solid lime-sand blocks, lightweight and cellular concrete, lime-sand and ceramic blocks, and in cracked and non-cracked concrete

ZIO...

CODE	Qty: ml	kg 1 pcs.	catalogue no.	set
ZIO300	300	0,5	**653902**	1
ZIO410	410	0,7	**653910**	1

Note:
Styrene free injection mortar, to be used with standard silicone pistols

Advantages:
High hybrid resistance of heavy-load mortar for all types of construction materials. A universal assembly system for any site. Designed for anchoring of reinforcement bars. First injection system with approval for concrete, anchoring of reinforcement bars, solid and hollow blocks, and cellular concrete.

Setting time

Packing temperature (mortar)	Gelating (mounting) time	Substrate temperature	Setting time
		-5°C - 0°C	24 h
0°C- +5°C	13 min.	0°C- +5°C	3 h
+ 5°C- +10°C	9 min.	+ 5°C- +10°C	90 min.
+10°C- +20°C	5 min.	+10°C- +20°C	60 min.
+20°C- +30°C	4 min.	+20°C- +30°C	45 min.
+30°C- +40°C	2 min.	+30°C- +40°C	30 min.

STM

MATERIAL
BStyrene-free, hybrid vinylester mortar
On request:
Double squeezer for ZIO410

STM - Standard stock product (available in stock)
ST - Standard product (on order)
N - New product