

Dear Customer,

The **BAKS** company was established in 1986. We are now a leading Polish manufacturer of carrying systems for power, telecommunications, pneumatic, water, and other sectors. The latest technology, experienced personnel, coupled with investments in modern machines and equipment such as punching dies, folding machines, profile lines, welding robots, laser cutters, and in-house powder coating system allowed us to reach top standards.

Our products quality is confirmed by numerous certificates:

- **VDE certificate**, issued by TÜV Rheinland Köln, confirms the safety of our products and strength of our cable tray systems presented in this catalogue (submitted products safe working load values contain the safety factor 70%, indicating that our systems have gained extra 70% on their true strength). TÜV is regarded as the most valuable certificate, as it conforms to the PN-EN 61537:2007 standard, harmonized with the EU Directive on low voltage up to 1 kV. Based on the above Directive a CE Declaration of Conformity is issued for products purchased from our company.
- Voluntary recommendation covering all manufactured products except for the fire resistance system.
- **So called "E 30, E 90"**, fire resistance certificates, (conforming to the **DIN4102-12** standard), for assuring power supply continuity in the temperature of 1.000 °C, for 30 and 90 minutes respectively. We have already carried out approved testing with the following cable producers: **Bitner, Dätwyler, Elkond, Elpar, Eupen, Facab-Lynen, Kabtek, Madex, Nexans, NKT, Prakab, Studer, Tele-Fonika Kable and Technokabel.**
- British Standard Certificate BS-EN ...
- Certificates DMT Dortmund
- Classifications FIRES Batizovce
- Classifications MPA Braunschweig
- TÜV ISO 9001:2008 certificate, confirming that all products designed and manufactured by **BAKS** comply with the ISO 9001:2008 quality system.

For many years our products have been exported to numerous European countries, such as:



Germany

Westfalen (Blocks D and E) Power Station
Thyssenkrupp Andernach
Würth Adolf Kunzelsau
Edeka Berlin
Rittal Haiger
Festo Ostfildern-Scharnhausen
Unna Steel Mill



Austria

Saatbau Linz Geinberg
Bioetanol Agrana Plants
Voest Alpine Linz Steel Mill
Verbund Hydropower Station
Tiwag KW Finsing
E-Werk Kindberg
Saline Salt Mine



France

Airbus Tuluz
Airbus St. Nazaire
Renault Douai
Renault Sandouville
Paluel Nuclear Power Plant
Le Havre Power Plant
SEW Mommenheim



Great Britain

Stafford Waste Incineration Plant
Ridham Waste Incineration Plant
Oxford Waste Incineration Plant
Thames Water Win London
Guernsey Pumping Station



Sweden

Varnamo Power Station
Oskarshamn Power Station
Jonkoping Power Station
Vasteras Power Plant



Hungary

Lego Nyiregyhaza
Borsodchem Zrt Kazincbaricka
Butadienu Tiszaujvaros Power Plants
Forest Paper Zrt Labatlan
Zoltek Chemical Zrt Nyergesujfalu
Hankook Racalmas Tire Factory
Audi Gyor
Monsanto Nagygimand
Gedeon Richter Budapest
Knorr Bremse Budapest
Stadler Trains Szolnok
Hospital in Szeged
Hospital Kiskunhalas



Slovenia

KRKA NOTOL 2 Nove Mesto
Pharmaceutical Plants
Geberit Bezena
Zito Maribor
Silkem Kidricevo



The Federation of Russia

The Russian State Railways – Kursk, Jaroslav, Kazan, Kiev, Sankt-Peterburg Railway Stations
Gazprom – Medium Capacity Gas Turbine
Antipinskij NPZ Refinery
Sodrugestovo Svetli
- Soya Processing Plant
The Ministry of Foreign Affairs of the Federation of Russia
Civic Chamber of the Russian Federation
Minsk Hotel in Moscow



Belarus

BMZ Steel Mill
„Mozir” Refinery
„Naftan” Refinery
Azoty Grodno
Aquapark Minsk



Ukraine

Danone Krzemiecuk
Kamieniec Podolski – Cement Factory
Eniakievo Steel Mill
Donieck Steel Mill
Novograd – Volynsk – Cersanit Plants
Foo Plant in Kiev
Stadium in Donetsk
Stadium in Lvov
Stadium in Charkov



Slovakia

US Steel Kosice Steel Mill
SSM Strazske Steel Mill
Valeo Kosice
Samsung Galanta
Mondi Ruzemberok Paper Mill
Mochovce Nuclear Power Plant
Jaslovske Bohunice Nuclear Power Plant



The Czech Republic

Lego Kladno
KYB Pardubice
ABB Brno
Trebordice Transformer Station
Trinec Sports Arena
Draslovka Kolin Chemical Plant
Kaufland, Tesco, OBI- Shopping Centres



Lithuania

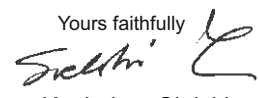
Mozejki Refinery
Amilina Panevezys



Latvia

CEMEX Cement Factory

Yours faithfully



Kazimierz Sielski
President

BAKS technology: the quality you can afford!



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.
 - 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.
 - 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.
3. The Buyer shall be understood as the entity which made a purchase directly from the Producer.
4. 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.
5. The period of warranty lasts 12 months from the date of sale. In justified cases, the period of warranty may be extended by the Buyer's request following the arrangement of the conditions of storage and use of the Products with the Producer. Any extension of the warranty period shall be certified in writing, otherwise it shall be null and void.

II. Specific Terms and Conditions of the Warranty

1. 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.
2. 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.
3. The Producer shall be liable to the Buyer only for physical defects arising from causes existing in the purchased Product itself.
4. 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, zinc- and paint-coated products as well as products made from stainless/acid-proof metal sheets

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 or floor). Storage in inappropriate (humid) conditions may lead to condensation appearing between the surface of zinc-coated or painted elements, or ones made from stainless/acid-proof metal sheets. 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/acid-proof metal sheets or painted products may be protected with film, which must be removed without delay upon delivery. Leaving the protective film on products painted or made from stainless/acid-proof metal sheets 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 transport, storage and assembly of the products must be performed in an environment consistent with the appropriate corrosion aggressiveness based on the PN EN ISO 12944:2001 standard (info p.4)

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 transport, storage and assembly. Therefore, the following rules must be observed:

- The cutting and drilling edges which were created during the assembly must be carefully cleaned by removing splinters, grease and any dirt (dust, oil, lubricants, traces of corrosion). The surface is to be repaired by applying a zinc-rich primer, zinc paste or a technically-equivalent material. The thickness of the paint coat should be 30 µm higher than the required local thickness of the zinc coating.

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 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 and acid-proof metal sheets.

The method of machining 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 operation.

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 – pickling, passivation.

The most frequent causes of traces of “corrosion” are:

- Surface contamination with particles of iron, black steel (spalls resulting from cutting with a grinder, welding) – scratches made in the place of scratching with soft and sharp element made from soft steel.
- Improper storage and transport.
- Incorrect selection of the grade of steel for the weather conditions in which it is to be applied.

Course of action and maintenance if traces of corrosion are noticed:

- Mechanical cleaning. Clean the spots of surface corrosion with needled 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 cable duct. Next, dry the damp surface with e.g. kitchen 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 actions specified above are to be made by hand, without using any power tools. If other elements are located under the cleaned products and there is a risk of splattering those while cleaning the surface with a damp cloth, they must be covered with thick drop cloth. To clean stainless steel, DO NOT use products for removing mortar or substances containing hydrochloric acid, bleach, agents for cleaning silver. Do not use straight carbon steel wire brushes, steel wool or steel scrubbing pads.

When using caustic cleaning agents, always use protective gloves and glasses.

Warranty Forfeiture

1. The warranty does not cover:

- any mechanical defects or defects caused by other flaws, especially defects in protective coatings;
- any defect resulting from product installation and use in conditions or in a manner inconsistent with the Producer's specification (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 components, or ones made from stainless steel/acid-proof metal sheets;
- 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 an act of God (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.

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 all be satisfied in order for a claim under the warranty to be accepted:
 - 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 Stock Issue Confirmation document or the purchase invoice,
 - details of the damage to the products and the circumstances 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.
8. The details of the Buyer's rights and the Producer's obligations under warranty are provided for in the Civil Code.

Disclaimer:

BAKS has a policy of continuous product development and reserves the right to alter or amend specifications, as necessary, without prior notice presented in this publication. This catalogue is designed to provide only preliminary technical information which refers to standard products manufactured by BAKS.



II. Information about the materials from which BAKS products are made from

Corrosiveness class	C1 very low	C2 low	C3 medium	C4 high	C5-I very high (industry grade)	C5-M. very high (maritime grade)
Reduction in protective coating (µm)	< 0.1	> 0.1 to 0.7	> 0.7 to 2.1	> 2.1 to 4.2	> 4.2 to 8.4	> 4.2 to 8.4
Examples of typical environments for moderate climate (for reference only)	Indoors: heated buildings with clean atmosphere, e.g. shops, offices Outdoors: –	Indoors: non-heated buildings in which condensation may occur, e.g. sports halls, warehouses Outdoors: atmospheres with a low degree of pollution	Indoors: manufacturing premises with a high level of humidity and some air pollution, e.g. laundries, breweries, dairies Outdoors: urban and industrial atmospheres	Indoors: chemical plants, swimming pools, repair yards 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 humidity and an aggressive atmosphere	Indoors: buildings or areas with almost constant condensation and high pollution Outdoors: Littoral areas and areas further into the sea, with high salinity

Material table

Material	Type of coating	Coating properties													
Steel	Sendzimir galvanised PN-EN 10346:2015-09	Steel sheets (3 mm thick) still in hot state are zinc-coated by dipping at the rolling mill. As a result, an even and strongly adhering zinc coating of the average thickness of approx. 19 µm is obtained. Coating damage by cutting, perforation, bending does not result in progressing rusting. All types of cable trays, racks and most load-bearing elements (not welded) which are zinc-coated acc. to the applied Sendzimir method are intended for dry rooms, where chemically aggressive substances are absent (e.g. vapours of chlorine, acids, bases). Recommend for corrosion category C1 and C2.													
	Hot dip galvanised PN-EN ISO 1461:2011 F	Completely machined parts (after cutting, bending, welding, etc.) are dipped in zinc, which is molten, at a temperature of approx. 450 °C to 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 piece is out of zinc bath, a coating of pure zinc is obtained on the 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, the so-called 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, racks and most 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 dipped zinc coating are mostly used in environments of category C3 and C4, where high humidity is present (basement, garage rooms, boiler room, etc.), and corrosion categories C5-I and C5-M, where vapours of chemically aggressive substances occur, e.g. sea water, fumes from coal burning, etc. (shipyards, chemical / oil / gas processing plants, mines).					Table presenting the relationship between zinc coating thickness and product thickness								
		Type of environment	Very low corrosion	Low corrosion	Medium corrosion	High corrosion	Very high corrosion	Pieces and thickness values	Local thickness of coating (minimum value, µm)	Average thickness of coating (minimum value, µm)					
		Corrosion category	C1	C2	C3	C4	C5-I, C5-M	Steel >6mm	70	85	Steel >3mm do<6mm	55	70		
	Possible warranty extension	up to 5 years	up to 5 years	up to 5 years	up to 5 years	up to 2 years	Steel >1.5mm do<3mm	45	55	Steel <1.5mm	35	45			
Steel	MAGNELIS PN-EN 10346:2015-09 MC	The innovative MAGNELIS coating is the composition of pure zinc with an admixture of magnesium and aluminium. This composition provides excellent corrosion resistance even under harsh environmental conditions (up to 10 times higher than galvanized steel) The coating has a lower tendency to form white rust compared to pure zinc. The Magnelis coating has a naturally dark grey colour and a smooth, bloomless aspect. Magnelis has the ability to self-reconditioning on cut edges, in addition to standard cathode protection comparable to the zinc coating properties, the Magnelis coating protects the exposed cut edges against corrosion due to thin zinc film containing 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 galvanising, while providing better anti-corrosive properties and being cost-effective.													
	zinc flake coatings PN-EN ISO 10683:2014-09 F	The base coating is applied in the form of zinc and aluminium flakes. All 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, after 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.													
Stainless/acid-resistant steel	E	For corrosion protection, acid resistant steels prove to be very good materials, e.g. 1.4301 (US Code 304, obsolete Polish Standard 0H18N9). 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, obsolete Polish Standard 0H17N12M2T) and 1.4404 (US Code 316L, obsolete Polish Standard 0H17N14M2). 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) in the food industry (meat processing plants, dairies, etc.). Poorly envisaged savings can sometimes lead to interrupted operation of the industrial plant due to the need to replace the load-bearing structure of electrical systems. Manufacturing cable routes of acid-resistant sheets is much more complicated and labour-consuming, compared with manufacturing standard elements made of sheets with zinc plating acc. to the Sendzimir method. The same elements made of zinc-plated and acid resistant sheets must be manufactured using separate tools. During the last operation, practically finished elements made of acid-resistant sheet metal undergo shot-blast cleaning (excluding products made of sheets whose thickness is below 1 mm) to remove all dirt and residues after manufacturing processes. After shot-blasting is completed, the surface is uniform; the colour is matt grey. Elements whose thickness exceeds 1 mm are made of sheets with protective foil provided. 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. 1.4401 (316) – Main applications include sewage treatment plants, sea environments, refining industry. 1.4404 (316L) – Main applications as for the mentioned steels and, additionally, in organic acid environments (resistance to most acids), fertiliser plants. 14571 (316Ti) – Used as a raw material for cable routes in road tunnels.													
Steel + Stainless/acid-resistant steel	powder coating L	Polyester and epoxy powder coating (for internal coating). Coating thickness ranges from 60 µm to 120 µm; no primer or solvent is used. Prior to painting, the powder coating of pieces made of black metal sheets undergo phosphate coating, which serves as a primer before powder coating; it considerably extends durability of the coating. Powder coating on pieces made of sheets, which are zinc-coated acc. to the Sendzimir method, provide smooth surfaces, which are free of cracks, runs and creases. Powder coating on pieces made of hot dipped zinc-coated sheets does not provide smooth surfaces because hot dipped zinc-coated elements feature increased surface roughness, compared with zinc coating applied acc. to the Sendzimir method. Prior to painting, hot dipped zinc-coated elements undergo shot-blasting 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 / chemical resistance, very good mechanical properties and water resistance. The solution is applied when improvement of corrosion resistance (by powder coating on zinc-coated sheets), enhancement of aesthetics by adding colours to harmonise with accessories, designation of the system (depending on its function) are 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 (see the pallet below). It is possible to order non-standard colour painting; however, this is more expensive and longer time for completion of the purchase order is necessary. The paint is applied directly on the metal.													
		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



Certificate refers to all cable management systems presented in this catalogue and is a reliable confirmation of cable runway safe working load values **(70% safety ratio in strength values indicates additional 70% true strength reserve with the exception of the E-90 fire system),** as well as the achievement of a measure of circuit integrity of cable management systems from BAKS. The International Standard PN-EN 61537:2007 is harmonised with the low voltage directive 73/23/EEG-Guideline CE to 1kV.

CERTIFICATE

No.: TM 61000284.001



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
26100289

Our reference
SD/39038317

Certificate validity period
from 10.05.2016 to 09.05.2021

Basis of research
BS-EN 61537:2007

TÜV Rheinland Polska Sp. z o.o. declares that the product described below meets the requirements contained in the reference documents:

Metal cable trunking system:

- Cable trays H30 – H200
- Wire mesh trays H35 – H110
- Cable ladders H45 – H200
- Sub-floor channels H28 – H48
- Wall channels H68 – H100
- Fittings, load-bearing structures and other cable trunking accessories according to the catalogue BAKS 2016 of April 2016.

TÜV Rheinland Polska Sp. z o.o.
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Product certification body



Tomasz Opaszowski

Warsaw, 08.06.2016

This certificate is subject to the Certification Terms and Conditions and the JCW TRP General Transaction Conditions and applies only to the products that are compliant with the standard used for compliance assessment. This certificate alone does not entitle the holder to affix the CE mark. This certificate entitles the holder to affix the product with the TUV mark.



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Regular
Production
Surveillance

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ID 0000046268



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Precisely Right.

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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

26100380

Our reference

SD/84932163

Certificate validity period

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.

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e-mail: post@pl.tuv.com



Certification body

Tomasz Opaszowski

Warsaw, 23.03.2018

This certificate is subject to the Certification Terms and Conditions and the JCW TRP General Transaction Conditions and applies only to the products that are compliant with the standard used for compliance assessment. This certificate alone does not entitle the holder to affix the CE mark. This certificate entitles the holder to affix the product with the TUV mark.



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New

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 2018-03-15 until 2020-04-18.
First certification 2001.

2018-03-15

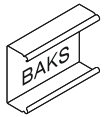
Gregor Guabka

TÜV Rheinland Cert GmbH
Am Grauen Stein · 51105 Köln

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Company **BAKS Kazimierz Sielski** is aware of our impact on the environment, because of that our all activities are determined by care and responsibility for natural resources. We follow according to ISO 14001:2015 standard which is confirmed by attached certificate.

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 2017-02-27 until 2020-02-26.

2017-02-27

Grzegorz Guabka

TÜV Rheinland Cert GmbH
Am Grauen Stein · 51105 Köln

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DECLARATION OF CONFORMITY
No.: 2/2016



1. Manufacturer: „BAKS” Wytwarzanie osprzętu instalacyjno-elektrotechnicznego
Kazimierz Sielski ul. Jagodne 5, 05-480 Karczew
2. Name and type of the product:
Cable Trays : KA..., KB..., KC..., KF..., KG...,KL...,KM..., KO..., KP..., KR..., KS...,
 KZ..., connecting elements, covers, fittings (bends, tees, cross-overs, reducers, etc.), with
 height of H30-H200.
Wire Mesh Cable Trays: KDS..., KGS..., KWDS..., KCS..., KDSZ..., KSG... connecting
 elements, covers, fittings (bends, tees, reducers, etc.), cable clamps, with height of H35-H110.
Cable Ladders: DK..., DU..., DS..., DM..., DMC..., DDMC..., DDM..., DSH..., DDH...,
 connecting elements, covers, fittings (bends, tees, cross-overs, reducers, etc.), cable clamps,
 with height of H45-H200.
Underfloor Trunking: KN..., connecting elements, covers, fittings (bends, tees, cross-overs,
 reducers, etc.), with height of H28-H48.
Wall Trunking: KS..., connecting elements, covers, fittings (bends, tees, etc.), with height of
 H68-H100.
Support System: brackets (wall and ceiling), head plates, base plates, fastening brackets,
 hangers, holders, grips, cable clips, fasteners, profiles, fittings, connectors, accessories, etc.

Specification is in the BAKS catalogue and it is compatible with decision of the Directive:
2014/35/UE

**DIRECTIVE OF THE EUROPEAN PARLIAMENT AND THE
COUNCIL 2014/35/UE**

Of the 26th February regarding harmonization of legalization of the Member
States, relating to electrical equipment designed for use within certain voltage limits being
available on the market

And meet requirements of the harmonized standard:

PN- EN 61537:2007 Cable routing - Cable trays and cable ladders management system

This declaration was issued on the basis of positive results from notified laboratory:
TÜV Rheinland Polska Sp. Z.o.o. 56 17 Stycznia Street, 02-146 Warsaw, letter of credit no.
AB 904, certificate no. TM 61000284 from 10 May 2016

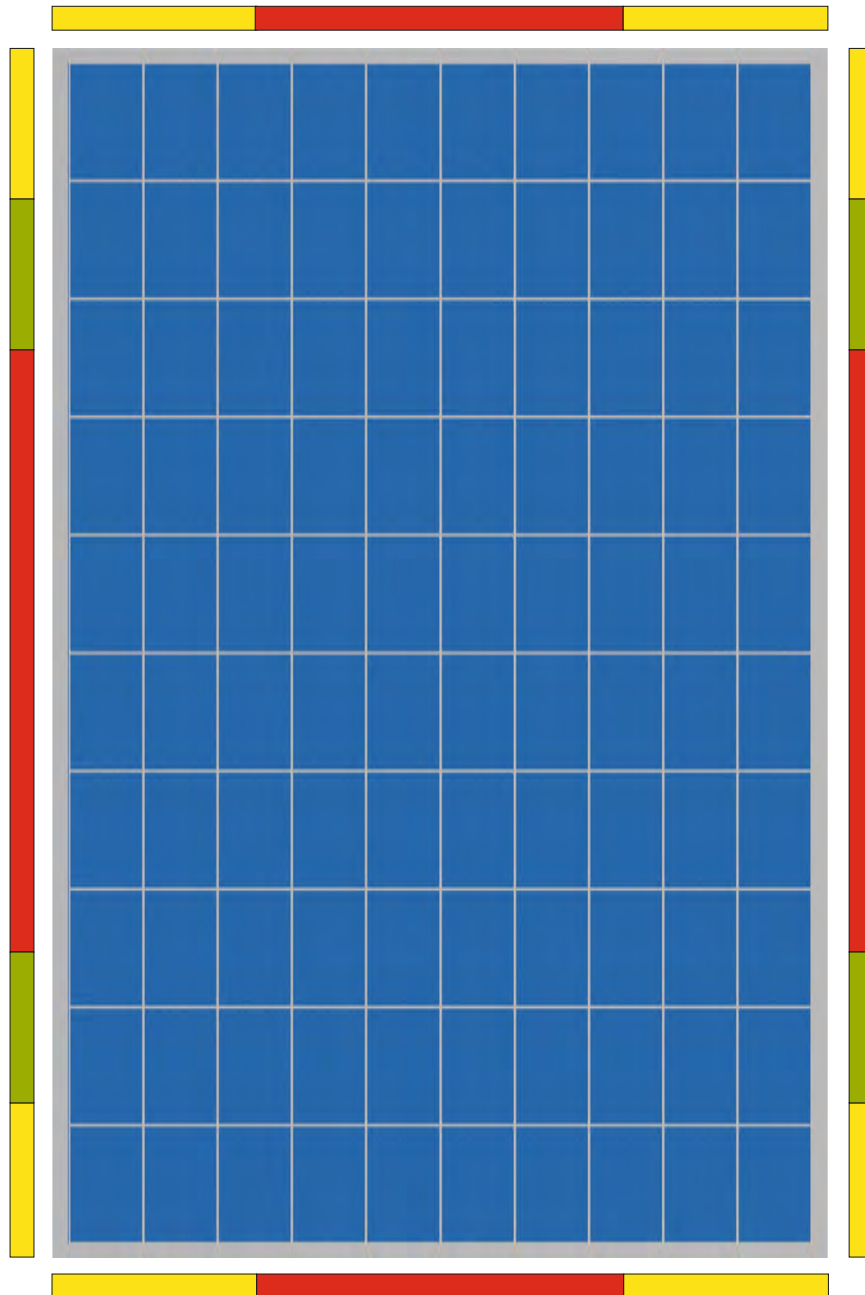
For the first time marking CE was placed in 2011.

Karczew 26.08.2016

Kazimierz Sielski

Signature

Regulation of the Minister of Development from 2nd June 2016 regarding requirements for electrical equipment.

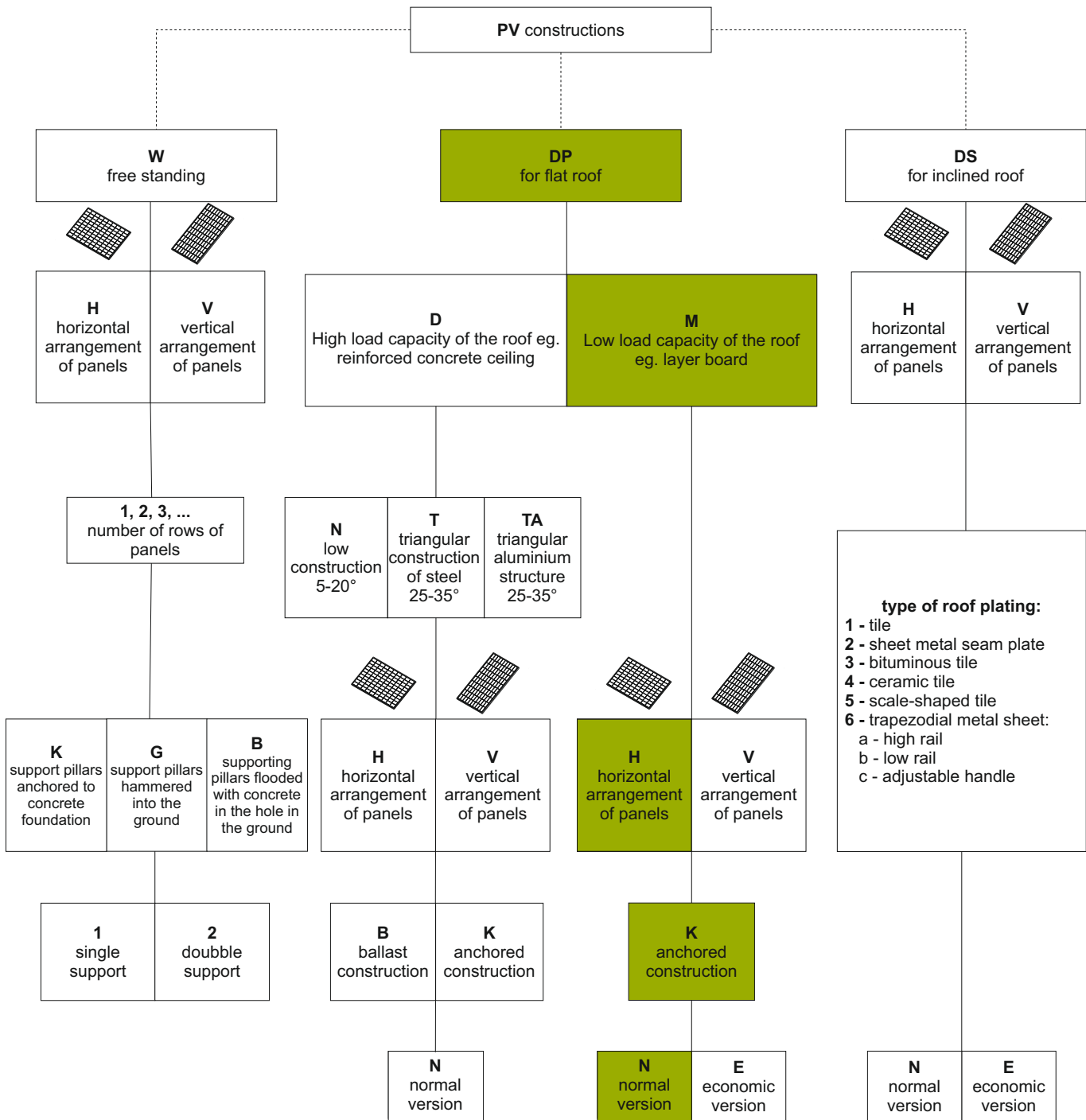


- Mounting of clamps in green area allows load up to 5400 Pa (550 kg/m²)
- Mounting of clamps in yellow area allows load up to 2400 Pa (244 kg/m²) *
- Mounting of clamps in red area is unacceptable.

Attention!

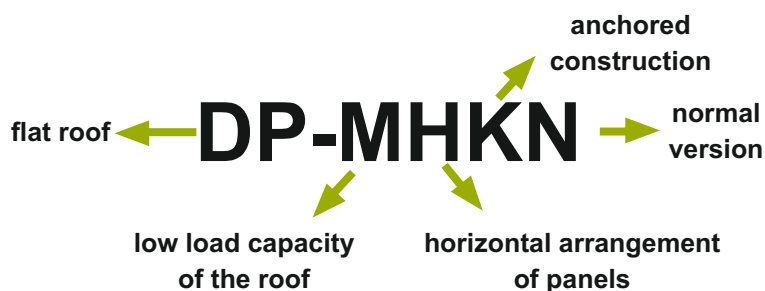
Presented sections for mounting of holders are only for typical panels 991 x 1665 mm. In case of panels with different dimensions, please refer to installation manual for PV panels mounting area. In the area marked with the same colour there should be minimum 4 clamps for the panel to be approved for appropriate load. If the panel is mounted with 4 clamps but placed in two different areas it is approved for a lower load. While choosing the direction on the arrangement of the panels, please take into consideration maximum load capacity of the PV panel, which is specified by the Manufacturer, dependable on the arrangement of the panels (vertical or horizontal) and differs according to the height of the panels frame

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



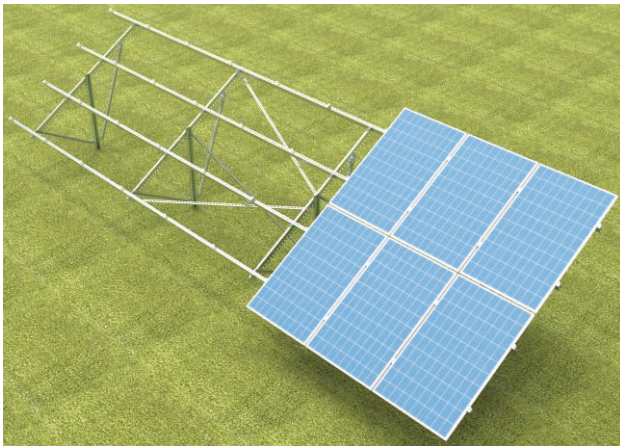
E - economic version - supporting 2 panels on one UPD..., UPG holder or aluminium profile

With green is marked a path of a sample selection of ballast, triangular construction mounted on flat roof with high load capacity, for panels arranged horizontally in normal version. Symbol of construction is: DP-DTHBN





Mounting structures for the installation of photovoltaic solar panels - free standing



Mounting structure W-V2G1

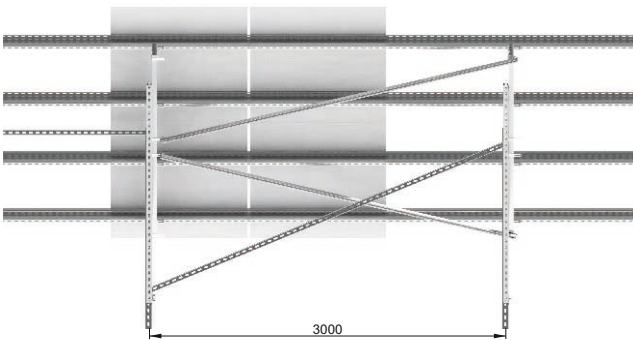
Description:
Complete support system for fixing the two rows of vertically-oriented solar panels

Technical description:
Materials used for the support system:
250GD Steel in Magnelis coating
or hot-dip galvanized acc. to PN-EN ISO 1461:2011,
Aluminium,
Stainless steel, grade AISI 304

Mounting structure tested for strength parameters.

Guarantee:
Provided all terms and conditions of the manufacturer's guarantee are met the 10-year guarantee is granted for the elements of the support structure.

The picture illustrates the specimen arrangement of the structure bracings. Mount the bracings after every third pair of supports

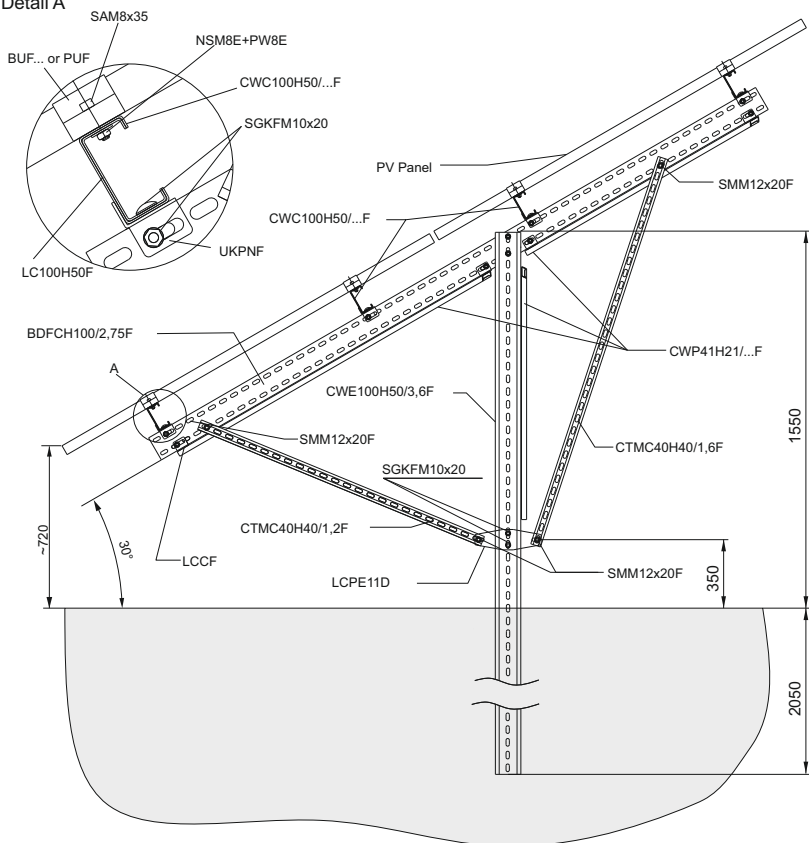


Good ground conditions; Semi-cohesive ground of $IL < 0$

Variants of the mounting structure installation:

- Mounting structure W-V2K1- support pillar anchored to the concrete foundation
- Mounting structure W-V2B1- support pillar anchored in a hole in the ground filled with concrete of min. B20
- On request: support pillar screwed into the ground

Detail A

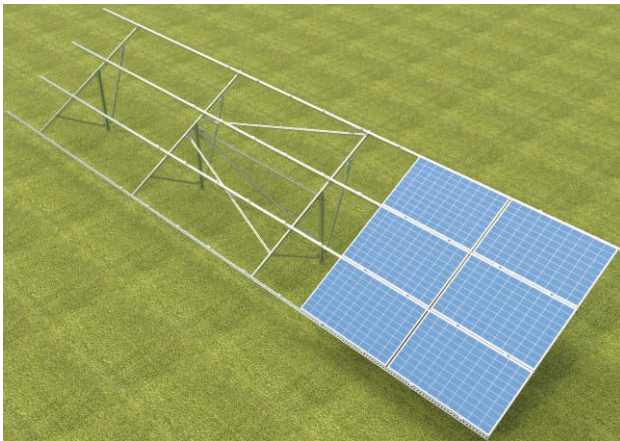


The list of mounting structure elements required for the installation of vertically-oriented PV panels

CODE	40 panels
	pcs.
CWE100H50/3,6F	7
BDFCH100/2,75F	7
CWC40H40/1,2F	7
CWC40H40/1,6F	7
CWP41H21/3,2F	2
CWP41H21/3,3F	4
LCPE11D	7
UKPNF	28
LCCF	8
SGKFM10x20	200
SMM12x20F	28
CWC100H50/3,15F	4
CWC100H50/3,4F	8
CWC100H50/4,1F	4
CWC100H50/6,3F	4
LC100H50F	16
BUF...	8
PUF	76
SAM8x35E	84
PW8E	84
NSM8E	84



Mounting structures for the installation of photovoltaic solar panels
- free standing



Mounting structure W-H3G1

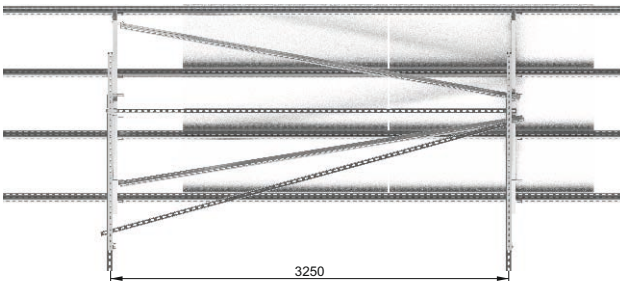
Description: Complete support system for fixing three rows of horizontally-oriented solar panels

Technical description:
Materials used for the support system:
Structural steel in Magnelis coating or hot-dip galvanized acc. to PN-EN ISO 1461:2011, Aluminium (EN AW-6063 or EN AW-6005A), Stainless steel, grade AISI 304

Mounting structure tested for strength parameters.

Guarantee: Provided all terms and conditions of the manufacturer's guarantee are met the 10-year guarantee is granted for the elements of the support structure.

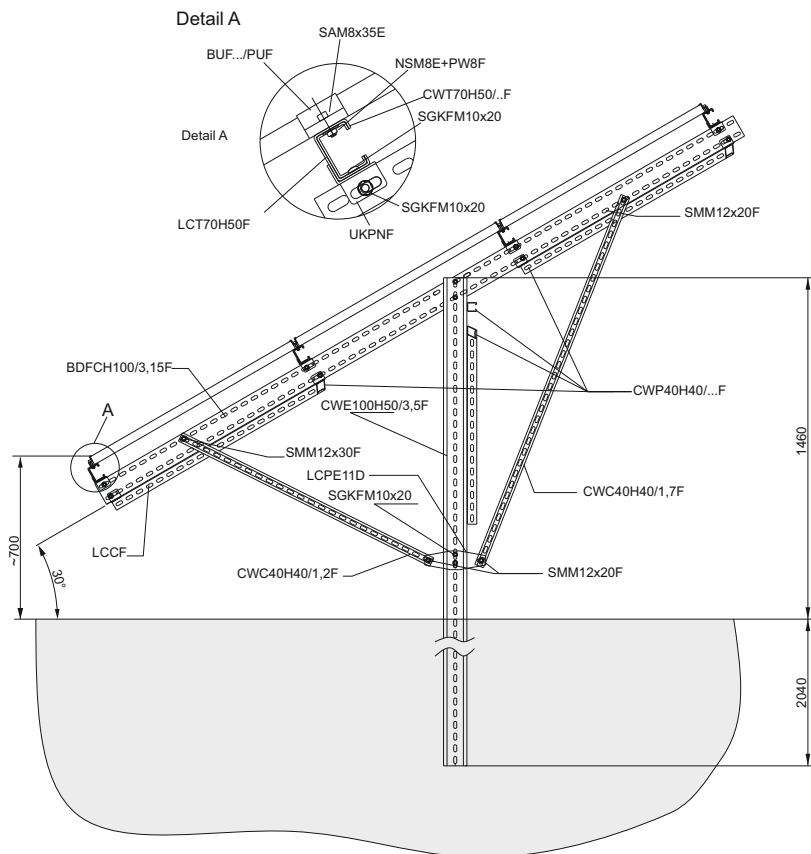
The picture illustrates the specimen arrangement of the structure bracings. Mount the bracings after every third pair of supports



Good ground conditions; Semi-cohesive ground of IL<0

Variants of the mounting structure installation:

- Mounting structure W-H3K1 - support pillar anchored to the concrete foundation
- Mounting structure W-H3B1- support pillar anchored in a hole in the ground filled with concrete of min. B20
- On request: support pillar screwed into the ground

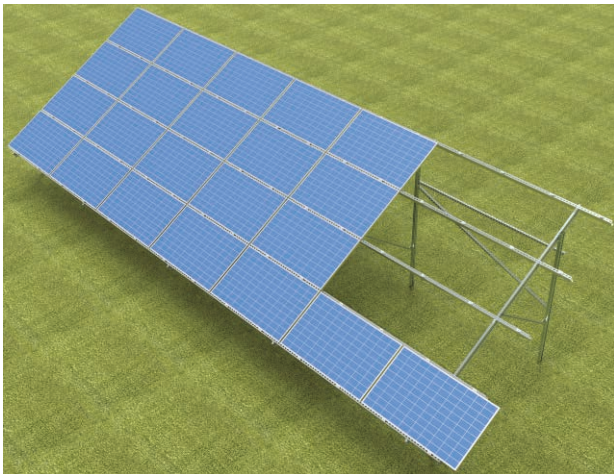


The list of mounting structure elements required for the installation horizontally-oriented PV panels

CODE	45 panels
	pcs.
CWE100H50/3,5	8
BDFCH100/3,15F	8
CWC40H40/1,2F	8
CWC40H40/1,7F	8
CWP40H40/3,3F	2
CWP40H40/3,45F	6
LCPE11D	8
UKPNF	32
LCCF	8
SGKFM10x20	216
SMM12x20F	32
CWT70H50/4,2F	8
CWT70H50/4,4F	4
CWT70H50/6,3F	8
LCT70H50F	16
BUF...	60
PUF	60
SAM8x35E	120
NSM8E	120
PW8E	120



Mounting structures for the installation of photovoltaic solar panels
- free standing



Mounting structure W-H4G2

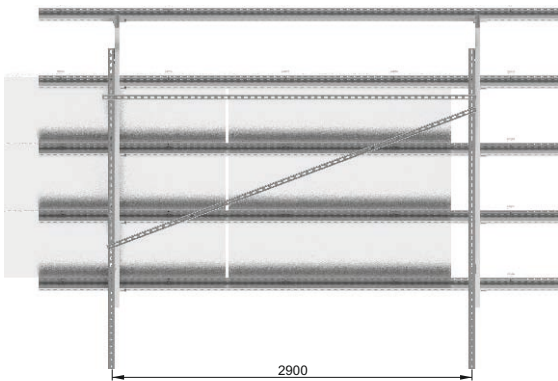
Description: Complete support system for fixing the four rows of horizontally-oriented solar panels

Technical description:
Materials used for the support system:
Structural steel in Magnelis coating or hot-dip galvanized acc. to PN-EN ISO 1461:2011, Aluminium (EN AW-6063 or EN AW-6005A), Stainless steel, grade AISI 304

Mounting structure tested for strength parameters.

Guarantee: Provided all terms and conditions of the manufacturer's guarantee are met the 10-year guarantee is granted for the elements of the support structure.

The picture illustrates the specimen arrangement of the structure bracings. Mount the bracings after every third pair of supports

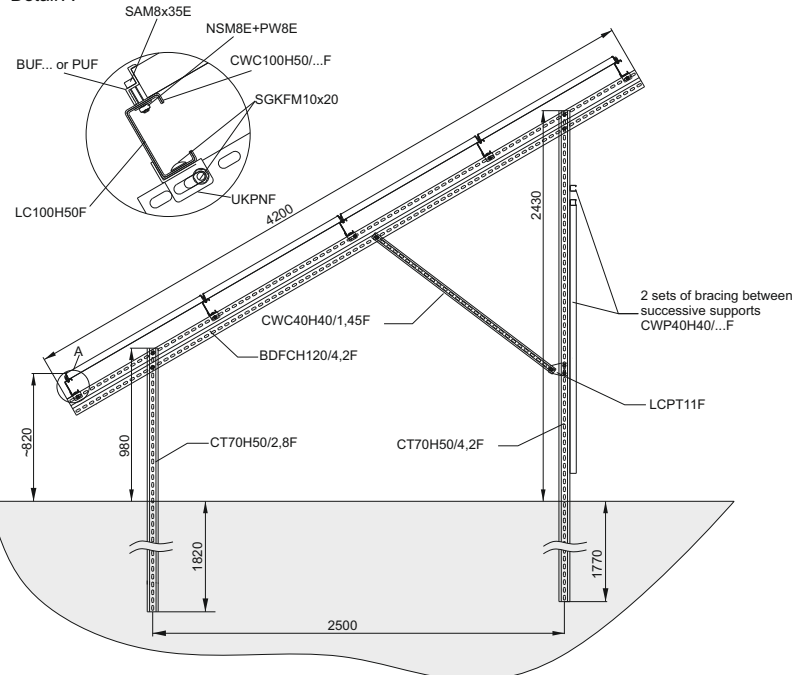


Good ground conditions; Semi-cohesive ground of $IL < 0$

Variants of the mounting structure installation:

- Mounting structure W-H4K2 - support pillar anchored to the concrete foundation
- Mounting structure W-H4B2- support pillar anchored in a hole in the ground filled with concrete of min. B20
- On request: support pillar screwed into the ground

Detail A

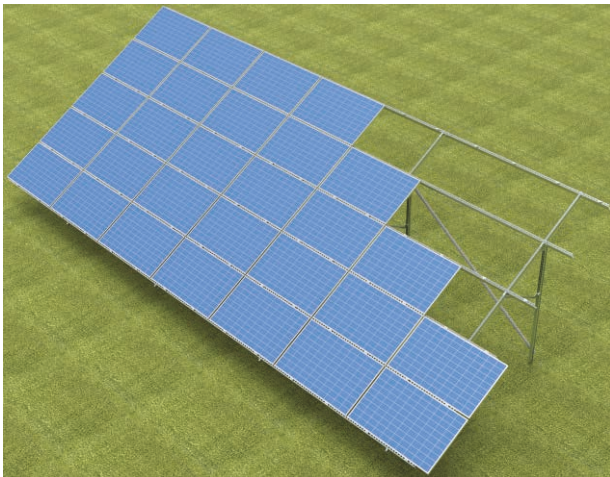


The list of mounting structure elements required for the installation of horizontally-oriented PV panels

CODE	40 panels
	pcs.
CT70H50/2,8F	6
CWT70H50/4,2F	6
BDFCH120/4,2F	6
CWC40H40/1,45F	6
CWC40H40/3F	2
CWC40H40/3,4F	2
LCPT11F	6
UKPNF	30
CWC100H50/3,2F	5
CWC100H50/4,2F	5
CWC100H50/5,75F	5
LC100H50F	15
SGKFM10x20	206
BUF...	40
PUF	60
SAM8x35	100
NSM8E	100
PW8E	100



Mounting structures for the installation of photovoltaic solar panels
- free standing



Mounting structure W-H5G2

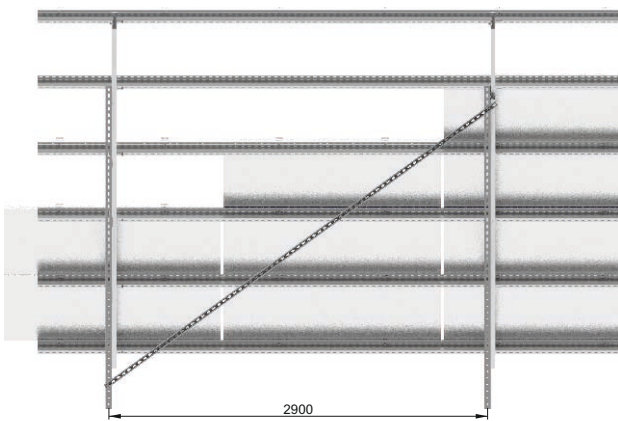
Description:
Complete support system for fixing the four rows of horizontally-oriented solar panels

Technical description:
Materials used for the support system:
Structural steel in Magnelis coating or hot-dip galvanized acc. to PN-EN ISO 1461:2011, Aluminium (EN AW-6063 or EN AW-6005A), Stainless steel, grade AISI 304

Mounting structure tested for strength parameters.

Guarantee:
Provided all terms and conditions of the manufacturer's guarantee are met the 10-year guarantee is granted for the elements of the support structure.

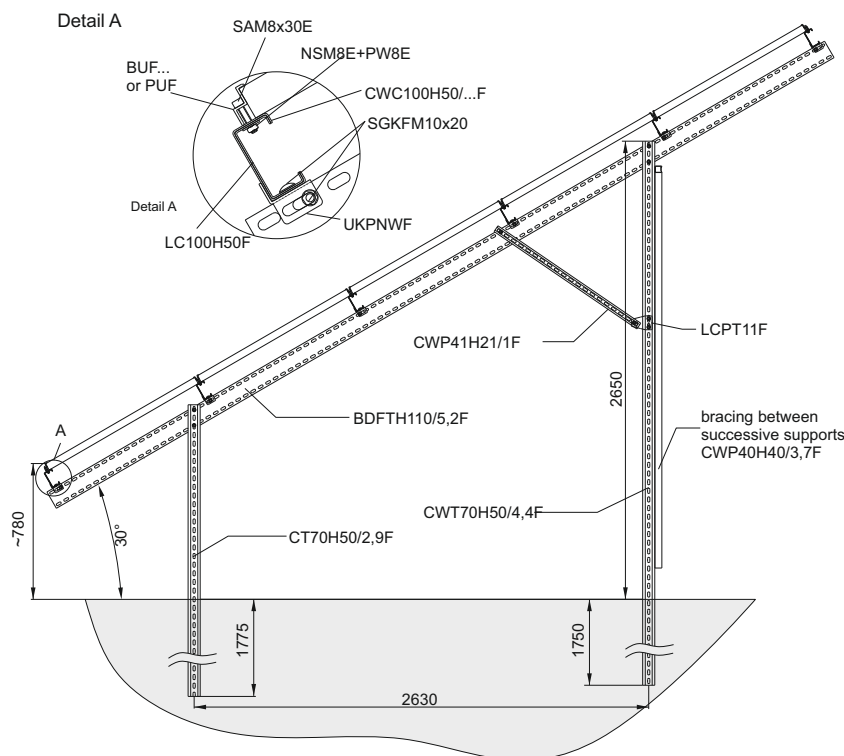
The picture illustrates the specimen arrangement of the structure bracings. Mount the bracings after every third pair of supports



Good ground conditions; Semi-cohesive ground of IL<0

Variants of the mounting structure installation:

- Mounting structure W-H54K2 - support pillar anchored to the concrete foundation
- Mounting structure W-H5B2- support pillar anchored in a hole in the ground filled with concrete of min. B20
- On request: support pillar screwed into the ground

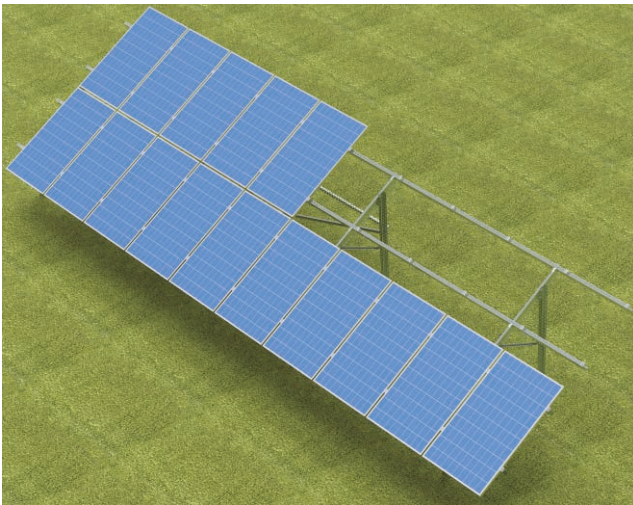


The list of mounting structure elements required for the installation of horizontally-oriented PV panels

CODE	50 panels
	pcs.
CT70H50/2,9F	6
CWT70H50/4,4F	6
BDFTH110/5,2F	6
CWP41H21/1F	6
CWP40H40/3,7F	2
LCPT11F	6
UKPNWF	36
CWC100H50/3,15F	12
CWC100H50/4,2F	6
CWC100H50/5,8F	6
LC100H50F	18
SGKFM10x20	232
BUF...	40
PUF	80
SAM8x30E	120
NSM8E	120
PW8E	120



Mounting structures for the installation of photovoltaic solar panels
- free standing



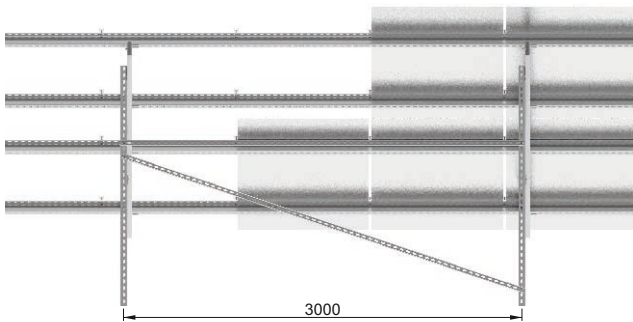
Mounting structure W-V2G2

Description:
Complete support system for fixing the two rows of vertically-oriented solar panels

Technical description:
Materials used for the support system:
Structural steel in Magnelis coating
or hot-dip galvanized acc. to PN-EN ISO 1461:2011,
Aluminium (EN AW-6063),
Stainless steel, grade AISI 304

Mounting structure tested for strength parameters.

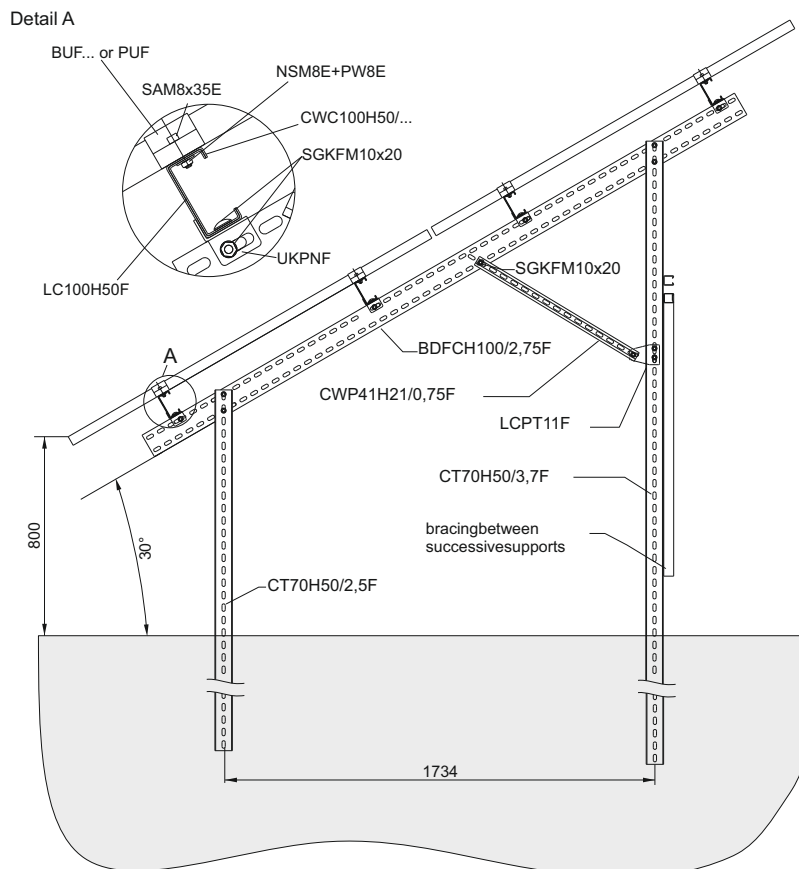
Guarantee:
Provided all terms and conditions of the manufacturer's guarantee are met the 10-year guarantee is granted for the elements of the support structure.



Good ground conditions; Semi-cohesive ground of IL<0

Variants of the mounting structure installation:

- Mounting structure W-V2K2 - support pillar anchored to the concrete foundation
- Mounting structure W-V2B2- support pillar anchored in a hole in the ground filled with concrete of min. B20
- On request: support pillar screwed into the ground

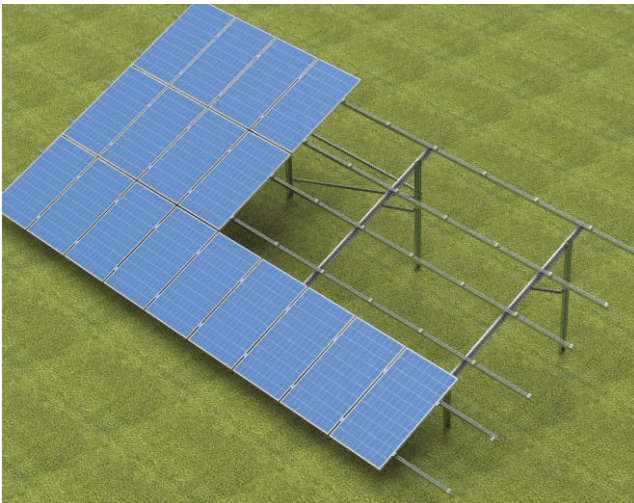


The list of mounting structure elements required for the installation of vertically-oriented PV panels

CODE	46 panels
	pcs.
CT70H50/2,5F	8
CT70H50/3,7F	8
BDFCH100/2,75F	8
CWP41H21/0,75F	8
CWP40H40/3,05F	2
CWP40H40/3,2F	2
LCPT11F	8
UKPNF	32
CWC100H50/3,5F	8
CWC100H50/3,95F	4
CWC100H50/6,3F	8
LC100H50F	16
SGKFM10x20	232
BUF38	8
PUF	88
SAM8x35E	96
NSM8E	96
PW8E	96



Mounting structures for the installation of photovoltaic solar panels
- free standing



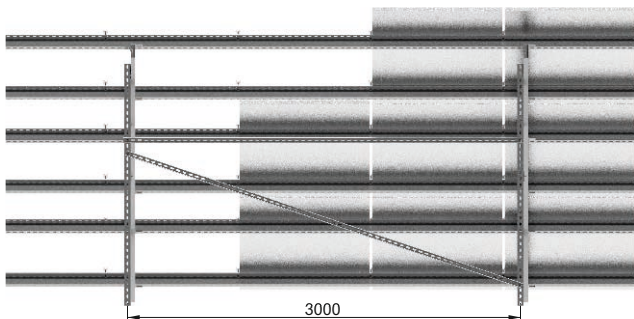
Mounting structure W-V3G2

Description:
Complete support system for fixing the two rows of vertically-oriented solar panels

Technical description:
Materials used for the support system:
Structural steel in Magnelis coating
or hot-dip galvanized acc. to PN-EN ISO 1461:2011,
Aluminium (EN AW-6063),
Stainless steel, grade AISI 304

Mounting structure tested for strength parameters.

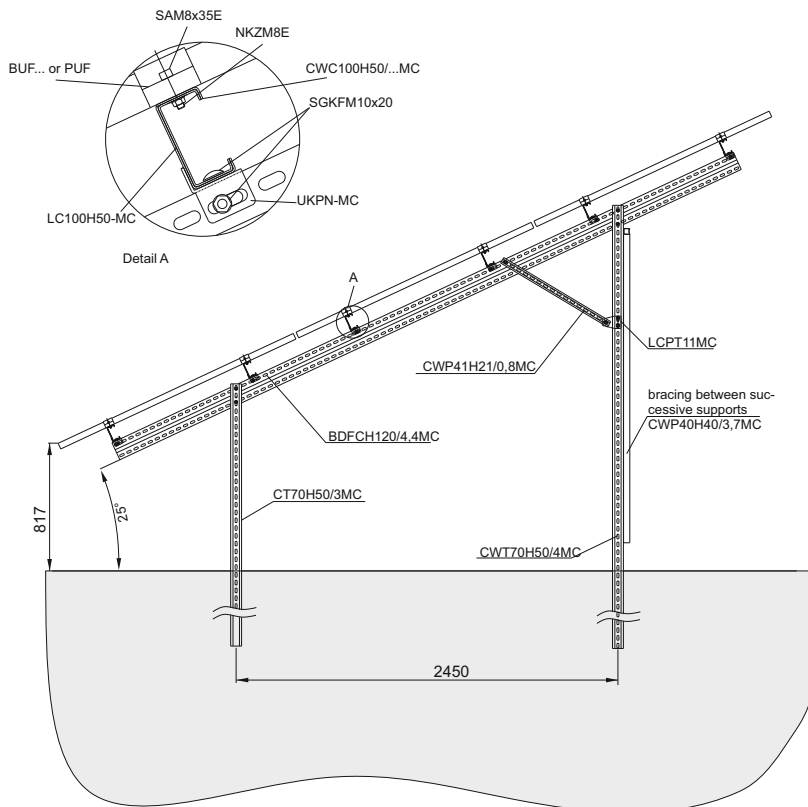
Guarantee:
Provided all terms and conditions of the manufacturer's guarantee are met the 10-year guarantee is granted for the elements of the support structure.



Good ground conditions; Semi-cohesive ground of IL<0

Variants of the mounting structure installation:

- Mounting structure W-V3K2 - support pillar anchored to the concrete foundation
- Mounting structure W-V3B2- support pillar anchored in a hole in the ground filled with concrete of min. B20
- On request: support pillar screwed into the ground



The list of mounting structure elements required for the installation of vertically-oriented PV panels

CODE	60 panels
	pcs.
CT70H50/3F	7
CWT70H50/4F	7
BDFCH120/4,4F	7
CWP41H21/0,8F	7
CWP40H40/3,7F	2
LCPT11F	7
UKPNF	42
CWC100H50/6F	8
CWC100H50/6,45F	6
CWC100H50/3,65F	6
CWC100H50/4,2F	6
LC100H50F	18
SGKFM10x20	252
BUF35	12
PUF	114
SAM8x35E	126
NSM8E	126
PW8E	126

BAKS free-standing structures are entirely adapted for the installation of our extension arms and cable trays. Snap-in extension arm allows quick and easy assembly by snapping into perforation of the PV structure support pillar. Extension arms attached to the support pillar with the use of step bolt assure increased strength and are dedicated for the structures with increased support spacing, also in installations with the use of high power inverters. BAKS cable trays provide excellent heat dissipation and they are resistant to direct and dispersed UV radiation. Installing the cables in our trays is a super-quick and effective process. Cable trays equipped with the covers for protection against damage by forest animals and the rodents. The products of BAKS are ITB certified for the electric circuit continuity and they prevent accumulation of the electrical charges on an earthed structure.

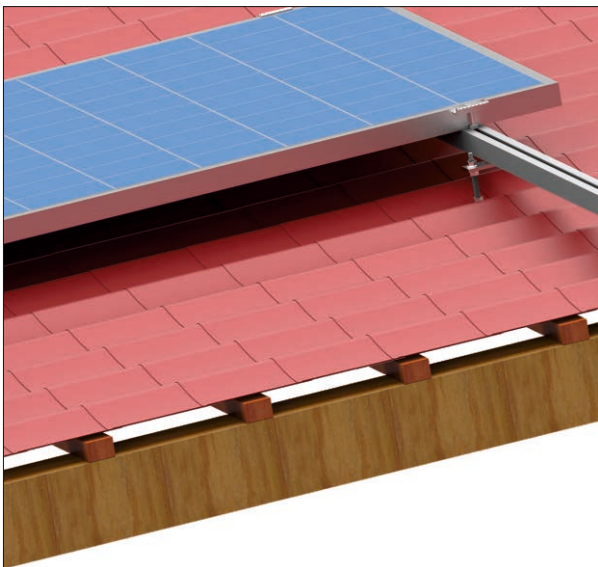
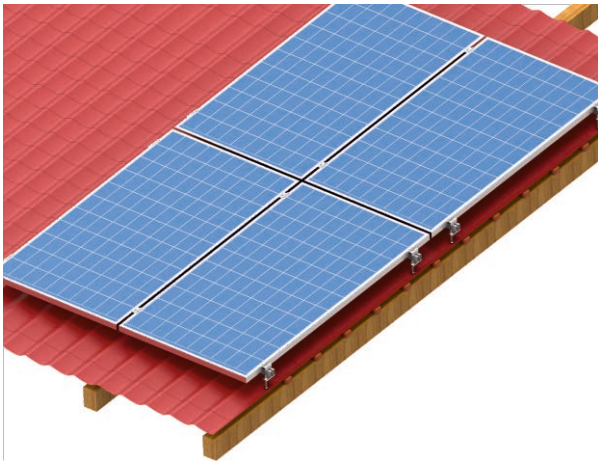


Cable tray support – Bracket WWS..., attached to the channel (support pillar)



Cable tray support – snap-in extension arm WZS..., attached to the channel bar perforation (support pillar)

Mounting structures for the installation of photovoltaic solar panels on an inclined roof with steel tiles or corrugated sheets



Mounting structure DS-V1N

Description:
Complete support system for fixing the unlimited number of vertically-oriented PV panels on an inclined roof (maximum permissible unit load 550 kg/m²).

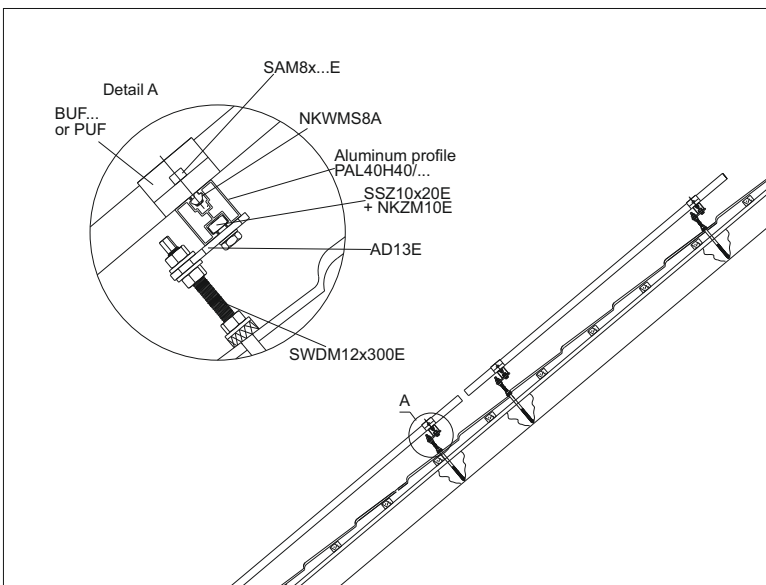
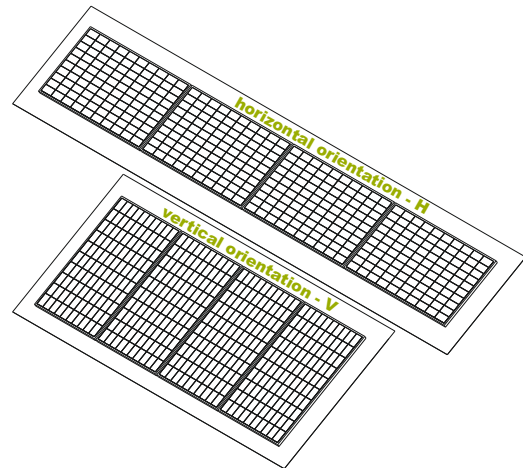
Technical description:
Materials used for the support system:
250GD Steel in Magnelis coating or hot-dip galvanized acc. to PN-EN ISO 1461:2011, Aluminium (EN AW-6063), Stainless steel, grade AISI 304

Mounting structure tested for strength parameters.

Guarantee:
Provided all terms and conditions of the manufacturer's guarantee are met the 10-year guarantee is granted for the elements of the support structure.

Variants of the mounting structure installation:

- Mounting structure DS-V3N - for the installation of vertically-oriented solar panels directly to the roof with bituminous or shingle tiles
- Mounting structure DS-V6cN - for the installation of vertically-oriented solar panels directly to the roof with trapezoid steel sheet



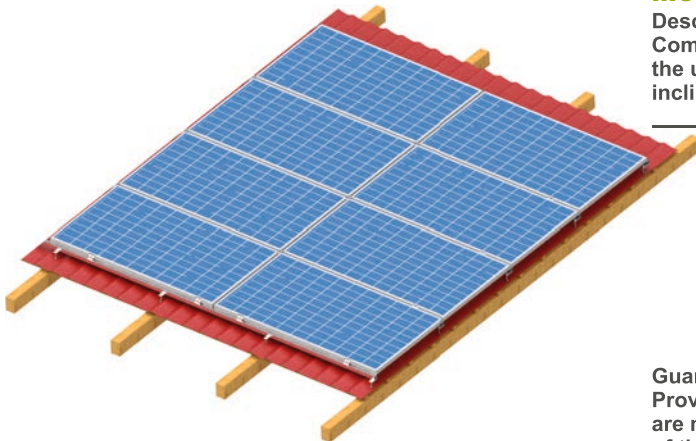
The list of the PV panel structure elements in the horizontal arrangement (DS-H1N) and in the vertical arrangement (DS-V1N). Mount the elements every second rafter - ca. 1.60 m

CODE	4 panels (DS-H1N)	4 panels (DS-V1N)
	pcs.	pcs.
PAL40H40/2,1	2	4
PAL40H40/3,15	3	
PLPAN40	8	4
SWDM10x250E	14	10
AD11E	14	10
SSZ10x20E	14	10
NKZM10E	14	10
BUF...	4	4
PUF	6	6
SAM8x...E	10	10
NKWMS8A	10	10

For detailed information on the products see pages 31 - 49



Mounting structures for the installation of photovoltaic solar panels on an inclined roof with steel tiles



Mounting structure DS-H1E

Description: Complete support system for fixing the unlimited number of horizontally-oriented PV panels on an inclined roof (maximum permissible unit load 550 kg/m²).

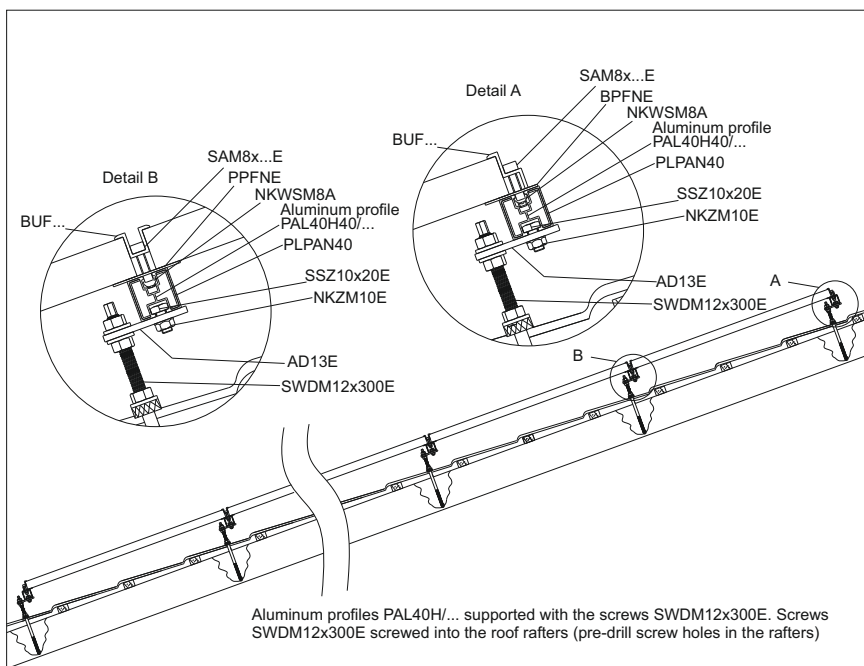
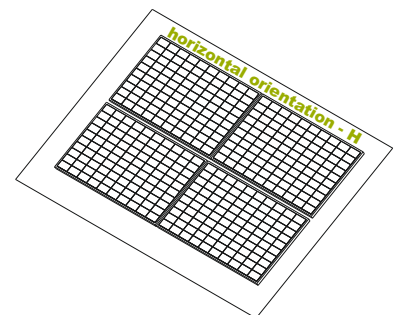
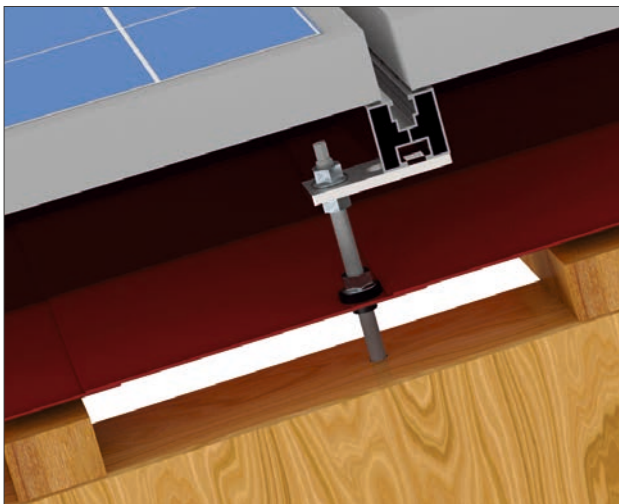
Technical description: Materials used for the support system: 250GD Steel in Magnelis coating or hot-dip galvanized acc. to PN-EN ISO 1461:2011, Aluminium (EN AW-6063), Stainless steel, grade AISI 304

Mounting structure tested for strength parameters.

Guarantee: Provided all terms and conditions of the manufacturer's guarantee are met the 10-year guarantee is granted for the elements of the support structure.

Variants of the mounting structure installation:

- mounting structure DS-H3E for the installation of horizontally-oriented solar panels directly to the roof with bituminous or shingle tiles
- mounting structure DS-H6cE for the installation of horizontally-oriented solar panels directly to the roof with trapezoid steel sheet

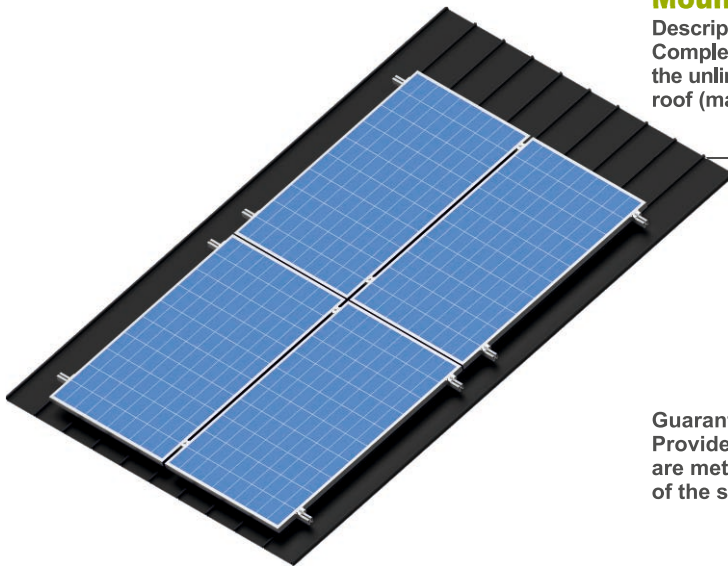


The list of the PV panel structure elements in the horizontal arrangement. Mounting every second rafter

CODE	4 panels
	pcs.
PAL40H40/3,3	3
SSZ10x20E	15
NKZM10E	15
SWDM10x250E	15
AD11E	15
BPFNE	8
PPFNE	4
BUF...*	8
PUF*	4
SAM8x...E*	12
NKWSM8A*	12
* As an alternative solution	
BUFK...	8
PUFK	4

For detailed information on the products see pages 31 - 49

Mounting structures for the installation of photovoltaic solar panels on an inclined roof with standing seam sheet roofing



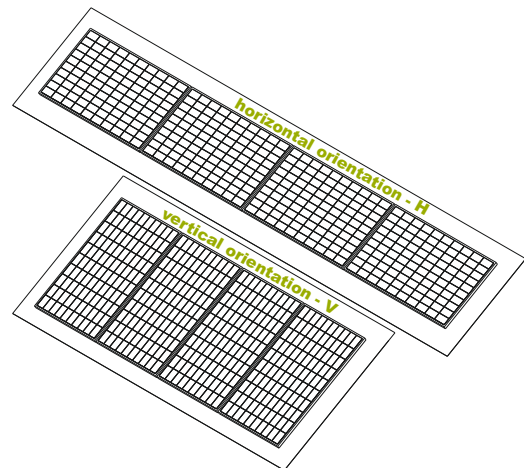
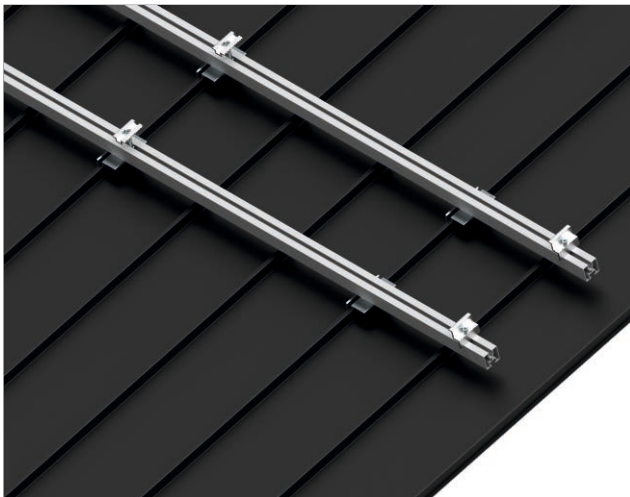
Mounting structure DS-V2N

Description: Complete support system for fixing the unlimited number of vertically-oriented PV panels on an inclined roof (maximum permissible unit load 550 kg/m²).

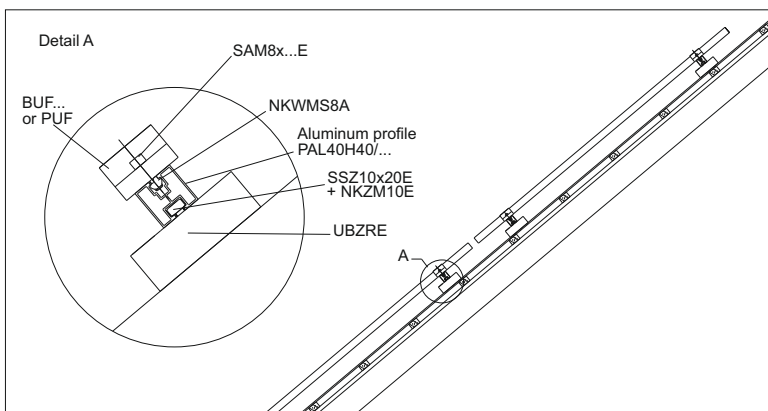
Technical description:
Materials used for the support system:
250GD Steel in Magnelis coating or hot-dip galvanized acc. to PN-EN ISO 1461:2011, Aluminium (EN AW-6063), Stainless steel, grade AISI 304

Mounting structure tested for strength parameters.

Guarantee: Provided all terms and conditions of the manufacturer's guarantee are met the 10-year guarantee is granted for the elements of the support structure.



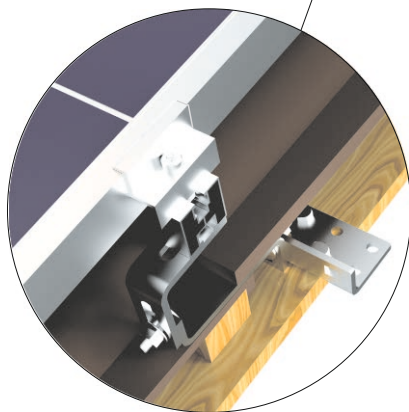
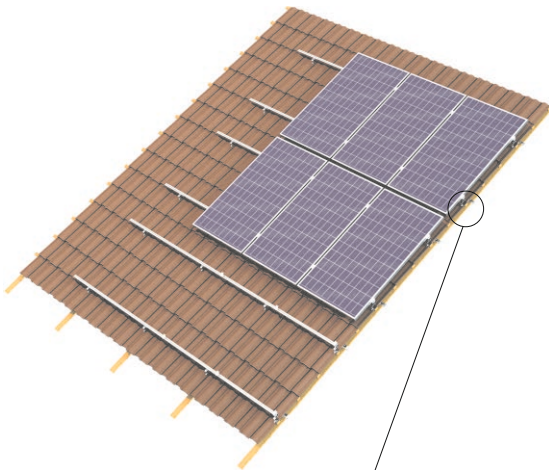
The list of the PV panel structure elements in the horizontal arrangement (DS-H2N) and vertical arrangement (DS-V2N)



CODE	4 panels (DS-H2N)	4 panels (DS-V2N)
	pcs.	pcs.
PAL40H40/2,1	2	4
PAL40H40/3,15	3	
PLPAN40	8	4
UBZRE	16	12
SSZ10x20E	16	12
NKZM10E	16	12
BUF...	4	4
PUF	6	6
SAM8x...E	10	10
NKWMS8A	10	10

For detailed information on the products see pages 31 - 49

Mounting structures for the installation of photovoltaic solar panels on an inclined roof with ceramic tiles



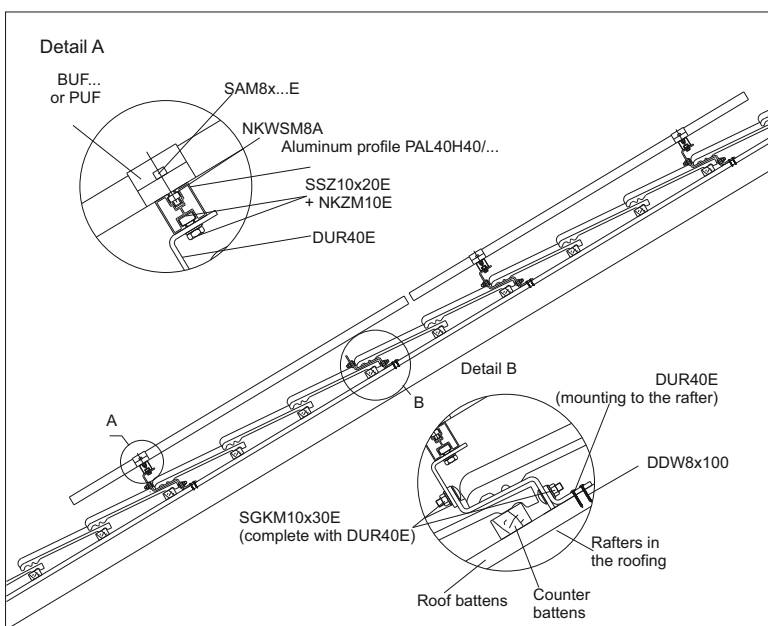
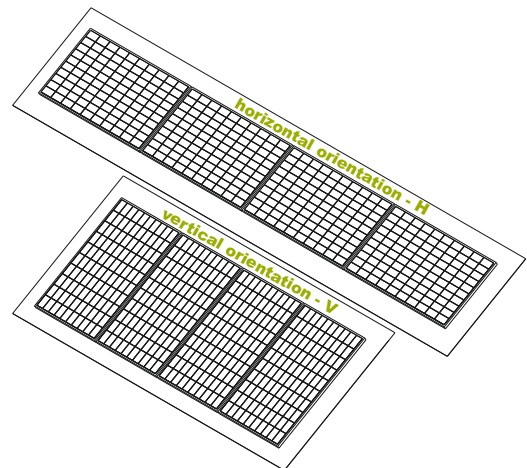
Mounting structure DS-V4N

Description: Complete support system for fixing the unlimited number of vertically-oriented PV panels on an inclined roof (maximum permissible unit load 550 kg/m²).

Technical description:
Materials used for the support system:
Aluminium (EN AW-6063),
Stainless steel, grade AISI 304

Mounting structure tested for strength parameters.

Guarantee: Provided all terms and conditions of the manufacturer's guarantee are met the 10-year guarantee is granted for the elements of the support structure.



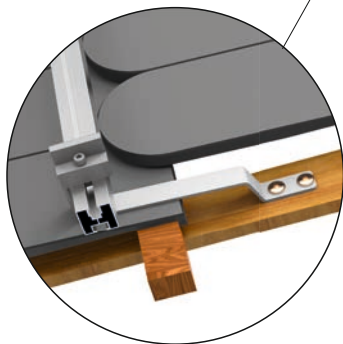
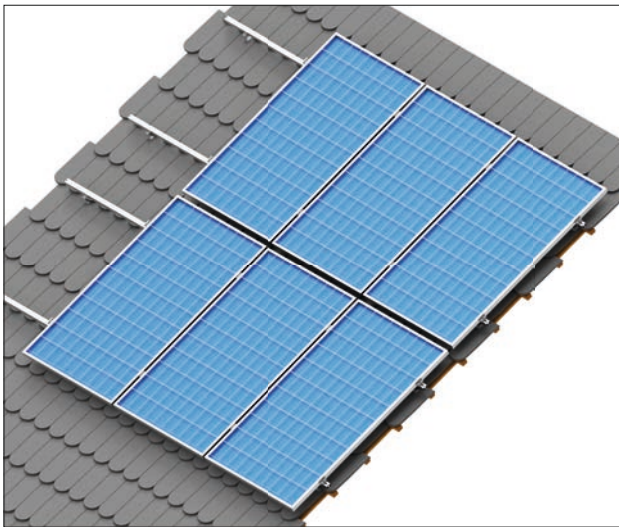
The list of the PV panel structure elements in the vertical arrangement (DS-V4N) and in the horizontal arrangement (DS-H4N)

CODE	4 panels DS-H4N	4 panels DS-V4N
	pcs.	pcs.
PAL40H40/2,1	2	4
PAL40H40/3,15	3	
PLPAN40	8	4
DUR40E	14	10
DDW8x100	28	20
SSZ10x20E	14	10
NKZM10E	14	10
BUF...	4	4
PUF	6	6
SAM8x...E	10	10
NKWSM8A	10	10

For detailed information on the products see pages 31 - 49



Mounting structures for the installation of photovoltaic solar panels
an inclined roof with plain tiles



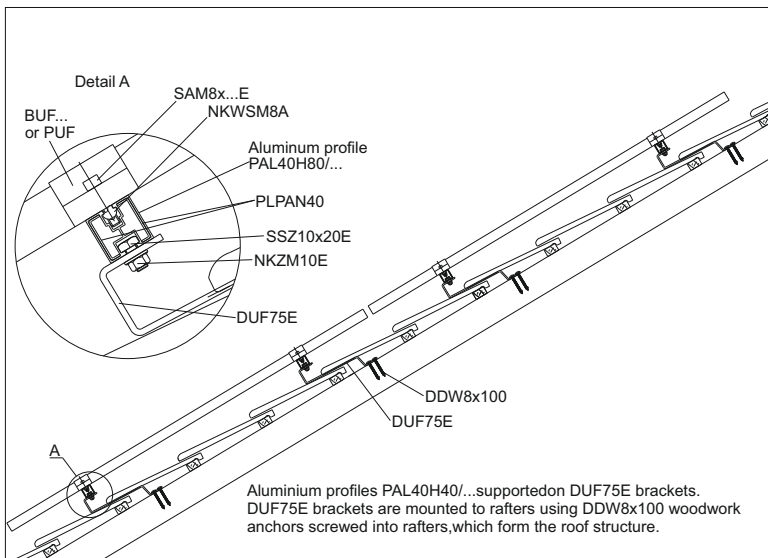
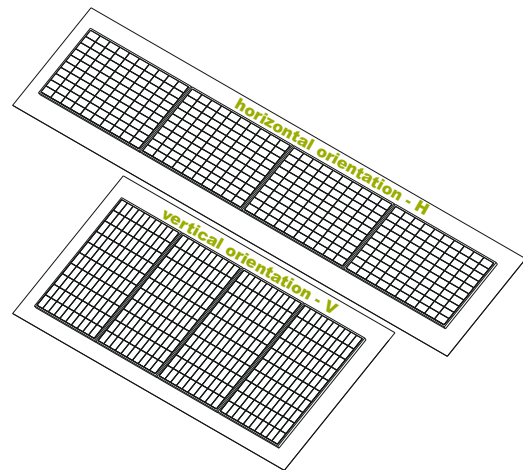
Mounting structure DS-V5N

Description: Complete support system for fixing the unlimited number of vertically-oriented PV panels on an inclined roof (maximum permissible unit load 550 kg/m²).

Technical description:
Materials used for the support system:
250GD Steel in Magnelis coating
or hot-dip galvanized acc. to PN-EN ISO 1461:2011,
Aluminium (EN AW-6063),
Stainless steel, grade AISI 304

Mounting structure tested for strength parameters.

Guarantee: Provided all terms and conditions of the manufacturer's guarantee are met the 10-year guarantee is granted for the elements of the support structure.



The list of the PV panel structure elements in the horizontal arrangement (DS-H5N) and in the vertical arrangement (DS-V5N). Mounting every second rafter.

CODE	4 panels (DS-H5N)	4 panels (DS-V5N)
	pcs.	pcs.
PAL40H40/2,1	2	4
PAL40H40/3,15	3	
PLPAN40	8	4
DUF75E	14	10
DDW8x100	28	20
SSZ10x20E	14	10
NKZM10E	14	10
BUF...	4	4
PUF	6	6
SAM8x...E	10	10
NKWSM8A	10	10

For detailed information on the products see pages 31 - 49



Mounting structures for the installation of photovoltaic solar panels on an inclined roof with trapezoid sheet plate



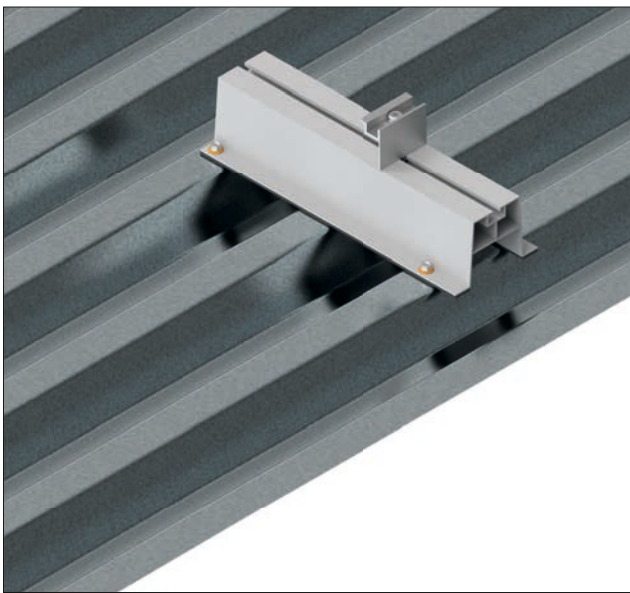
Mounting structure DS-V6aN

Description: Complete support system for fixing the unlimited number of vertically-oriented PV panels on an inclined roof (maximum permissible unit load 550 kg/m²).

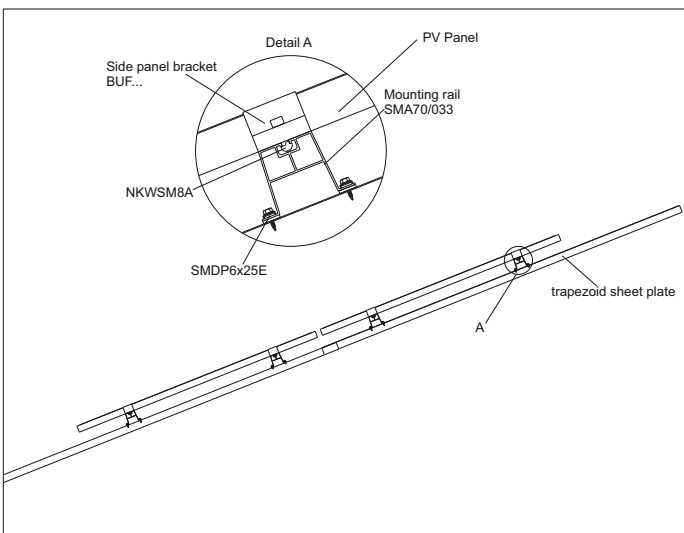
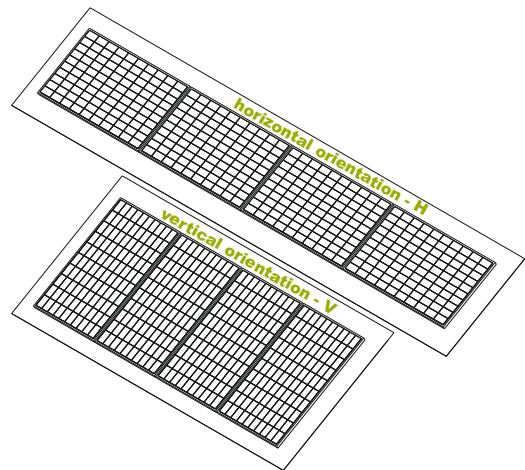
Technical description:
Materials used for the support system:
Aluminium (EN AW-6063),
Stainless steel, grade AISI 304

Mounting structure tested for strength parameters.

Guarantee: Provided all terms and conditions of the manufacturer's guarantee are met the 10-year guarantee is granted for the elements of the support structure.



Variants of the mounting structure installation:
- Mounting structure DS-H6aN for the installation of horizontally-oriented solar panels directly to the roof with trapezoid sheet plate



The list of the PV panel structure elements in the horizontal arrangement (DS-H6aN) and in the vertical arrangement (DS-V6aN)

CODE	4 panels (DS-H6aN)	4 panels (DS-V6aN)
	pcs.	pcs.
SMA70/03**	10	10
SMDP6,0x25E*	40	40
BUF...	4	4
PUF	6	6
SAM8x...E	10	10
NKWSM8A	10	10

* - for sheet plate of below 0,7 mm thickness use the aluminum rivets **NITZP5,2x19,1A**

** - 40 mm high rail SMA40/03 is also available



Mounting structures for the installation of photovoltaic solar panels on an inclined roof with trapezoid sheet plate

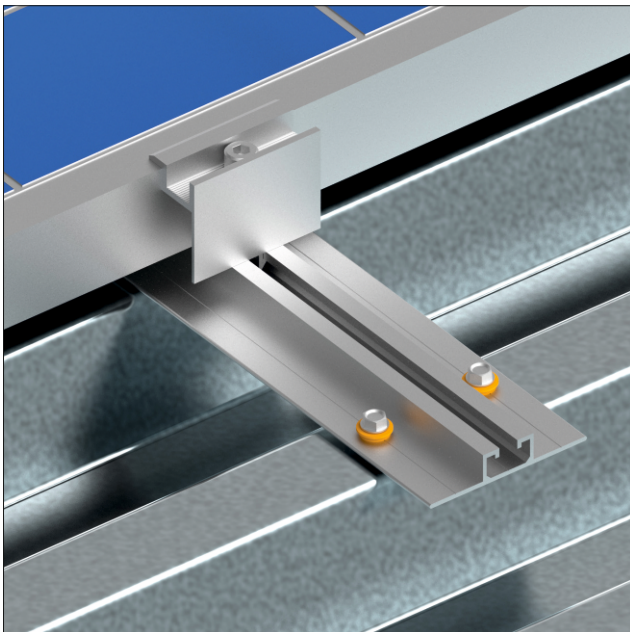


Mounting structure DS-V6bN

Description: Complete support system for fixing the unlimited number of vertically-oriented PV panels on an inclined roof (maximum permissible unit load 550 kg/m²).

Technical description:
Materials used for the support system:
Aluminium (EN AW-6063),
Stainless steel, grade AISI 304

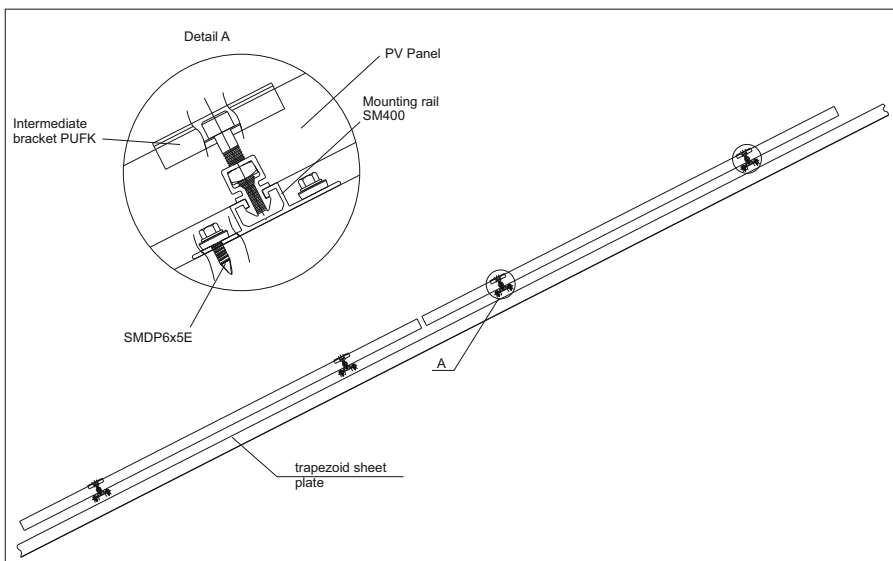
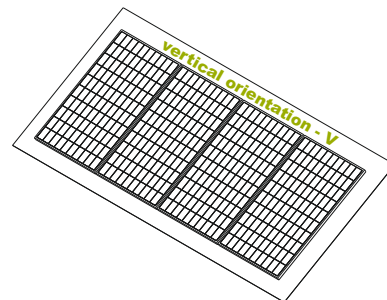
Mounting structure tested for strength parameters.



Guarantee: Provided all terms and conditions of the manufacturer's guarantee are met the 10-year guarantee is granted for the elements of the support structure.

Variants of the mounting structure installation:

- Mounting structure DS-H6bN for the installation of vertically-oriented solar panels directly to the roof with trapezoid sheet plate



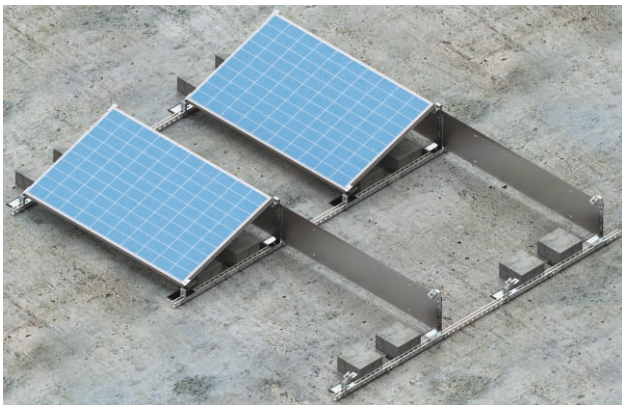
The list of mounting structure elements required for the installation of vertically-oriented PV panels

CODE	4 panels
	pcs.
SM400	10
BUFK...	6
PUFK	4
SMDP6,0x25E*	40
* As an alternative solution	
NITZP2,5x19,1A	40

* - for sheet plate of below 0,7 mm thickness use the aluminum rivets NITZP5,2x19,1A



Mounting structures for the installation of photovoltaic solar panels on a flat roof



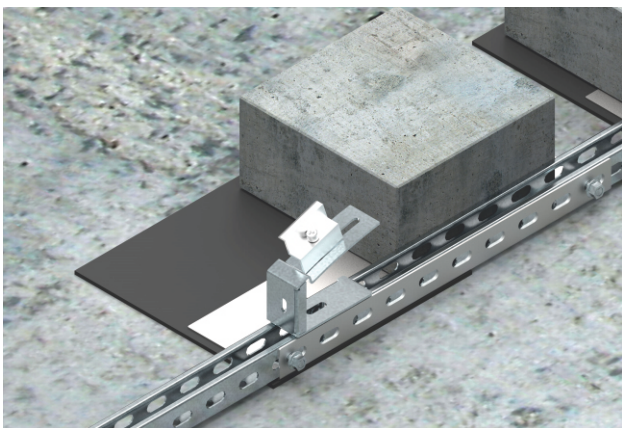
Mounting structure DP-DNHBE

Description:
Complete support system for fixing the horizontally-oriented PV panels at an angle of 5, 10, 15 and 20° (maximum permissible unit load 244 kg/m²).

Technical description:
Materials used for the support system:
Structural steel in Magnelis coating or hot-dip galvanized acc. to PN-EN ISO 1461:2011, Aluminium (EN AW-6063), Stainless steel, grade AISI 304

Mounting structure tested for strength parameters.

Guarantee:
Provided all terms and conditions of the manufacturer's guarantee are met the 10-year guarantee is granted for the elements of the support structure.



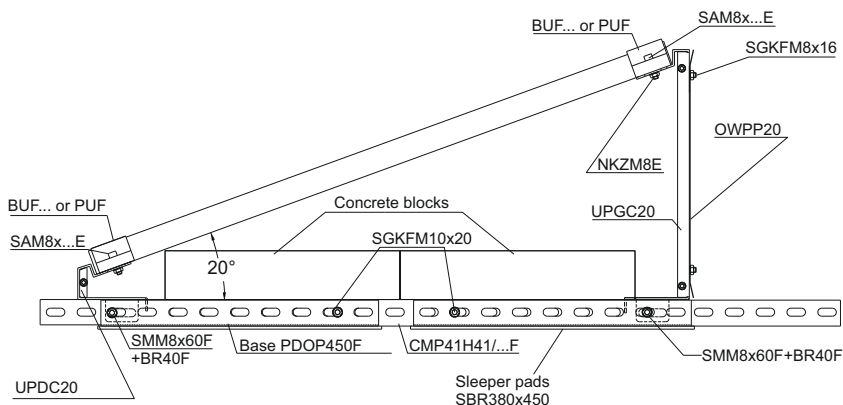
The DP-DNHBE system allows the panel to be installed without disturbing the roof sheathing by loading the structure with concrete blocks (blocks made of B20 concrete should be used and they should be protected against soaking up with precipitation water).
The panels can be mounted at angles of 5°, 10°, 15° and 20°. This system makes it possible to build east-west type structures.

See the Table below for selecting the set of holders (lower holder + upper holder) in order to obtain the structure with the optimal inclination angle of the panels

Panel inclination angle	Lower holder	Upper holder
5°	UPDC	UPGC5
10°	UPDC	UPGC10
15°	UPDC	UPGC15
20°	UPDC20	UPGC20

The list of the PV panel structure elements in the horizontal arrangement

CODE	9 panels
	pcs.
CMP41H41/1,2F	12
SBR380x450x5	24
PDOP450F	24
BR37/1F	24
SGKFM8x14	24
SGKFM10x20	24
NKZM8E	24
SMM8x60F	24
PW8F	48
BUF...	12
PUF	12
UPGC20	12
SAM8x35E	24
OWPP20	9
UPDC20	12





Mounting structures for the installation of photovoltaic solar panels on a flat roof



Mounting structure DP-MHKN

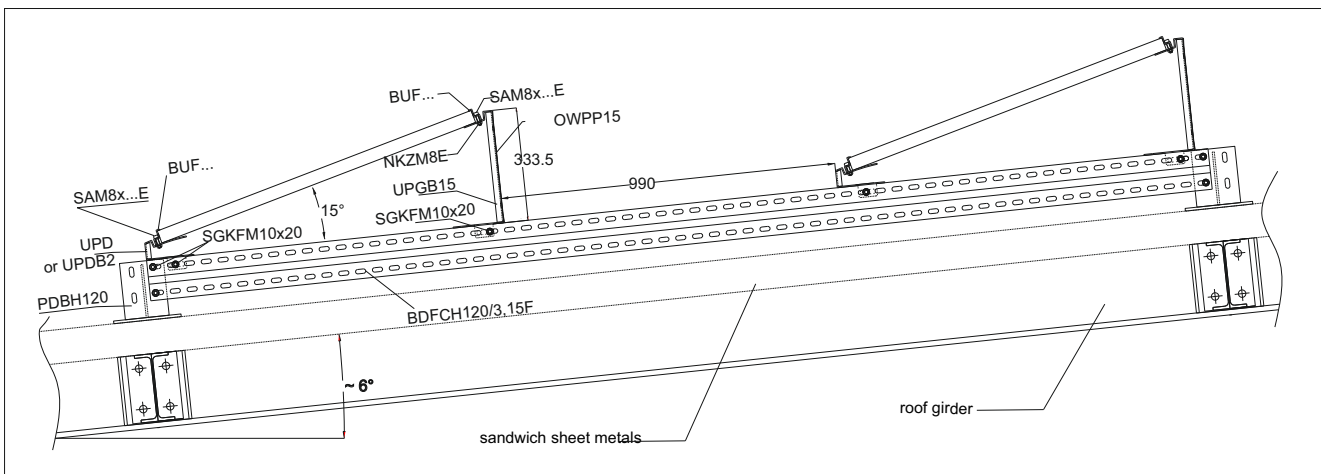
Description: Complete support system for fixing the horizontally-oriented PV panels at an angle of 5, 10, 15 and 20° (maximum permissible unit load 550 kg/m²).

Technical description: Materials used for the support system: 250GD Steel in Magnelis coating or hot-dip galvanized acc. to PN-EN ISO 1461:2011, Aluminium (EN AW-6063), Stainless steel, grade AISI 304

Mounting structure tested for strength parameters.

Guarantee: Provided all terms and conditions of the manufacturer's guarantee are met the 10-year guarantee is granted for the elements of the support structure.

The DP-MHKN system allows installation on a roof with i.a. sandwich sheet metals of low-bearing capacity whereas the load is transferred through the roof structure located under the feet of the structure prepared for the PV panels. The system allows installation of the panels at an angle of 5, 10, 15 and 20°.



The width of the holder UPD... and UPG... allows supporting 2 panels on a single holder (mounting structure in the economical version- see next page)

The list of mounting structure elements required for the installation of horizontally-oriented PV panels

CODE	2 panels
	pcs.
SBR200x200	4
BDFCH120/3,15F	2
PDBH120	4
UPDB2...	4
UPGB...	4
SGKFM10x20	16
SGKFM8x16	8
BUF...	8
SAM8x...E	8
NKZM8E	8
OWPP...	2
SMDD6,3....	16

See the Table below for selecting the set of holders (lower holder + upper holder) in order to obtain the structure with the optimal inclination angle of the panels

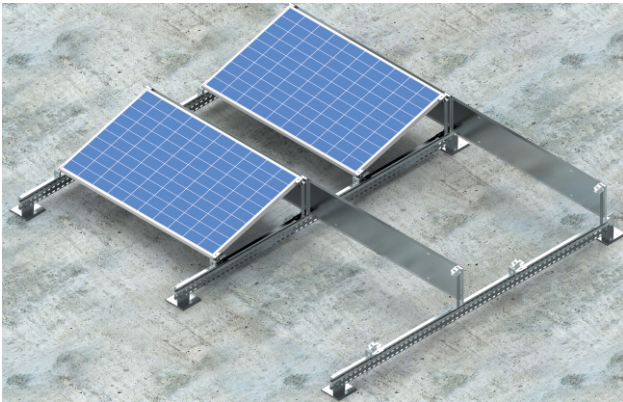
Panel inclination angle	Lower holder	Upper holder
5°	UPDB2	UPGB5
10°	UPDB2	UPGB10
15°	UPDB2	UPGB15
20°	UPDB20	UPGB20

For detailed information on the products see pages 31 - 49



Mounting structures for the installation of photovoltaic solar panels on a flat roof

Mounting structure DP-MHKE



Description: Complete support system for fixing the horizontally-oriented PV panels at an angle of 5, 10, 15 and 20°. (maximum permissible unit load 550 kg/m²).

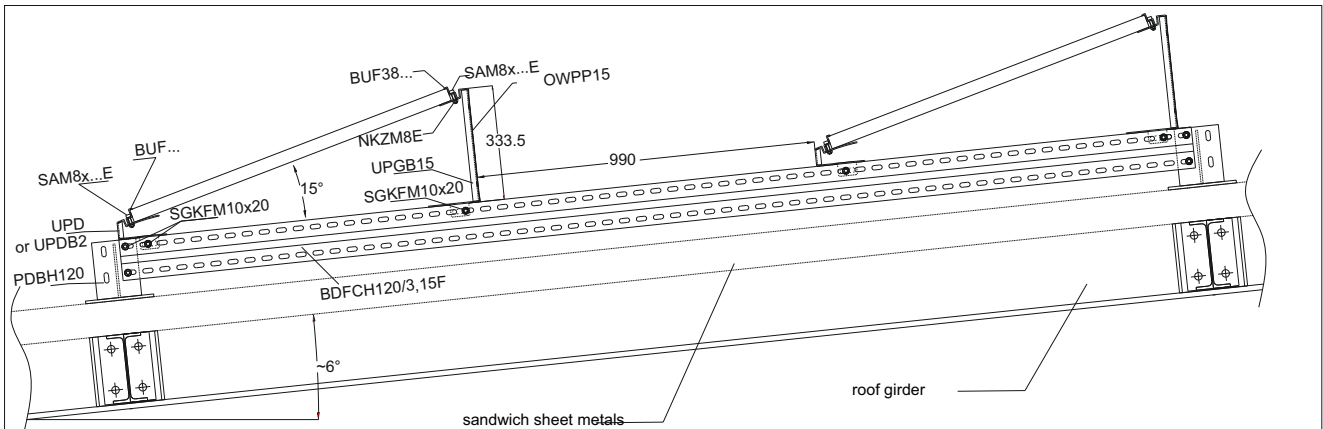
Technical description: Materials used for the support system: 250GD Steel in Magnelis coating or hot-dip galvanized acc. to PN-EN ISO 1461:2011, Aluminium (EN AW-6063), Stainless steel, grade AISI 304

Mounting structure tested for strength parameters.

Guarantee: Provided all terms and conditions of the manufacturer's guarantee are met the 10-year guarantee is granted for the elements of the support structure.

DP-MHKE mounting structure allows the following installation options:

- installation of 4 panels with 3 pcs. of support – in the economical version „E” (letter placed at the end of the CODE) - supporting 2 panels with a single holder UPD... and UPG...
- installation on a roof with i.a. sandwich sheet metals of low-bearing capacity whereas the load is transferred through the roof structure located under the feet of the structure prepared for the PV panels.
- installation of the panels at an angle of 5, 10, 15 and 20°



The list of the PV panel structure elements in the horizontal arrangement

CODE	4 panels
	pcs.
BDFCH120/3,15F	3
PDBH120	6
SBR200x200	6
UPDB...	6
UPGB...	6
SGKFM10x20	36
SGKFM8x16	12
BUF...	8
PUF	4
SAM8x35E	12
NKZM8E	12
OWPP15	4
SMDD6,3...	24

See the Table below for selecting the set of holders (lower holder + upper holder) in order to obtain the structure with the optimal inclination angle of the panels

Panel inclination angle	Lower holder	Upper holder
5°	UPDB2	UPGB5
10°	UPDB2	UPGB10
15°	UPDB2	UPGB15
20°	UPDB20	UPGB20

For detailed information on the products see pages 31 - 49



Mounting structures for the installation of photovoltaic solar panels on a flat roof



Mounting structure DP-DTAVKN

Description: Complete support system for fixing the vertically-oriented PV panels at an angle of 35°, in the 3rd snow-wind zone

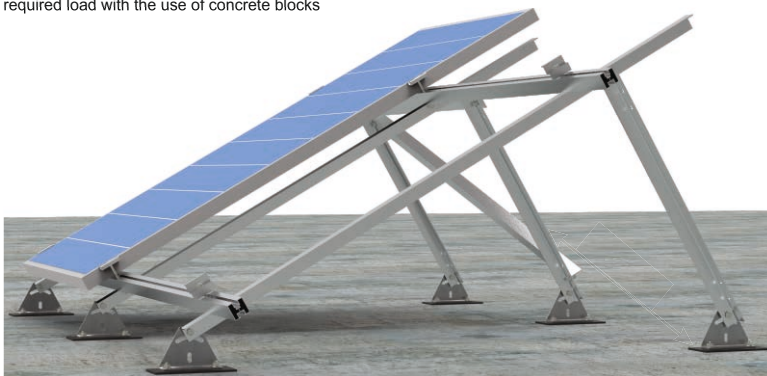
Technical description:
Materials used for the support system:
Stal w powłocze Magnelis or hot-dip galvanized acc. to PN-EN ISO 1461:2011, Aluminium (EN AW-6063), Stainless steel, grade AISI 304

Mounting structure tested for strength parameters.

Guarantee: Provided all terms and conditions of the manufacturer's guarantee are met the 10-year guarantee is granted for the elements of the support structure.

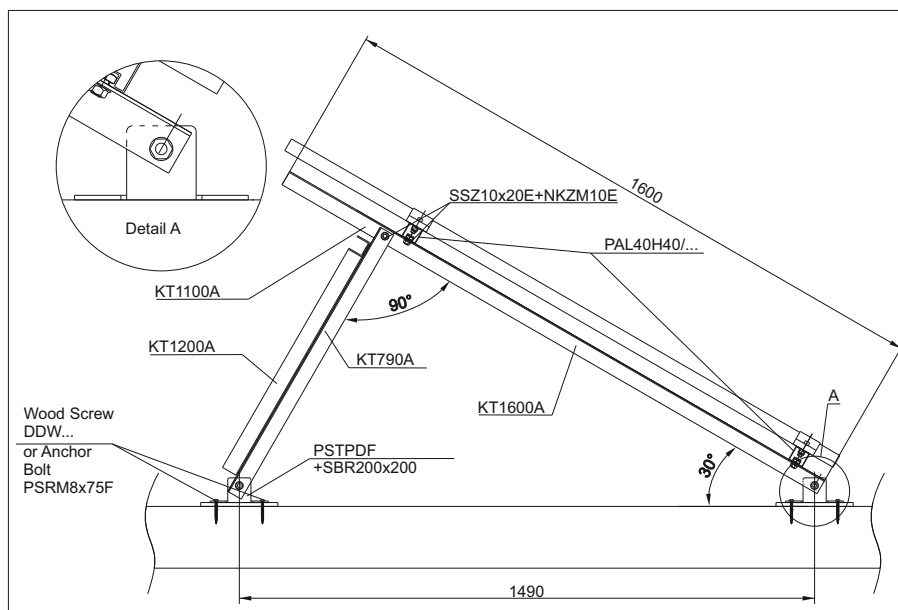
DP-DTAVKN mounting structure allows installation of solar panels at an angle of 25, 30 and 35°, respectively. The DP-DTAVKN mounting structure variant allows installation of the horizontally-oriented solar panels at an angle of 25, 30 and 35°. With the use of concrete blocks for ballasting this type of mounting structure allows installation of solar panels without any harm to the roof sheathing

Optionally, the structure can be surrounded by windscreens which by 20% reduce the required load with the use of concrete blocks



The list of mounting structure elements required for the installation of vertically-oriented PV panels

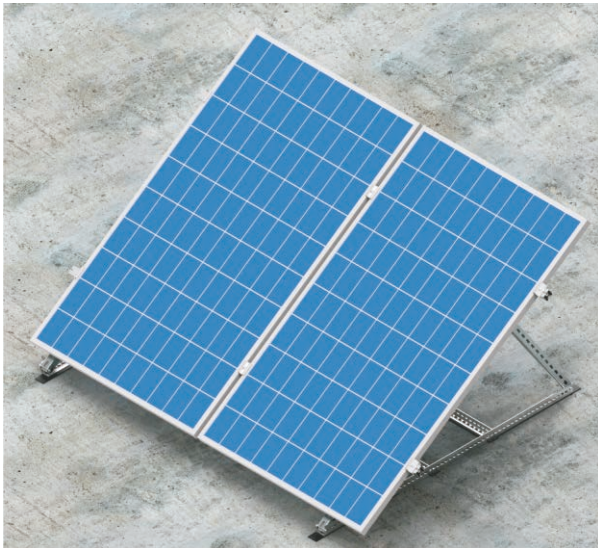
CODE	5 panels
	pcs.
PAL40H40/3,15	2
PAL40H40/2,1	2
PLPAN40	4
KT1600A	6
KT800A	6
KT1100A	2
KT1200A	2
SSZ10X20E	36
NKZM10E	36
BUF35	4
PUF	8
SAM8x...30E	12
NKWSM8	12
PSTE*	12
PSRM8x75F*	24
Alternative combination of a roof with a wooden sheathing	
PSTPDF	12
DDW6x60E	48



For detailed information on the products see pages 31 - 49



Mounting structures for the installation of photovoltaic solar panels on a flat roof



Mounting structure DP-DTVBN

Description:

Complete support system for fixing the vertically-oriented PV panels at an angle of 35°, in the 3rd snow-wind zone

Technical description:

Materials used for the support system:
250GD Steel in Magnelis coating
or hot-dip galvanized acc. to PN-EN ISO 1461:2011,
Aluminium (EN AW-6063),
Stainless steel, grade AISI 304

Mounting structure tested for strength parameters.

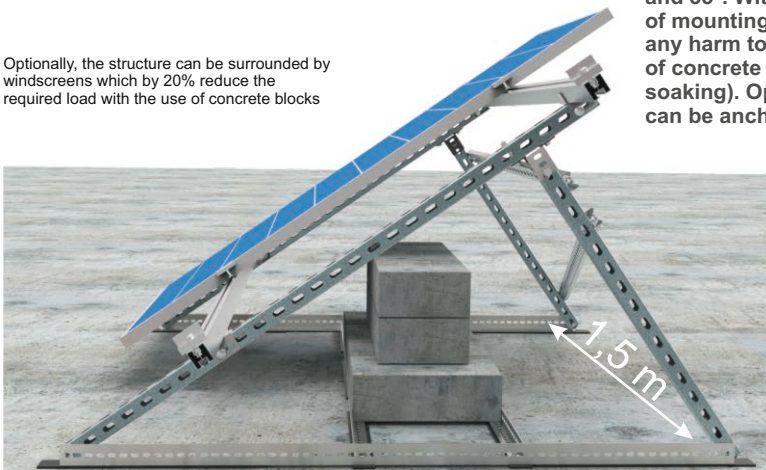
Guarantee:

Provided all terms and conditions of the manufacturer's guarantee are met the 10-year guarantee is granted for the elements of the support structure.

DP-DTVBN mounting structure allows installation of solar panels at an angle of 25, 30 and 35°, respectively.

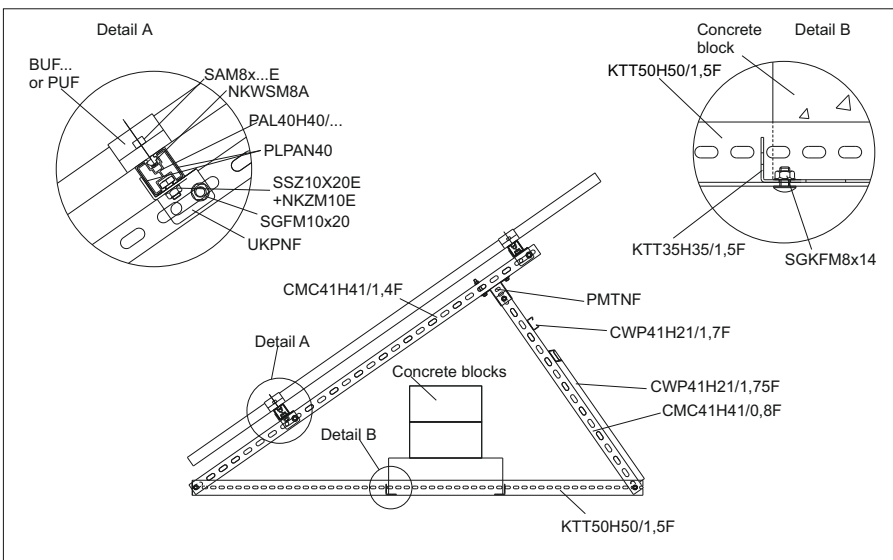
The DP-DTVBN mounting structure variant allows installation of the horizontally-oriented solar panels at an angle of 25, 30 and 35°. With the use of concrete blocks for ballasting this type of mounting structure allows installation of solar panels without any harm to the roof sheathing (always use the blocks made of concrete in B-20 class and have them protected against water soaking). Optionally, the DP-DTVBN mounting structure can be anchored directly to the roof.

Optionally, the structure can be surrounded by windscreens which by 20% reduce the required load with the use of concrete blocks



The list of mounting structure elements required for the installation of vertically-oriented PV panels

CODE	4 panels
	pcs.
PAL40H40/2,1	4
PLPAN40	4
KTT50H50/1,5F	4
KTT35H35/1,5F	4
SBR50x500	24
CMC41H41/1,4F	4
CMC41H41/0,8	4
BR36/1F	12
CWP41H21/1,6F	4
PMTNF	4
UKPNF	8
SRM8x25F	4
SSZ10X20E	8
NKZM10E	8
SMM8x60F	16
PW8E	32
SGKFM8x14	8
SGKFM10x20	16
BUF...*	4
PUF*	6
SAM8x...E*	10
NKWSM8*	10
* As an alternative solution	
BUFK...	4
PUFK	6

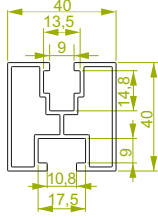


For detailed information on the products see pages 31 - 49

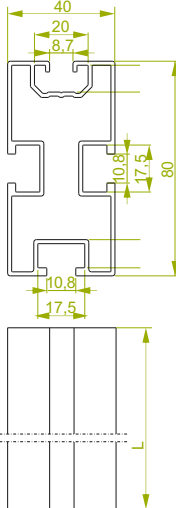


Aluminum profile

PAL40H40



PAL40H80



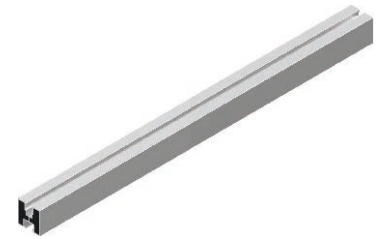
APPLICATIONS

Support structures for the photovoltaic solar panels.

PAL40H40...

CODE	Length	kg	Catalogue No.	Qty
	L mm			
PAL40H40/1,1	1100	1,03	894611	1
PAL40H40/2,1	2100	1,97	894621	1
PAL40H40/3	3000	2,79	894630	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

± 1,5 mm



PAL40H80...

CODE	Length	kg	Catalogue No.	Qty
	L mm			
PAL40H80/2,1	2100	3,30	894421	1
PAL40H80/4	4000	6,20	894440	1
PAL40H80/5,4	5400	8,35	894454	1
PAL40H80/5,65	5650	8,75	894465	1
PAL40H80/6,3	6300	9,75	894463	1

± 1,5 mm

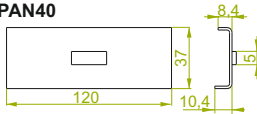


MATERIAL

Aluminum profile- extruded EN AW-6005

Connector

PLPAN40



PLPAWN80



APPLICATIONS

Screwless connection of aluminum profiles by means of inserting

PLPAN40

CODE	Length	kg	Catalogue No.	Qty
	L mm			
PLPAN40	0,06	0,06	890510	1

± 1,5 mm



PLPAWN80

CODE	Length	kg	Catalogue No.	Qty
	L mm			
PLPAWN80	0,16	0,16	890080	1

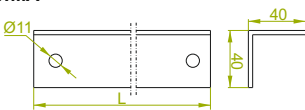
± 2,0 mm

MATERIAL

250GD Steel in Magnelis® coating Steel, 235JR, zinc flake coated acc. to PN-EN ISO 10683:2014-09

Aluminium angle profile

KT...A



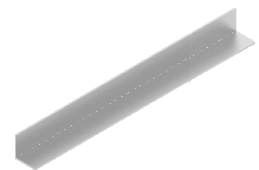
APPLICATIONS

Creating triangular structures for PV panels.

KT...A

CODE	Length	kg	Catalogue No.	Qty
	L mm			
KT800A	800	1,46	898199	1
KT1100A	1100	2,00	898198	1
KT1200A	1200	2,19	898098	1
KT1600A	1600	2,91	898096	1

± 3,0 mm



KT40H40/...A

CODE	Length	kg	Catalogue No.	Qty
	L mm			
KT40H40/1,2A	1200	2,90	899213	1
KT40H40/1,65A	1650	4,00	899217	1

± 4,0 mm

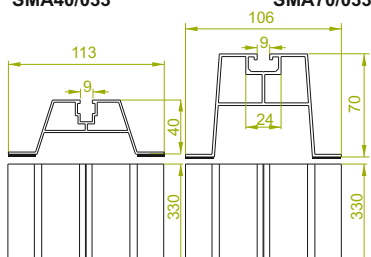
MATERIAL

Aluminium

Aluminum Mounting Rail

SMA40/033

SMA70/033



APPLICATIONS

PV panel fixing for example DS-V6bN construction

SMA.../033

CODE	Length	kg	Catalogue No.	Qty
	L mm			
SMA40/03	0,35	0,35	890403	1
SMA70/03	0,52	0,52	890703	1
SMA40/033	0,39	0,39	890433	1
SMA70/033	0,58	0,58	890733	1

± 1,5 mm



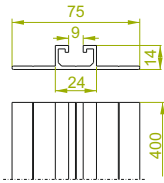
MATERIAL

Aluminium (EN AW-6063)
Available finishes:
L- powder coating in a black colour



Aluminum Mounting Rail

SM400



APPLICATIONS
PV panel fixing
for example DS-V6bN construction

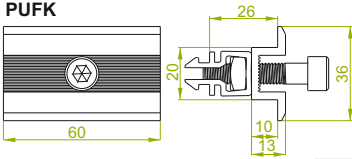
SM400

CODE	kg 1 Qty	Catalogue No.	Qty
SM400	0,25	890040	1



Middle holder CLICK

PUFK



PUFK

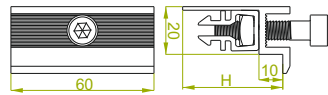
CODE	kg 1 Qty	Catalogue No.	Qty
PUFK	0,04	890300	100

Complete with a holder hexagon socket screw SAM8..., square nut NKWM8E, and a clip of the CLICK type



Side holder CLICK

BUFK...



BUFK...

CODE	Dimension H mm	kg 1 Qty	Catalogue No.	Qty
BUFK32	32	0,05	897432	100
BUFK34	34	0,06	897434	100
BUFK35	35	0,06	897435	100
BUFK38	38	0,07	897438	100
BUFK40	40	0,07	897440	100
BUFK42	42	0,07	897442	100
BUFK45	45	0,08	897446	100
BUFK50	50	0,08	897450	100
BUFK90E	90	0,10	897491	100

Complete with a holder hexagon socket screw SAM8..., square nut NKWM8E, and a clip of the CLICK type



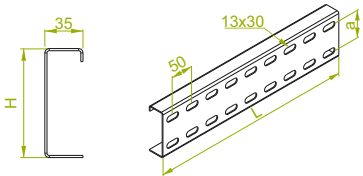
MATERIAL
Aluminium (EN AW-6063)
Available finishes:
L- powder coating in a black colour

MATERIAL for BUFK90E
Stainless Steel
Available finishes:
L- powder coating in a black colour

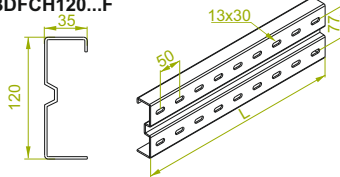
APPLICATIONS
For fixing the PV panel to aluminum profiles

Profile

BDF...F



BDFCH120...F



BDFCH100...F

± 2,0 mm

CODE	Dimension a mm	Height H mm	Length L mm	kg 1 Qty	Catalogue No.	Qty/m
BDFCH100/2,75F	58	100	2700	8,58	893725	1/3
BDFCH100/3F	58	100	3000	9,55	893130	1/3
BDFCH100/3,15F	58	100	3150	10,60	893135	1/3
BDFCH100/4,2F	58	100	4200	13,35	893142	1/3

BDFTH110...F

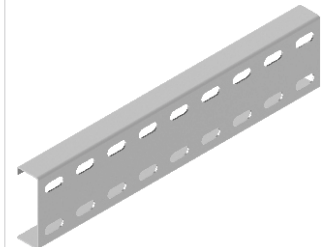
± 3,0 mm

CODE	Dimension a mm	Height H mm	Length L mm	kg 1 Qty	Catalogue No.	Qty/m
BDFTH110/3F	77	110	3000	12,74	893830	1/3
BDFTH110/3,15F	77	110	3000	13,37	893831	1/3
BDFTH110/4,2F	77	110	3000	17,83	893842	1/3
BDFTH110/5,2F	77	110	3000	22,08	893852	1/3

BDFCH120...F

± 2,0 mm

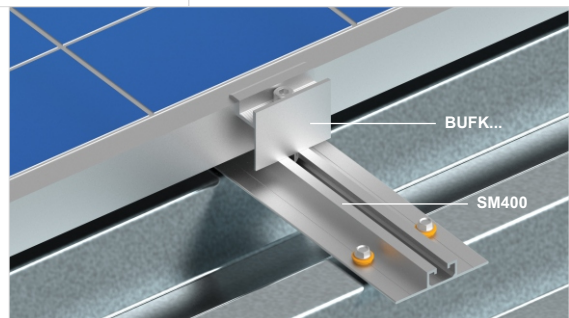
CODE	Length L mm	kg 1 Qty	Catalogue No.	Qty/m
BDFCH120/2,1F	2100	6,68	893321	1/3
BDFCH120/2,75F	2700	8,58	893375	1/3
BDFCH120/3F	3000	9,55	893330	1/3
BDFCH120/3,15F	3150	10,60	893331	1/3
BDFCH120/4,2F	4200	13,35	893342	1/3
BDFCH120/4,4F	4400	13,99	893344	1/3



MATERIAL
250GD Steel in Magnelis® coating or Steel, S355, hot-dip galvanized acc. to PN-EN ISO 1461:2011

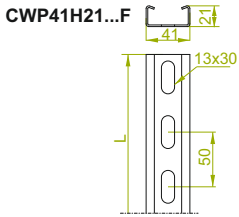
APPLICATIONS
Support structures for the photovoltaic solar panels.

DS-V6aN structure - a complete support system enabling mounting two rows of panels to be fixed in a vertical arrangement on a sloping roof





Support Channel



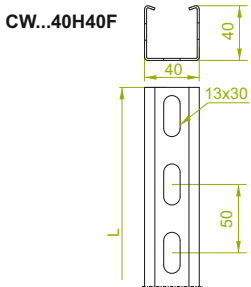
CWP41H21...F

Length $\pm 1,5 \text{ mm}$

CODE	Length L mm	kg 1 Qty	Catalogue No.	Qty
CWP41H21/0,75F	750	0,83	893407	10
CWP41H21/0,8F	800	0,90	893407	10
CWP41H21/1,0F	1000	1,03	893610	10
CWP41H21/1,5F	1500	1,52	893415	10
CWP41H21/1,6F	1600	1,62	893417	10
CWP41H21/2F	2000	2,06	893421	8
CWP41H21/2,7F	2700	2,78	893428	8
CWP41H21/2,8F	2800	2,88	893429	8
CWP41H21/2,9F	2900	2,99	893629	8
CWP41H21/3F	3000	3,09	893431	8
CWP41H21/3,2F	3200	3,53	893432	8
CWP41H21/3,3F	3300	3,64	873833	8



Support Channel



CWP40H40...F

Length $\pm 1,5 \text{ mm}$

CODE	Length L mm	kg 1 Qty	Catalogue No.	Qty
CWP40H40/3F	2950	4,67	899330	10
CWP40H40/3,05F	3050	4,70	874031	10
CWP40H40/3,2F	3200	4,98	874032	10
CWP40H40/3,3F	3300	5,23	899333	10
CWP40H40/3,4F	3400	5,39	899335	10
CWP40H40/3,45F	3450	5,46	899334	10
CWP40H40/3,7F	3700	5,86	899337	8



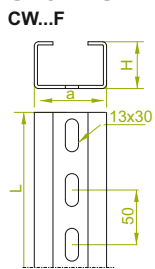
CWC40H40...F

Length $\pm 2,0 \text{ mm}$

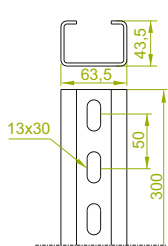
CODE	Length L mm	kg 1 Qty	Catalogue No.	Qty
CWC40H40/1,2F	1200	2,46	899412	10
CWC40H40/1,45F	1450	2,97	899414	10
CWC40H40/1,6F	1600	3,28	899416	10
CWC40H40/1,7F	1700	3,48	899417	8
CWC40H40/3F	3000	6,15	874130	8
CWC40H40/3,4F	3400	6,96	874134	8

MATERIAL
250GD Steel in Magnelis® coating or steel S355 hot-dip galvanized acc. to PN-EN ISO 1461:2011

Support Channel



Channel Connector



CWT70H50...F

Length $\pm 3,0 \text{ mm}$

CODE	Width a mm	Height H mm	Length L mm	kg 1 Qty	Catalogue No.	Qty
CWT70H50/2,4F	70	50	2400	9,60	897824	4
CWT70H50/2,5F	70	50	2500	10,0	897825	4
CWT70H50/2,6F	70	50	2600	10,4	897826	4
CWT70H50/2,8F	70	50	2800	11,94	897828	4
CWT70H50/2,9F	70	50	2900	12,36	897829	4
CWT70H50/3,5F	70	50	3500	14,0	897835	4
CWT70H50/3,7F	70	50	3700	14,8	897837	4
CWT70H50/3,8F	70	50	3800	15,2	897838	4
CWT70H50/4F	70	50	4000	16,0	897840	4
CWT70H50/4,2F	70	50	4200	17,90	897842	4
CWT70H50/4,4F	70	50	4400	18,76	897844	4
CWT70H50/6,3F	70	50	6300	26,86	897863	4



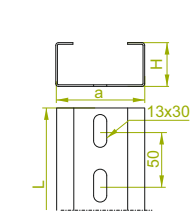
LCT70H50F

Length $\pm 3,0 \text{ mm}$

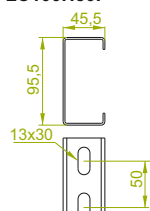
CODE	Width a mm	Height H mm	Length L mm	kg 1 Qty	Catalogue No.	Qty
LCT70H50F	70	50	300	0,97	662001	4

MATERIAL
Stal S250GD lub S350GD w powłoce Magnelis® or steel, 235, hot-dip galvanized acc. to PN-EN ISO 1461:2011

Channel wzmocniony



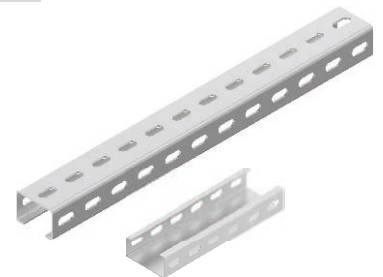
Channel Connector



CWC100H50...F

Length $\pm 2,0 \text{ mm}$

CODE	Width a mm	Height H mm	Length L mm	kg 1 Qty	Catalogue No.	Qty
CWC100H50/3,15F	100	50	3150	10,80	897531	4
CWC100H50/3,4F	100	50	3400	11,67	897534	4
CWC100H50/3,5F	100	50	3500	12,01	898635	4
CWC100H50/3,65F	100	50	3650	12,52	898636	4
CWC100H50/3,95F	100	50	3950	13,74	898639	4
CWC100H50/4,1F	100	50	4100	14,06	897541	4
CWC100H50/4,2F	100	50	4200	14,40	897642	4
CWC100H50/5,75F	100	50	5750	19,71	897657	4
CWC100H50/5,8F	100	50	5800	19,88	897658	4
CWC100H50/6F	100	50	6000	20,87	898660	4
CWC100H50/6,3F	100	50	6300	21,60	897563	4
CWC100H50/6,45F	100	50	6450	22,44	898664	4



LC100H50F

Length $\pm 2,0 \text{ mm}$

CODE	Width a mm	Height H mm	Length L mm	kg 1 Qty	Catalogue No.	Qty
LC100H50F	100	50	300	0,87	895105	4

MATERIAL
250GD Steel in Magnelis® coating or steel S355 hot-dip galvanized acc. to PN-EN ISO 1461:2011

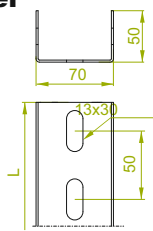
APPLICATIONS
Support structures for the photovoltaic solar panels.

Sheet thckn. \pm [mm]: 1,0 1,2 1,5 2,0 3,0 4,0



Channel

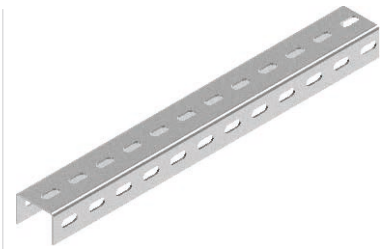
CT70H50/...



CT70H50/...

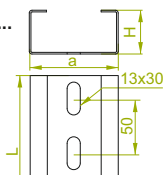
± 3,0 mm

CODE	Width a mm	Height H mm	Length L mm	kg 1 Qty	Catalogue No.	Qty
CT70H50/2,8F	70	50	2800	10,55	874528	4
CT70H50/2,9F	70	50	2900	10,93	874529	4
CT70H50/3F	70	50	3000	11,31	874530	4
CT70H50/3,4F	70	50	3400	12,81	874534	4



Support Channel

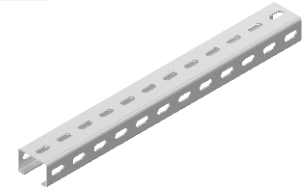
CWE100H50/...



CWE100H50/...

± 4,0 mm

CODE	Width a mm	Height H mm	Length L mm	kg 1 Qty	Catalogue No.	Qty
CWE100H50/3	100	50	3000	12,83	895130	4
CWE100H50/3,4	100	50	3400	13,76	895134	4
CWE100H50/3,5	100	50	3500	14,17	895135	4
CWE100H50/3,6	100	50	3600	15,40	895136	4
CWE100H50/4	100	50	4000	17,01	895140	4



APPLICATIONS

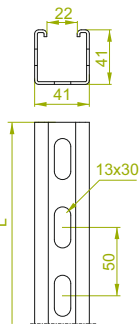
Support structures for the photovoltaic solar panels.

MATERIAL

Stal S250GD lub S350GD w powłoce Magnelis® or steel, 235, hot-dip galvanized acc. to PN-EN ISO 1461:2011

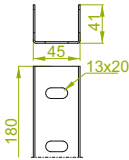
Support Channel

CM...41H41...F



Channel Connector

LC41H41F



CMP41H41...F

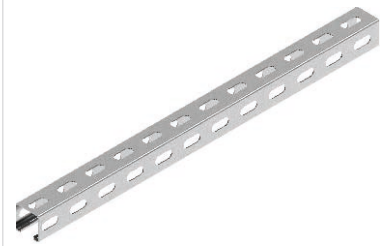
CODE	Length L mm	kg 1 Qty	Catalogue No.	Qty
CMP41H41/3F	3000	3,96	621132	8
CMP41H41/6F	6000	7,92	621162	8

CMC41H41...F

CODE	Length L mm	kg 1 Qty	Catalogue No.	Qty
CMC41H41/05F	500	0,89	621205	30
CMC41H41/07F	700	1,24	621207	8
CMC41H41/08F	800	1,59	621208	8
CMC41H41/1F	1000	1,78	621210	8
CMC41H41/1,2F	1200	2,13	621212	8
CMC41H41/1,5F	1500	2,66	621215	8
CMC41H41/2F	2000	3,56	621222	8
CMC41H41/3F	3000	5,34	621232	8
CMC41H41/6F	6000	10,68	621262	8

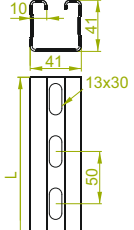
LC41H41F

CODE	kg 1 Qty	Catalogue No.	Qty
LC41H41F	0,30	621541	50



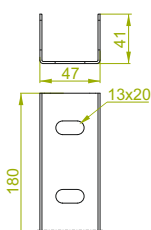
Support Channel

CTMC40H40...F



Channel Connector

LCT41H41F

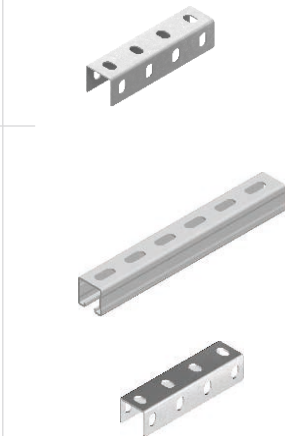


CTMC41H41...F

CODE	Length L mm	kg 1 Qty	Catalogue No.	Qty
CTMC41H41/1,2F	1200	2,50	892912	2
CTMC41H41/1,65F	1650	2,90	892916	2
CTMC41H41/1,7F	1700	3,00	892917	2
CTMC41H41/2F	2000	4,70	892920	2
CTMC41H41/6F	6000	14,10	892960	2

LCT41H41F

CODE	kg 1 Qty	Catalogue No.	Qty
LCT41H41F	0,52	621641	50

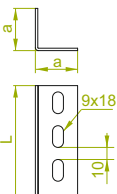


APPLICATIONS

Support structures for the photovoltaic solar panels.

Angle Profiles

KT...F

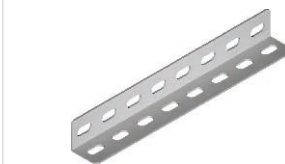


KTT35H35...F

CODE	Dimension a mm	Length L mm	kg 1 Qty	Catalogue No.	Qty
KTT35H35/1,5F	35	1500	1,69	894515	10
KTT35H35/1,54F	35	1540	2,72	894154	10
KTT35H35/2F	35	2000	2,26	894520	10

KTT50H50...F

CODE	Dimension a mm	Length L mm	kg 1 Qty	Catalogue No.	Qty
KTT50H50/1,2F	50	1200	2,41	2,74	10
KTT50H50/1,5F	50	1500	3,02	3,42	10



APPLICATIONS

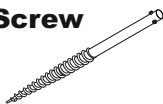
Supporting element of the installation

MATERIAL

250GD Steel in Magnelis® coating or steel S355 hot-dip galvanized acc. to PN-EN ISO 1461:2011

Ground Screw

GSW75x1650



GSW75x1650

CODE	Length L mm	kg 1 Qty	Catalogue No.	Qty
GSW75x1650	1650	7,62	898750	1

A special support pole is dedicated to each bolt.

APPLICATIONS

Anchoring of constructions for photovoltaic panels to the ground.

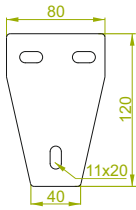
MATERIAL

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

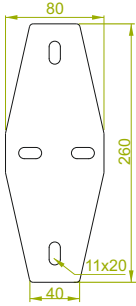


Channel Connector

LCPT11 LCPV11

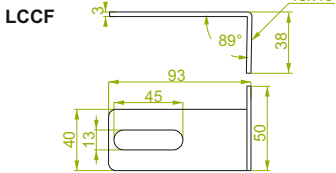


LCPE11D LCPV11D



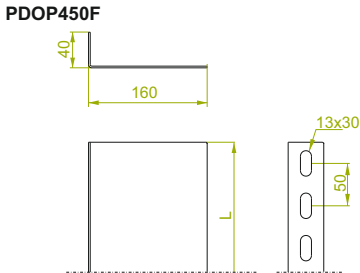
APPLICATIONS
Joining structures supported on mounting reinforced channel sections with a width of 40 mm and heights of H22 mm and H40 mm.

Connector



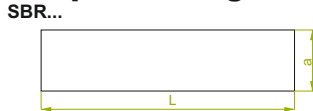
APPLICATIONS
Assembly of PV panels on Support Channel.

Ballast base



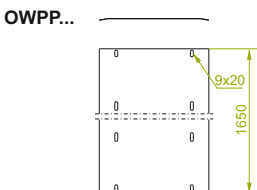
APPLICATIONS
Supporting element of the installation

Sleeper Padding



APPLICATIONS
For protection of structures against wind

Wind Shield



APPLICATIONS
For protection of structures against wind

LCPT11

CODE	kg 1 Qty	Catalogue No.	Qty
LCPT11	0,18	890151	30

Three sets of SGKFM10x20 screw are recommended at assembly

LCPV11

CODE	kg 1 Qty	Catalogue No.	Qty
LCPV11	0,35	890100	30

Three sets of SGKFM10x20 screw are recommended at assembly



LCPE11D

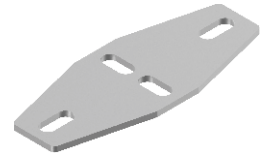
CODE	kg 1 Qty	Catalogue No.	Qty
LCPE11D	0,45	890240	30

Four sets of SGKFM10x20 screw are recommended at assembly

LCPV11D

CODE	kg 1 Qty	Catalogue No.	Qty
LCPV11D	0,45	891100	30

Four sets of SGKFM10x20 screw are recommended at assembly



LCCF

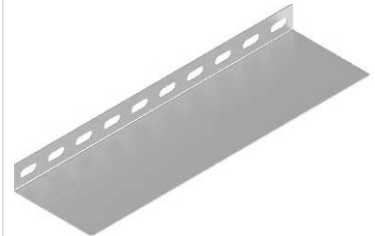
CODE	kg 1 Qty	Catalogue No.	Qty
LCCF	0,08	898000	100



MATERIAL
250GD Steel in Magnelis® coating
Steel, 235JR, zinc flake coated acc. to PN-EN ISO 10683:2014-09

PDOP450F

CODE	Length L mm	kg 1 Qty	Catalogue No.	Qty
PDOP450F	450	1,40	898445	10



MATERIAL
250GD Steel in Magnelis® coating or steel S355 hot-dip galvanized acc. to PN-EN ISO 1461:2011

SBR...

CODE	Width a mm	Length L mm	Catalogue No.	Qty
SBR50x500	50	500	890001	1
SBR150x500	150	500	890002	1
SBR200x200	200	200	890003	1
SBR380x450	380	450	890004	1
SBR380x450x5	380	450	380450	1

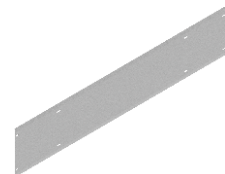


MATERIAL
Vibro-insulating rubber

OWPP...

CODE	kg 1 Qty	Catalogue No.	Qty
OWPP5	2,28	899705	10
OWPP10	3,30	899710	10
OWPP15	4,65	899715	10
OWPP20	5,95	899720	10

Cover suitable for panels in the length range 1630-1700 mm

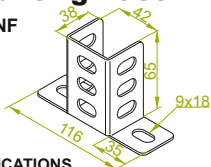


MATERIAL
250GD Steel in Magnelis® coating or steel S235JR zinc flake coated acc.



Mounting Base

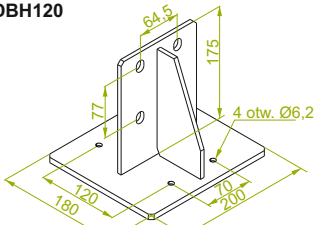
PMTNF



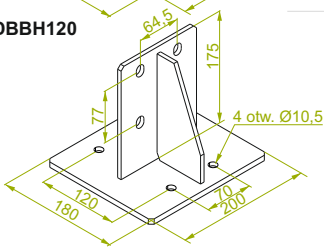
APPLICATIONS
Support Channel assembly on an flat roof

Mounting Base

PDBH120



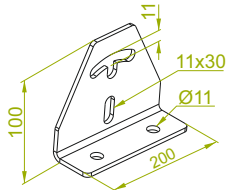
PDBBH120



APPLICATIONS
Assembly of BDFCH... profile to the ceiling with reinforced concrete roof and directly to the roof beams through a layered sheet

Fastening Bracket

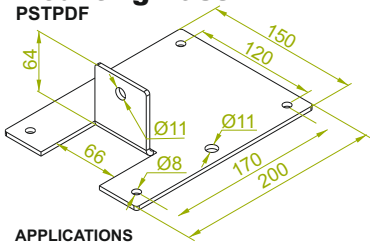
PSTE



APPLICATIONS
Installation of triangular structures to z reinforced concrete roof slab or concrete slabs constituting the structure ballast.

Mounting Base

PSTPDF



APPLICATIONS
Assembling of triangle constructions on roofs with low loading capacity (wooden roofs or made of structural steel).

PMTNF

≠ 3,0 mm

CODE



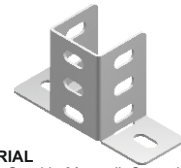
1 Qty

Catalogue No.



Qty

PMTNF 0,25 890112 50



MATERIAL
250GD Steel in Magnelis® coating
Steel, 235JR, zinc flake coated acc. to PN-EN ISO 10683:2014-09

PDBH120

CODE



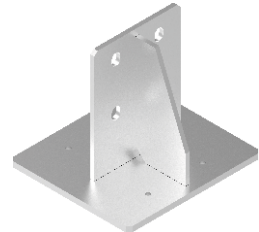
1 Qty

Catalogue No.



Qty

PDBH120 3,70 890113 1



PDBBH120

CODE



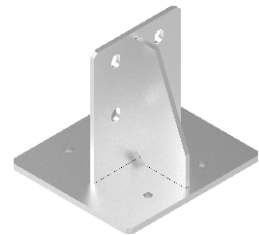
1 Qty

Catalogue No.



Qty

PDBBH120 3,70 890115 1



MATERIAL
Steel S235JR hot-dip galvanized acc. to PN-EN ISO 1461:2011

PSTE

≠ 4,0 mm

CODE



1 Qty

Catalogue No.



Qty

PSTE 0,42 740712 20



PSTPDF

≠ 4,0 mm

CODE



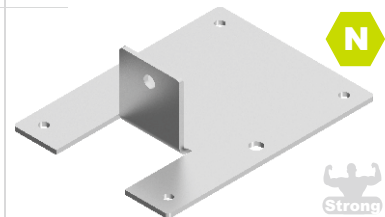
1 Qty

Catalogue No.

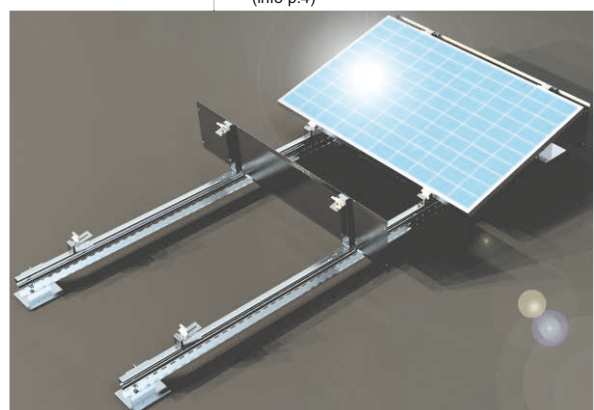
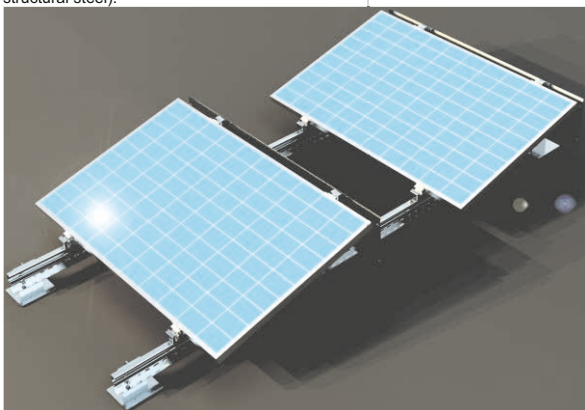


Qty

PSTPDF 0,92 898004 10

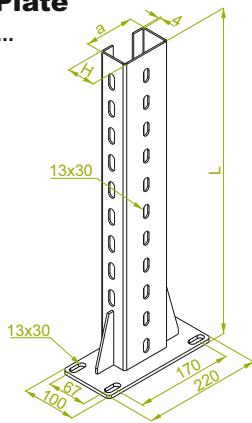


MATERIAL
Steel, hot-dip galvanized acc. to steel PN-EN ISO 1461:2011 w powłocze Magnelis®
Available finishes:
E- stainless steel (SS)
L- powder coating in a full range of colours (PC) (info p.4)





Base Plate
WPCWE...

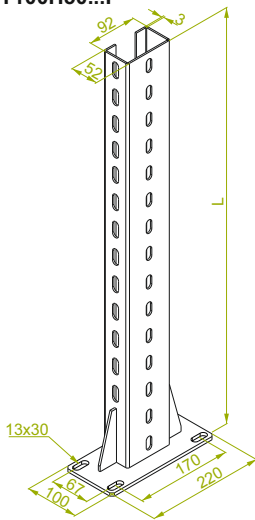


WPCWE100H50...

CODE	Width a mm	Height H mm	Length L mm	kg 1 Qty	Catalogue No.	Qty
WPCWE100H50/1,3	100	50	1300	6,00	895213	10
WPCWE100H50/1,5	100	50	1500	6,60	895215	10

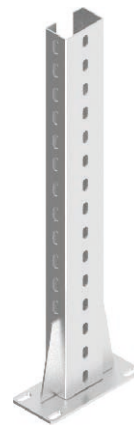


WPCWT100H50...F

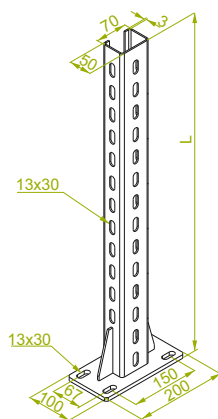


WPCWT100H50...F

CODE	Length L mm	kg 1 Qty	Catalogue No.	Qty
WPCWT100H50/1F	1000	6,61	895410	10
WPCWT100H50/1,2F	1200	7,65	895412	10
WPCWT100H50/1,5F	1500	9,21	895415	10

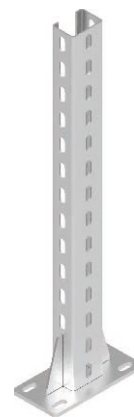


WPCWT70H50...F



WPCWT70H50...F

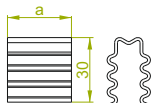
CODE	Length L mm	kg 1 Qty	Catalogue No.	Qty
WPCWT70H50/1F	1000	6,61	897510	10
WPCWT70H50/1,2F	1200	7,65	897512	10
WPCWT70H50/1,5F	1500	9,91	897515	10
WPCWT70H50/1,6F	1600	10,57	897516	10



APPLICATIONS
Supporting structure for the photovoltaic solar panels

MATERIAL
Steel S235 and S355 hot-dip galvanized acc. to PN-EN ISO 1461:2011

Spacer
BR.../1



BR.../1

± 1,0 mm

CODE	Width a mm	Catalogue No.	Qty
BR36/1	36	704121	50
BR37/1	37	704111	50



APPLICATIONS
Used as spacer protecting against crushing steel profile during installation. Used with channel.

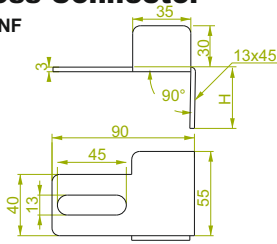
MATERIAL
Steel, zinc flake coated acc. to PN-EN ISO 10683:2014-09

Sheet thckn. ± [mm]: 1,0 1,2 1,5 2,0 3,0 4,0



Cross Connector

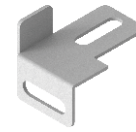
UKPNF



UKPN...F

CODE	Dimension	kg 1 Qty	Catalogue No.	Qty
	H mm			
UKPNF	39	0,14	897200	100
UKPNWF	17	0,14	897400	100

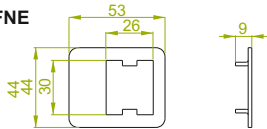
± 3,0 mm



MATERIAL
250GD Steel in Magnelis® coating or steel S355JR zinc flake coated acc. to PN-EN ISO 10683:2014-09

Panel Washer

BPFNE

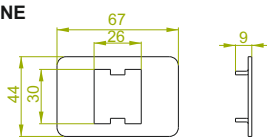


BPFNE

CODE	kg 1 Qty	Catalogue No.	Qty
BPFNE	0,09	897215	100



PPFNE



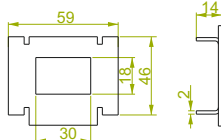
PPFNE

CODE	kg 1 Qty	Catalogue No.	Qty
PPFNE	0,10	897210	100



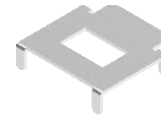
Panel Washer

BPFE



BPFE

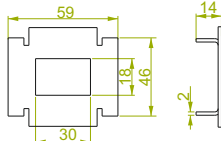
CODE	kg 1 Qty	Catalogue No.	Qty
BPFE	0,09	897205	100



APPLICATIONS
Assembly of PV panels on Support Channel.

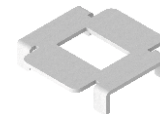
Panel Washer

PPFE



PPFE

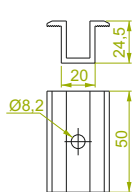
CODE	kg 1 Qty	Catalogue No.	Qty
PPFE	0,10	897204	100



MATERIAL
250GD Steel in Magnelis® coating or steel S355JR zinc flake coated acc. to PN-EN ISO 10683:2014-09.
Available finishes:
Stainless Steel 1.4301

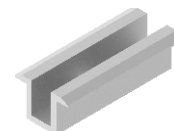
Middle Holder

PUF



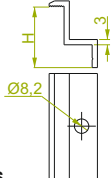
PUF

CODE	kg 1 Qty	Catalogue No.	Qty
PUF	0,02	897300	100



Side Holder

BUF...

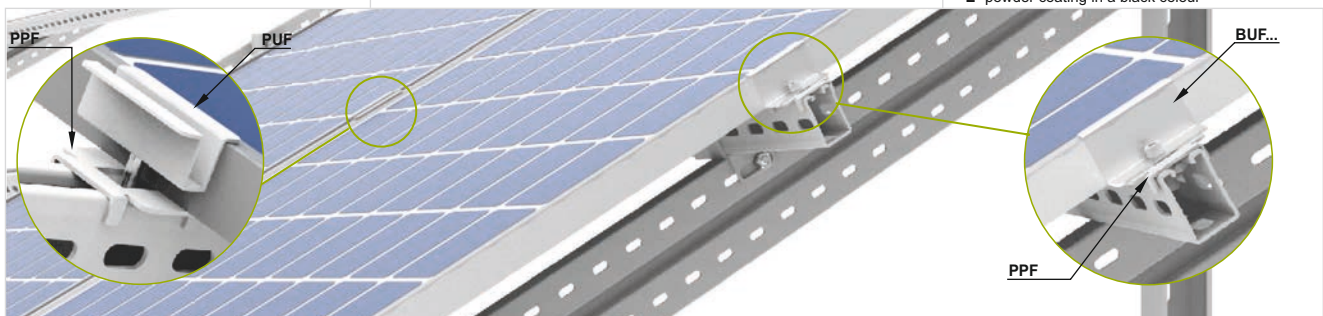


BUF...

CODE	Dimension	kg 1 Qty	Catalogue No.	Qty
	H mm			
BUF32	35	0,02	897332	100
BUF33	38	0,02	897333	100
BUF35	35	0,02	897335	100
BUF38	38	0,02	897338	100
BUF40	40	0,02	897340	100
BUF42	42	0,02	897342	100
BUF45	45	0,02	897345	100
BUF50	50	0,03	897350	100
BUF90E	90	0,05	897391	100

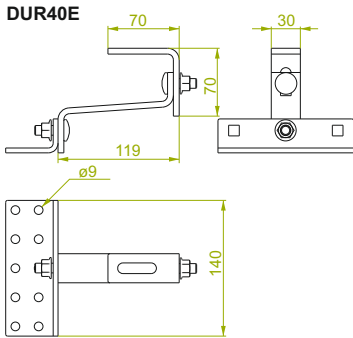


MATERIAL
Aluminium (EN AW-6063)
Available finishes:
L- powder coating in a black colour
MATERIAL for BUF90E
Stainless Steel
Available finishes:
L- powder coating in a black colour





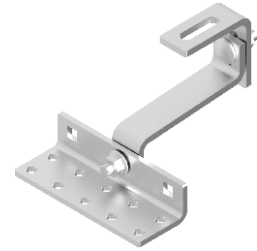
Roof fixing - adjustable



DUR40E

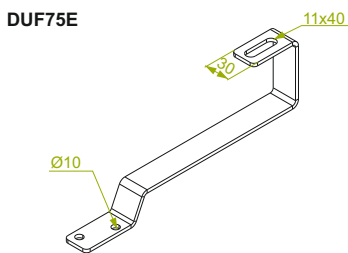
CODE	1 Qty	Catalogue No.	1 Qty
DUR40E	1,05	897974	100

Roof fixing adjustable for the roof with ceramic tiles



MATERIAL
Stainless Steel

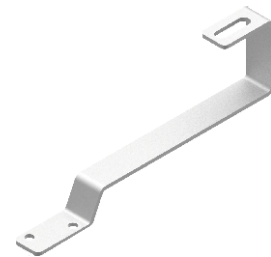
Roof fixing



DUF75E

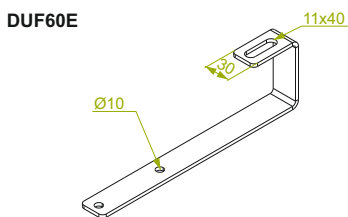
CODE	1 Qty	Catalogue No.	1 Qty
DUF75E	0,30	897975	100

Roof fixing for the roof with plain tiles



MATERIAL
Stainless Steel

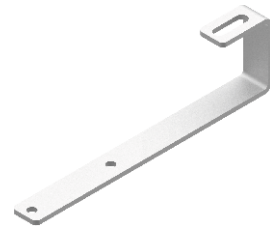
Roof fixing



DUF60E

CODE	1 Qty	Catalogue No.	1 Qty
DUF60E	0,25	897960	100

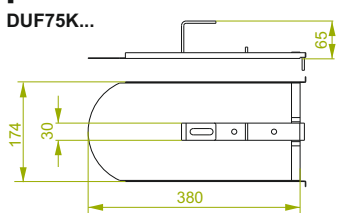
Roof fixing for the roof with bituminous tiles or slate roofing



MATERIAL
Stainless Steel

APPLICATIONS
For fixing the PV panel to aluminum profiles for the roof

Roof fixing with steel plain tiles

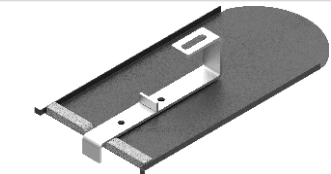


DUF75KE

CODE	1 Qty	Catalogue No.	1 Qty
DUF75KE	0,85	897875	1

DUF75KF

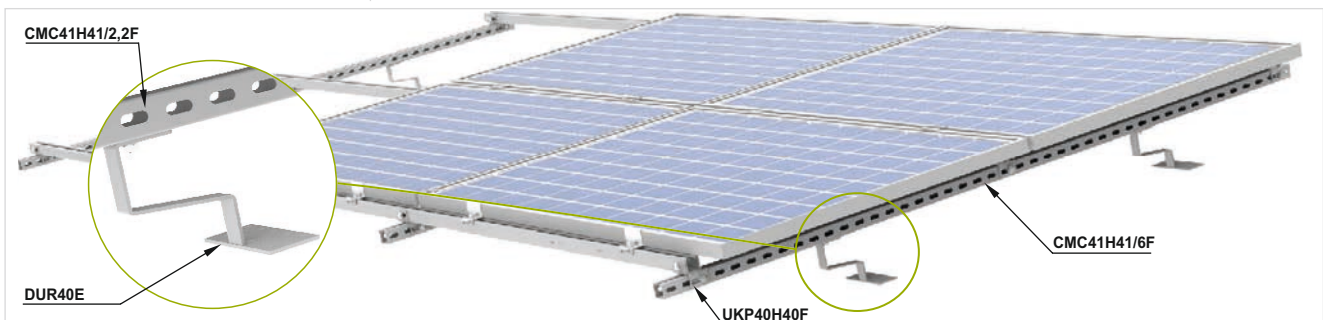
CODE	1 Qty	Catalogue No.	1 Qty
DUF75KF	0,85	897775	1



MATERIAL
Stainless Steel +250GD Steel in Magnelis® coating and powder coating

APPLICATIONS
For fixing the PV panel to aluminum profiles for the roof with plain tiles

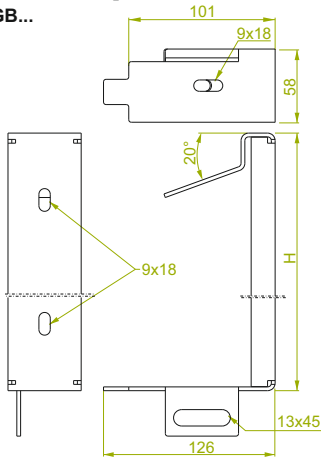
MATERIAL
Stal S235 zinc flake coated acc. to PN-EN ISO 10683:2014-09 PN-EN ISO 10683:2014-09 + 250GD Steel in Magnelis® coating





Panel's Top Holder

UPGB...

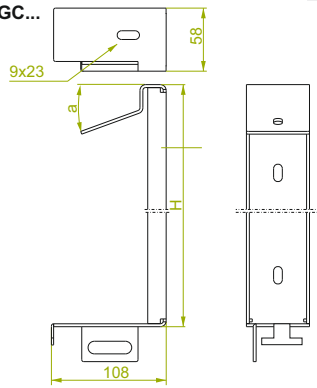


UPGB...

CODE	Dimension H mm	angle position a	1 Qty	Catalogue No.	
UPGB5	163	5°	0,46	897005	100
UPGB10	241	10°	0,55	897010	100
UPGB15	323	15°	0,95	897015	100
UPGB20	407	20°	1,05	897015	100



UPGC...



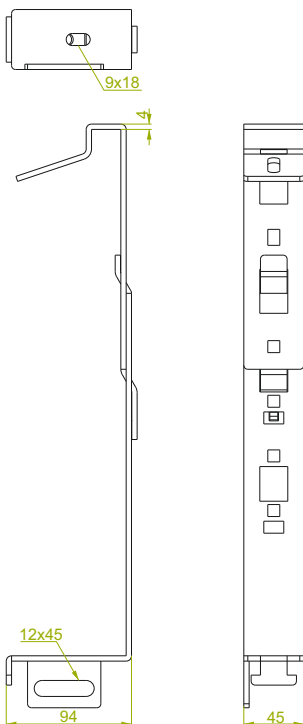
UPGC...

CODE	Dimension H mm	angle position a	1 Qty	Catalogue No.	
UPGC5	163	5°	0,52	897052	100
UPGC10	241	10°	0,70	898010	100
UPGC15	323	15°	0,90	898017	100
UPGC20	407	20°	1,10	898222	100



**Panel's Top Holder
- adjustable**

UPGR20



UPGR20

CODE	angle position a	1 Qty	Catalogue No.	
UPGR20	15°, 20°	0,90	896920	10

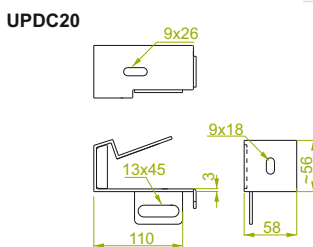
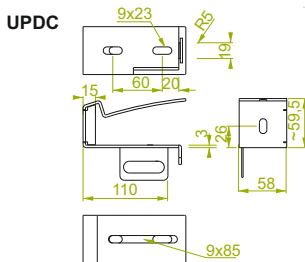
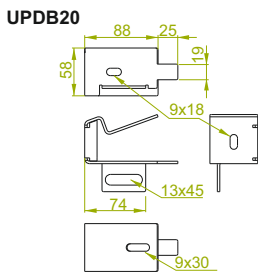
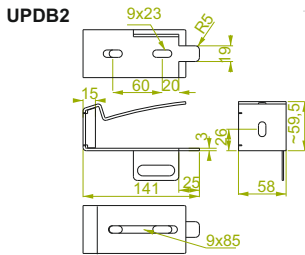
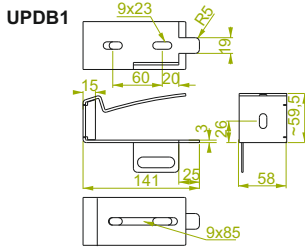


APPLICATIONS
For solar panel positioning at a different angle.

MATERIAL
250GD or S350GD Steel in Magnelis® coating
or steel S355 hot-dip galvanized acc. to
PN-EN ISO 1461:2011



Holder - Bottom

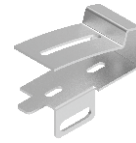


APPLICATIONS
For solar panel positioning at a different angle.

UPDB1

CODE	Range of inclination angles of PV panels	kg 1 Qty	Catalogue No.	Qty
UPDB1	5,10,15°	0,42	897001	100

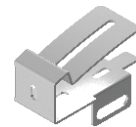
Cable Clip allows for panel installation in the bottom part of low constructions, directly on a flat roof, for example DP-MHKE (p.16)



UPDB2

CODE	Range of inclination angles of PV panels	kg 1 Qty	Catalogue No.	Qty
UPDB2	5,10,15°	0,42	897002	100

Cable Clip allows for panel installation in the bottom part of low constructions, directly on a flat roof, for example DP-MHKE (p.16)



UPDB20

CODE	Range of inclination angles of PV panels	kg 1 Qty	Catalogue No.	Qty
UPDB20	20°	0,42	897040	100

Cable Clip allows for panel installation in the bottom part of low constructions, directly on a flat roof, for example DP-MHKE (p.16)



UPDC

CODE	Range of inclination angles of PV panels	kg 1 Qty	Catalogue No.	Qty
UPDC	5,10,15°	0,37	897004	100

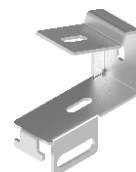
Cable Clip allows for panel installation in the bottom part of low constructions, directly on a flat roof, for example DP-DNHBE (p.16-18)



UPDC20

CODE	Range of inclination angles of PV panels	kg 1 Qty	Catalogue No.	Qty
UPDC20	20°	0,37	897003	100

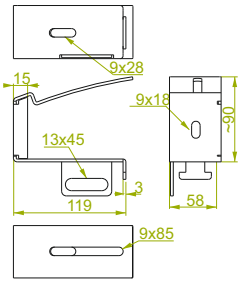
Cable Clip allows for panel installation in the bottom part of low constructions, directly on a flat roof, for example DP-DNHBE (p.16-18)



MATERIAL
250GD Steel in Magnelis® coating or steel S355 hot-dip galvanized acc. to PN-EN ISO 1461:2011



Holder - Bottom
UPD45K20



UPD45K20

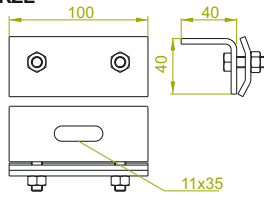
CODE	Range of inclination angles of PV panels	kg	Catalogue No.	Qty
UPD45K20	15, 20°	0,36	897445	100



MATERIAL
250GD Steel in Magnelis® coating or steel S355 hot-dip galvanized acc. to PN-EN ISO 1461:2011

Holder for seam sheet roofing

UBZRKZE

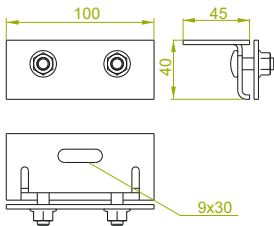


UBZRKZE

CODE	kg	Catalogue No.	Qty
UBZRKZE	0,38	890090	100



UBZRPE

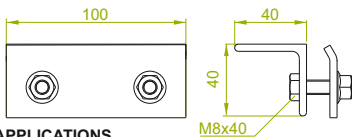


UBZRPE

CODE	kg	Catalogue No.	Qty
UBZRPE	0,43	890050	100

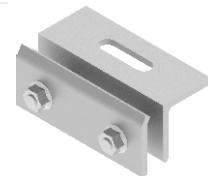


UBZRE



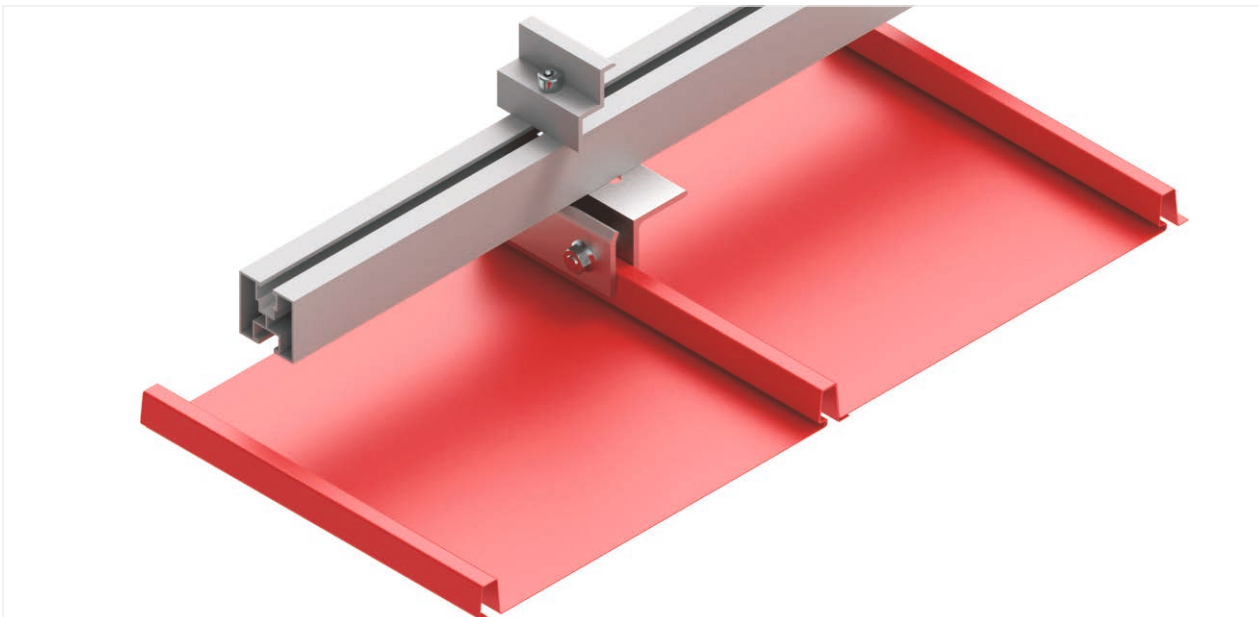
UBZRE

CODE	kg	Catalogue No.	Qty
UBZRE	0,38	890051	100



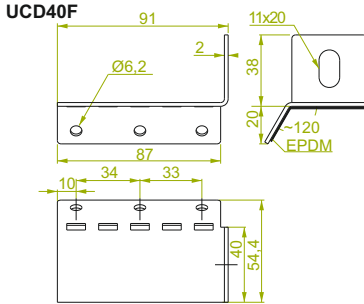
APPLICATIONS
Mounting structures for the installation of photovoltaic panels on an inclined roof with standing seam sheet roofing

MATERIAL
Stainless Steel





Roof fixing with the channel



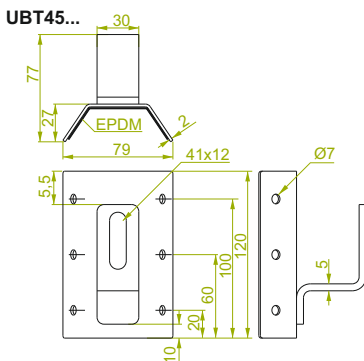
UCD40F

CODE	1 Qty	Catalogue No.	Qty
UCD40F	0,13	890107	100



MATERIAL
250GD Steel in Magnelis® coating or steel S355 hot-dip galvanized acc. to PN-EN ISO 1461:2011

Roof fixing with the trapezoidal sheet



UBT45E

CODE	1 Qty	Catalogue No.	Qty
UBT45E	0,40	890110	100

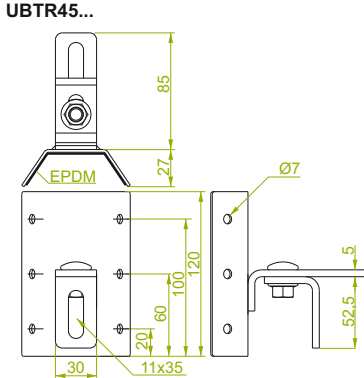


UBT45F

CODE	1 Qty	Catalogue No.	Qty
UBT45F	0,40	891111	100

Roof fixing adjusted to sheet plate T45

Roof fixing with the trap. sheet- adjustable



UBTR45E

CODE	1 Qty	Catalogue No.	Qty
UBTR45E	0,50	890120	100



UBTR45F

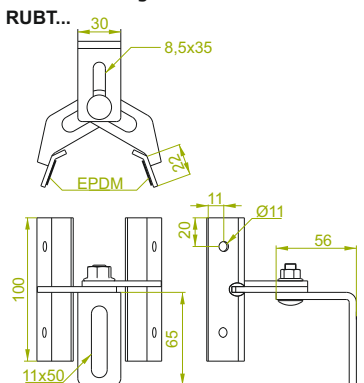
CODE	1 Qty	Catalogue No.	Qty
UBTR45F	0,50	890121	100

Roof fixing adjusted to sheet plate T45

APPLICATIONS

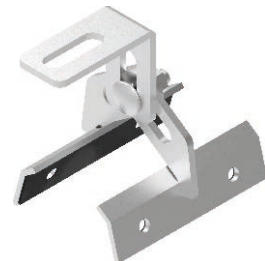
Installing channel sections or aluminium profiles to trapezoidal sheet on a sloping roof.

Roof fixing with the trap. sheet- adjustable



RUBTE

CODE	1 Qty	Catalogue No.	Qty
RUBTE	0,50	899501	10



RUBTF

CODE	1 Qty	Catalogue No.	Qty
RUBTF	0,50	899503	10

With individual adjustment of the angle fits all types of trapezoidal sheet. For fixing use 4 pieces of self-drilling screw SMDP6x25E.

MATERIAL for UBT45E, UBTR45E and RUBTE
Stainless Steel

MATERIAL for UBT45F, UBTR45F and RUBTF
Steel, zinc flake coated acc. to PN-EN ISO 10683:2014-09

APPLICATIONS

Assembly of Support Channel or aluminum profile with the trapezoidal sheet on inclined roof

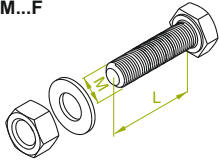


EXAMPLES OF PHOTOVOLTAIC PANELS ASSEMBLY ON AN INCLINED ROOF



Screw (Set)

SMM...F



SMM...F

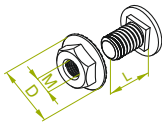
CODE	Dimension	Length	Catalogue No.	Qty
	M mm	L mm		
SMM8x60F	8	60	898660	100
SMM8x80F	8	80	650548	100
SMM10x20F	10	20	651142	100
SMM12x30F	12	30	651148	100



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

Screw (Set)

SGKF...



SGKF...

CODE	Dimension	Length	Dimension	Catalogue No.	Qty
	M mm	L mm	D mm		
SGKFM8x16	8	16	17	651542	100
SGKFM10x20	10	20	20,5	651641	100
SGKFM10x30	10	30	20,5	890111	100



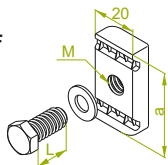
MATERIAL
Steel, zinc flake coated acc. to PN-EN ISO 10683:2014-09

APPLICATIONS

Suspending system components

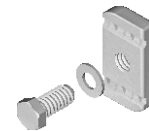
Screw

SRM8x25F



SRM8x25F

CODE	Dimension	Dimension	Dimension	Catalogue No.	Qty
	a mm	L mm	M mm		
SRM8x25F	35	25	8	890102	100



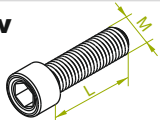
MATERIAL
Steel, hot-dip galv. to PN-EN ISO 1461:2011

APPLICATIONS

Joining steel profiles with the use of support channels

Screw

SAM8...E



SAM8...E

CODE	Dimension	Length	Catalogue No.	Qty
	M mm	L mm		
SAM8x25E	8	25	898525	100
SAM8x30E	8	30	898531	100
SAM8x35E	8	35	898535	100
SAM8x40E	8	40	898540	100
SAM8x45E	8	45	898545	100



MATERIAL
Stainless Steel

APPLICATIONS

Suspending system components

Nut

NSM8E



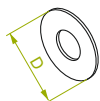
NSM8E

CODE	Dimension	Catalogue No.	Qty
	M mm		
NSM8E	8	652202	100



Washer

PW8...



PW8F

CODE	Dia. D	for Bolt	Catalogue No.	Qty
	mm			
PW8F	24	M8	899080	100



PW8E

CODE	Dia. D	for Bolt	Catalogue No.	Qty
	mm			
PW8E	24	M8	660944	100



Serrated Lock Nut

NKZ...



NKZM8F

CODE	Dimension	Dimension	Catalogue No.	Qty
	M mm	D mm		
NKZM8F	8	17	890104	100

MATERIAL PW8F and NKZM8F
Steel, zinc flake coated acc. to PN-EN ISO 10683:2014-09

NKZM...E

CODE	Dimension	Dimension	Catalogue No.	Qty
	M mm	D mm		
NKZM8E	8	17	890008	100
NKZM10E	10	19	890009	100

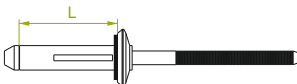
MATERIAL PW8E and NKZM8E
Stainless Steel

APPLICATIONS

Suspending system components

Aluminum Rivets with EPDM Washer

NITZP5,2...



NITZP5,2...

CODE	Dimension	Catalogue No.	Qty
	L mm		
NITZP5,2x17,5A	17,5	898901	200
NITZP5,2x19,1A	19,1	898902	200



MATERIAL
Aluminium (EN AW-6061)

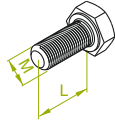
APPLICATIONS

Fixing the structure for PV panel on a roof with trapezoidal steel sheet



Screw

SSZ...



SSZ8x12E

CODE	Dimension M mm	Length L mm	Catalogue No.	Qty
SSZ8x12E	8	12	998121	100

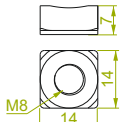
SSZ10...E

CODE	Dimension M mm	Length L mm	Catalogue No.	Qty
SSZ10x16E	10	16	991016	100
SSZ10x18E	10	18	991018	100
SSZ10x20E	10	20	991020	100

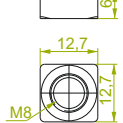


Square nut

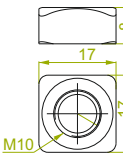
NKOM8E



NKWM8E



NKWM10E



NKOM8E

CODE	Catalogue No.	Qty
NKOM8E	601008	100

NKWM8E

CODE	Catalogue No.	Qty
NKWM8E	600808	100

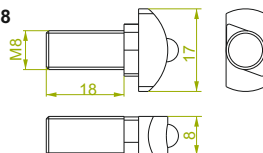
NKWM10E

CODE	Catalogue No.	Qty
NKWM10E	601010	100



T- screw with a ball

TZKM8x18



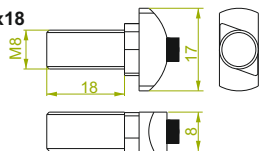
TZKM8x18

CODE	Catalogue No.	Qty
TZKM8x18	898818	200



T- screw with EPDM

TZEPDM8x18



TZEPDM8x18

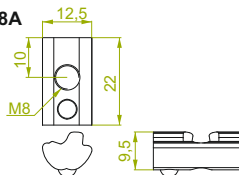
CODE	Catalogue No.	Qty
TZEPDM8x18	898718	200



MATERIAL
Stainless Steel

Slide nut with a ball

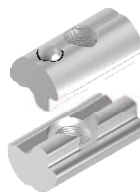
NKWSM8A



NKWSM8A

CODE	Catalogue No.	Qty
NKWSM8A	600909	200

Optimal tightening torque = 4.3 Nm



MATERIAL
Aluminium (EN AW-6061)

APPLICATIONS

For fixing of system elements to aluminum profile

Self-drilling screw with EPDM

SMDP...



SMDP...

CODE	Length L mm	Catalogue No.	Qty
SMDP4,8x20	20	894818	200
SMDP4,8x25E	25	894819	200
SMDP6,0x25E	25	894824	200
SMDP6,5x25	25	894825	200



MATERIAL for SMDP4,8x25E and SMDP6x25E
Stainless Steel

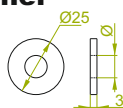
APPLICATIONS

Assembly of roof fixing and support rails on a roof with trapezoidal sheet

MATERIAL for SMDP4,8x20 and SMDP6,5x25
Carbon steel, hardened – with additional coating against corrosion

Sealing washer with EPDM

PW...EPDM



PW...EPDM

CODE	Dimension Ø mm	Catalogue No.	Qty
PW10EPDM	10	891210	200
PW12EPDM	12	891212	200



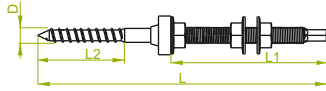
APPLICATIONS

Sealing of mounting hole



Screw- double thread

SWD...E



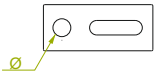
SWD...E

CODE	Dimension L1 mm	Dimension L2 mm	Dimension D mm	Length L mm	Catalogue No.	Qty
SWDM10x200E	97	67	10	200	898820	1
SWDM10x250E	105	70	10	250	898825	1
SWDM12x300E	167	97	12	300	898831	1



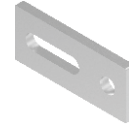
Mounting Adapter

AD...



AD...E

CODE	Dimension Ø mm	Catalogue No.	Qty
AD11E	11	898311	1
AD13E	13	898312	1



APPLICATIONS

Fixing the structure for PV panel on a roof

AD80x...A

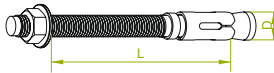
CODE	Dimension Ø mm	Catalogue No.	Qty
AD80x30/11A	11	898353	1
AD80x40/11A	11	898354	1

MATERIAL
Stainless Steel

MATERIAL
Aluminium PA38 (ENAW6063)

Anchor Bolt

PSR...



PSR...E

CODE	Dimension D mm	Length L mm	Catalogue No.	Qty
PSRM8x75E	8	75	650006	100
PSRM10x90E	10	90	650009	100
PSRM12x80E	12	80	650014	100
PSRM12x110E	12	110	650012	100



MATERIAL
Stainless Steel

APPLICATIONS

Fixing assemblies, suspending cable runs from overhead concrete base

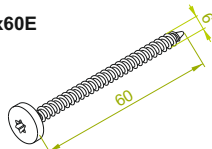
PSR...F

CODE	Dimension D mm	Length L mm	Catalogue No.	Qty
PSRM8x75F	8	75	650875	100
PSRM10x90F	10	90	650093	100
PSRM12x110F	12	110	651211	100

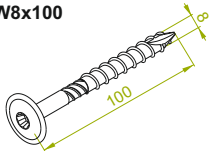
MATERIAL
Steel, zinc flake coated acc. to PN-EN ISO 10683:2014-09

Wood Screw

DDW6x60E



DDW8x100



DDW...

CODE	Dimension D mm	Length L mm	Catalogue No.	Qty
DDW6x60E	6	60	890661	100
DDW8x100	8	100	890810	100



MATERIAL for DDW6x60E
Stainless Steel



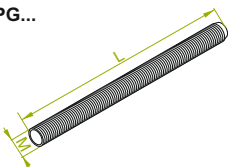
MATERIAL for DDW8x100
Electro-galv. steel (EG).

APPLICATIONS

Fixing the DUR40 and DUF75 elements to the roof rafters

Threaded rod

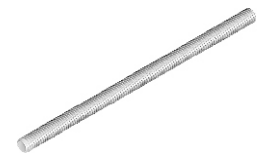
PG...



PG...E

CODE	Dimension M mm	Length L mm	Breaking Force [kN]	kg 1 Qty	Catalogue No.	Qty
PGM10/1E	10	1000	30,20	0,49	652101	25
PGM10/2E	10	2000	30,20	1,00	652102	25
PGM10/3E	10	3000	30,20	1,50	651602	25

material class 5.8

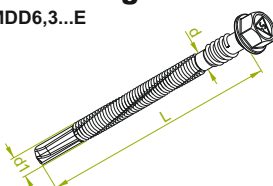


APPLICATIONS

Fixing assemblies

Self-drilling screw

SMDD6,3...E



SMDD6,3...E

CODE	Dimension d mm	Dimension d1 mm	Length L mm	kg 1 Qty	Catalogue No.	Qty
SMDD6,3x75E	5,5	6,3	75	0,02	896075	100
SMDD6,3x95E	5,5	6,3	95	0,02	896095	100
SMDD6,3x115E	5,5	6,3	115	0,02	896115	100
SMDD6,3x135E	5,5	6,3	135	0,03	896135	100
SMDD6,3x155E	5,5	6,3	155	0,03	896155	100
SMDD6,3x175E	5,5	6,3	175	0,03	896175	100
SMDD6,3x195E	5,5	6,3	195	0,03	896195	100
SMDD6,3x235E	5,5	6,3	235	0,03	896235	100



MATERIAL
Stainless steel (SS)

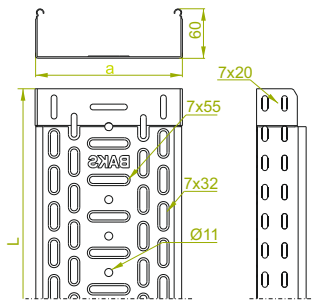
APPLICATIONS

Mounting of sandwich panels



Cable Tray

KGJ/KGOJ100H60/3F



Width	USABLE CROSS SECTION
100	58 cm ²

KGJ/KGOJ100H60/3F

± 1,0 mm

CODE	Width a mm	Length L mm	kg 1 m	Catalogue No.	Qty/m
KGJ/KGOJ100H60/3F	100	3000	1,63	160813	6/18

Possibility of joining cable tray sections together through sliding one into another and connector-free assembly. For the assembly use Screw Sets SGK6x12F or SGM6x12F.

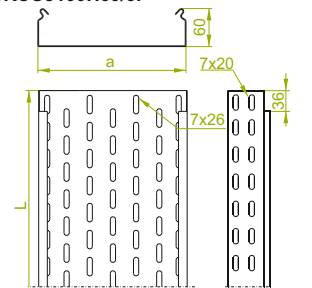


MATERIAL

Steel, hot-dip galv. to PN-EN ISO 1461:2011
L - powder coating in a full range of colours (PC) (info p.4)

Cable Tray

KCJ/KCOJ100H60/3F



Width	USABLE CROSS SECTION
100	58 cm ²

KCJ/KCOJ100H60/3F

± 1,0 mm

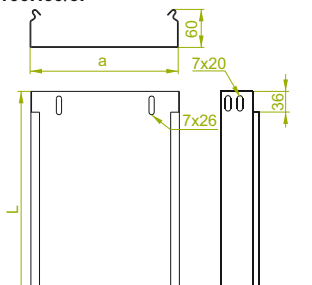
CODE	Width a mm	Length L mm	kg 1 m	Catalogue No.	Qty/m
KCJ/KCOJ100H60/3F	100	3000	1,63	169611	6/18

Possibility of joining cable tray sections together through sliding one into another and connector-free assembly. For the assembly use Screw Sets SGK6x12F or SGM6x12F.



Cable Tray

KBJ100H60/3F



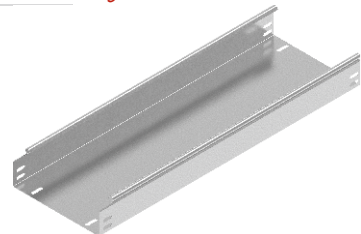
Width	USABLE CROSS SECTION
100	58 cm ²

KBJ100H60/3F

± 1,0 mm

CODE	Width a mm	Length L mm	kg 1 m	Catalogue No.	Qty/m
KBJ100H60/3F	100	3000	2,00	169211	6/18

Possibility of joining cable tray sections together through sliding one into another and connector-free assembly. For the assembly use Screw Sets SGK6x12F or SGM6x12F.



MATERIAL

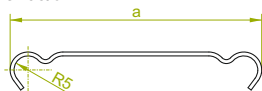
Steel, hot-dip galv. to PN-EN ISO 1461:2011
Available finishes:
E- stainless steel (SS)
L- powder coating in a full range of colours (PC) (info p.4)

APPLICATIONS

Cable routing

Cover

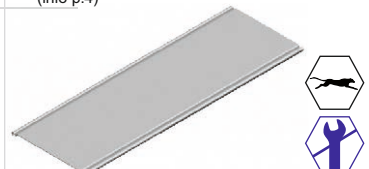
PKJ100/3F



PKJ100/3F

± 1,0 mm

CODE	Width a mm	Length L mm	kg 1 m	Catalogue No.	Qty/m
PKJ100/3F	100	3000	1,04	133813	10/30



MATERIAL

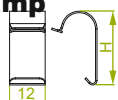
Steel, hot-dip galv. to PN-EN ISO 1461:2011
Available finishes:
E- stainless steel (SS)
L- powder coating in a full range of colours (PC) (info p.4)

APPLICATIONS

Eliminating the risk of mechanical damage to cables

Cover Clamp

ZPNH60...



ZPNH60...

CODE	Height H mm	Catalogue No.	Qty
ZPNH60F	29	165200	100
ZPNH60E	29	165100	100

MATERIAL

Hot-dip galv. steel strip (HDG) to PN-EN ISO 1461:2011 (ZPNF)
Stainless steel, grade 1.4301 (AISI304) strip (SS) - (ZPN E)

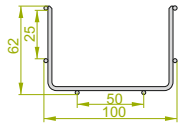
APPLICATIONS

Preventing the cover from slipping



Cable Tray siatkowe

KDS/KDSO100H60/3F

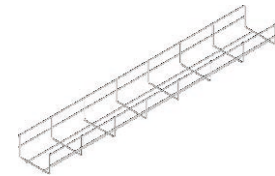


Width	USABLE CROSS SECTION
100	43 cm ²

APPLICATIONS
Cable routing

KDS/KDSO100H60/3F

CODE	Width a mm	Length L mm	kg 1 m	Catalogue No.	Qty/m
KDS/KDSO100H60/3F	100	3000	0,73	970510	8/24

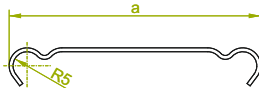


MATERIAL

Drut cynkowany metodą acc. to PN-EN ISO 1461:2011
Available finishes:
E - drut kwasoodporny
L - powder coating in a full range of colours (PC) (info p.4)

Cover

PKJS100/3F



APPLICATIONS
Eliminating the risk of mechanical damage to cables

PKJS100/3F

CODE	Width a mm	Length L mm	kg 1 m	Catalogue No.	Qty/m
PKJS100/3F	100	3000	1,04	900413	10/30

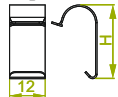


MATERIAL

Steel, hot-dip galv. to PN-EN ISO 1461:2011
Available finishes:
E - stainless steel (SS) PN-EN 10088
L - powder coating in a full range of colours (PC) (info p.4)

Cover Clamp

ZPNH80...



APPLICATIONS
Preventing the cover from slipping

ZPNH80...

CODE	Height H mm	Catalogue No.	Qty
ZPNH80F	38	185200	100
ZPNH80E	38	185100	100

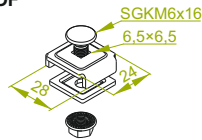


MATERIAL

Hot-dip galv. steel strip (HDG) to PN-EN ISO 1461:2011
Stainless steel, grade 1.4301 (AISI304) strip (SS) - (ZPN E)

Joint Connector (Set)

USSN/USSOF



APPLICATIONS
Łączenie korytek siatkowych.

USSN/USSOF

CODE	kg 1 set	Catalogue No.	Set
USSN/USSOF	0,04	900201	100

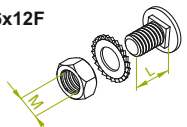


MATERIAL

Steel, zinc flake coated acc. to PN-EN ISO 10683:2014-09
Available finishes:
E - stainless steel (SS)
L - powder coating in a full range of colours (PC) (info p.4)

Screw (Set)

SGM6x12F



SGM6x12F

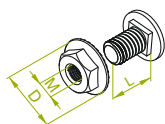
CODE	Dimension M mm	Length L mm	Catalogue No.	Set
SGM6x12F	6	12	650641	100



Steel grade 8.8

Screw (Set)

SGKF...



SGKF...

CODE	Dimension M mm	Length L mm	Dimension D mm	Catalogue No.	Set
SGKFM6x12	6	12	13	651441	100
SGKFM8x14	8	14	17	651541	100
SGKFM8x16	8	16	17	651542	100
SGKFM10x20	10	20	20,5	651641	100
SGKFM12x30	12	30	26	651330	100



Steel grade 8.8

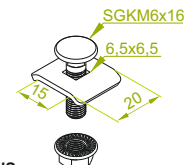
APPLICATIONS
Suspending cable runs.

MATERIAL

Steel, zinc flake coated acc. to PN-EN ISO 10683:2014-09

Clamping Piece (Set)

ZS/ZSOF



APPLICATIONS
Fixing wire mesh cable trays to brackets.

ZS/ZSOF

CODE	kg 1 set	Catalogue No.	Set
ZS/ZSOF	0,07	902600	100



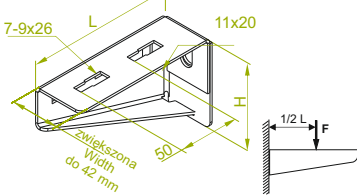
MATERIAL

Steel, zinc flake coated acc. to PN-EN ISO 10683:2014-09
Available finishes:
E - stainless steel (SS)



Bracket

WWS/WWSO100F



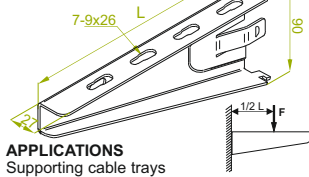
WWS/WWSO100F

CODE	Length L mm	Height H mm	Allowable Tensile Load F _{max} [kN]	kg 1 Qty	Catalogue No.	Qty
WWS/WWSO100F	123	73	1,20	0,19	710513	50



Bracket

WZS100F



APPLICATIONS
Supporting cable trays

WZS100F

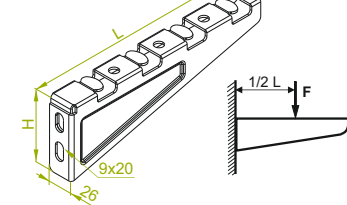
CODE	Length L mm	Allowable Tensile Load F _{max} [kN]	kg 1 Qty	Catalogue No.	Qty
WZS100F	110	1,30	0,16	710213	50

Assembly in the bracket's 3 openings



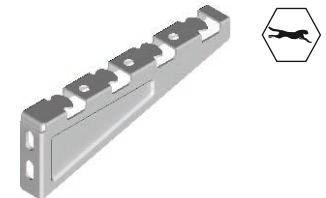
Bracket

WWKS100F



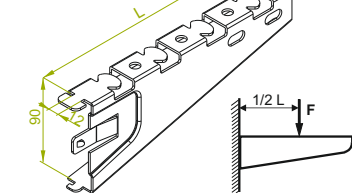
WWKS100F

CODE	Length L mm	Height H mm	Allowable Tensile Load F _{max} [kN]	kg 1 Qty	Catalogue No.	Qty
WWKS100F	110	70	0,90	0,08	902313	100



Bracket

WZKS100F

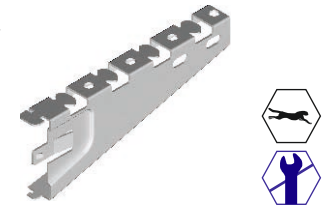


APPLICATIONS
Screwless suspending wire mesh cable trays.

WZKS100F

CODE	Length L mm	Allowable Tensile Load F _{max} [kN]	kg 1 Qty	Catalogue No.	Qty
WZKS100F	115	1,30	0,16	902413	50

Screwless assembly to the construction made on support channels BAKS with 13x30 perforation and max thickness of material 3mm



MATERIAL
Steel, zinc flake coated acc. to PN-EN ISO 10683:2014-09
Available finishes:
E- stainless steel (SS)
L- powder coating in a full range of colours (PC) (info p.4)

Zinc Paste

WSZINK...

APPLICATIONS
Protecting expose areas against corrosion

WSZINK

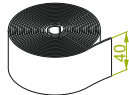
CODE	ml 1 Qty	Catalogue No.	Qty
WSZINK1000	1000	650001	1
WSZINK250	250	650002	1
WSZINKS400	400	650003	1 *

* - spray



Sponge rubber

EPDMW2x40



APPLICATIONS
For sealing the sheet-metal roofing with UBT... and UCD... elements

EPDMW2x40

CODE	Catalogue No.	Qty
EPDMW2x40	890000	10

MATERIAL
Elastomer

Injection Mortar

ZIO...



ELEMENTS
A set includes:
1 container 300 ml + 2 mixers

APPLICATIONS
Mounting steel structures, rails, racks, consoles, gates, facades, window elements; assembly with spacers

ZIO...

CODE	Capacity ml 1 Qty	kg 1 Qty	Catalogue No.	Qty
ZIO300	300	0,5	653902	1
ZIO410	410	0,7	653910	1

NOTE! Styrene free injection mortar ZIO300 to be used with standard silicone pistols
ADVANTAGES: High 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 aerated concrete.

Drying Time

Temp. container	Gelation time	Floor Temp	Drying Time
0°C- +5°C	13 min.	-5°C - 0°C	24 godz.
+5°C- +10°C	9 min.	0°C- +5°C	3 godz.
+10°C- +20°C	5 min.	+5°C- +10°C	90 min.
+20°C- +30°C	4 min.	+10°C- +20°C	60 min.
+30°C- +40°C	2 min.	+20°C- +30°C	45 min.
		+30°C- +40°C	30 min.



MATERIAL
Styrene-free, hybrid vinyl ester mortar
To order:
Double extruder for ZIO410

Sheet thicken. ≠ [mm]: 0,5 0,7 1,0 1,2 1,5 2,0