The Company

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
Wurth 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
Salinę Salt Mine
Lenzing Plastics Factory
Pollmeier Furniture Factory
Salzburg Railway Station
Brixlegg Railway Station
Trumpf Pasching Mechanical Equipment Manufacturing Plant

France
Airbus Tuluza
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
Oskarsham Power Station
Jonkoping Power Station
Vasteras Power Plant

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

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 Minstry 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 Krzemieńczuk
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
Treboradice Transformer Station
Trinec Sports Arena
Draslovka Kolin Chemical Plant
Kaufland, Tesco, OBI- Shopping Centres

Lithuania
Możejki Refinery
Amilina Panevezys

Latvia
CEMEX Cement Factory

Yours faithfully

Kazimierz Sielski
President

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 end 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.

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

<table>
<tr><th>Material</th><th>Type of coating</th><th>Coating properties</th></tr>
<tr><td rowspan="5">Steel</td><td>Sendzimir galvanised PN-EN 10346:2015-09</td><td>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.</td></tr>
<tr><td>Hot dip galvanised PN-EN ISO 1461:2011
F</td><td>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>
<tr><td>Type of environment</td><td>Very low corrosion</td><td>Low corrosion</td><td>Medium corrosion</td><td>High corrosion</td><td>Very high corrosion</td></tr>
<tr><td>Corrosion category</td><td>C1</td><td>C2</td><td>C3</td><td>C4</td><td>C5-I, C5-M</td></tr>
<tr><td>Possible warranty extension</td><td>up to 5 years</td><td>up to 5 years</td><td>up to 5 years</td><td>up to 5 years</td><td>up to 2 years</td></tr>
</table>
Table presenting the relationship between zinc coating thickness and product thickness
<table>
<tr><th>Pieces and thickness values</th><th>Local thickness of coating (minimum value, µm)</th><th>Average thickness of coating (minimum value, µm)</th></tr>
<tr><td>Steel >6mm</td><td>70</td><td>85</td></tr>
<tr><td>Steel >3mm do<6mm</td><td>55</td><td>70</td></tr>
<tr><td>Steel >1.5mm do<3mm</td><td>45</td><td>55</td></tr>
<tr><td>Steel <1.5mm</td><td>35</td><td>45</td></tr>
</table></td></tr>
<tr><td>Electrodeposited coatings of zinc PN-EN 12329
G</td><td>Mesh trays together with fittings, screws, nuts, washers are coated in electrolytic baths to obtain a uniform thin zinc coating. Coating thickness ranges from approx. 5 µm to 20 µm; it is light in colour and glossy. Recommend of corrosion category C1 and C2.</td></tr>
<tr><td>Sherardising PN-EN 13811
T</td><td>Products are coated with a mix of special zinc powder at a temperature ranging from 360 °C to 450 °C. Zinc coating takes place in an oven with a rotating drum in which elements for zinc plating are added together with a metered quantity of zinc powder with additives. By means of diffusion of zinc particles to steel, a very resistant corrosion coating is obtained. In contrast to the previous zinc coatings, the obtained surface can be matt, from light to dark grey in colour. Thickness of zinc coating ranges from 45 µm to 120 µm.
Advantages: comparable corrosion resistance as for hot dipped zinc coating, precisely reproduced shape (no build-ups and flushing of openings), applied for corrosive protection of threads, uniform thickness of the applied coating, good abrasion resistance. Disadvantages: various shades of grey for the same zinc coating batch, zinc coating only on small pieces up to 40 cm long.</td></tr>
<tr><td>zinc flake coatings PN-EN ISO 10683:2014-09
F</td><td>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.</td></tr>
<tr><td>Stainless/acid-resistant steel</td><td>E</td><td>For corrosion protection, acid resistant steels prove to be very good materials, e.g. 1.4301 (US Code 304, 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, diaries, 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.</td></tr>
<tr><td>Steel + Stainless/acid-resistant steel</td><td>powder coating
L</td><td>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.
<table>
<tr><td>RAL1015 light ivory</td><td>RAL1023 traffic yellow</td><td>RAL2004 pure orange</td><td>RAL5012 light blue</td><td>RAL5015 sky blue</td><td>RAL7016 anthracite grey</td><td>RAL7024 graphite grey</td><td>RAL7032 pebble grey</td><td>RAL7035 light grey</td><td>RAL9002 grey white</td><td>RAL9003 signal white</td><td>RAL9005 jet black</td><td>RAL9006 white aluminium</td><td>RAL9010 pure white</td></tr>
</table></td></tr>
</table>

Electrical Continuity

Cable management system produced by BAKS follows the electrical conduit requirements. Correct assembly guaranties safety exploitation of electrical installation.

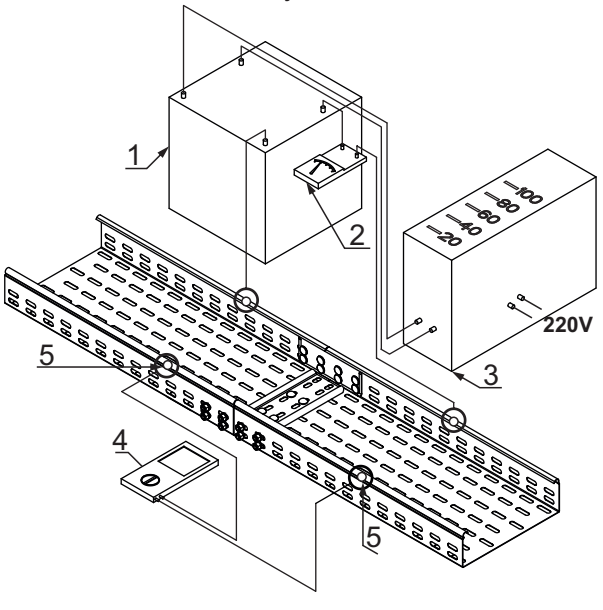
The International Standard of PN EN 61537: 2007* specifies methodology of safe working load tests for wire mesh cable trays, cantilever brackets, pendants, andother fittings. Apart from mechanical requirements, this norm describes methodology of testingelectrical continuity, as well as describes the electrical requirements that cable runways and couplers must meet.The calculated impedances shall not exceed 50mΩ (Z ≤ 50 mΩ) across the joint (i.e. coupler or integral coupling), and 5 mΩ (Z ≤ 5 mΩ/m) without the joint**. Certificate no. TM 61000061.001issued by TUV Rheinland Polska is a confirmation of meeting the PN EN 61537: 2007 standard requirements for product safetyboth in respect of mechanical, and electrical performance. BAKS has accomplished non-standard tests for electrical continuity inthe testing facility of the Polish Building Research Institute (ITB), Warsaw, Poland.

* Polish version of IEC 61537:2006: Cable management – Wire mesh Cable tray systems

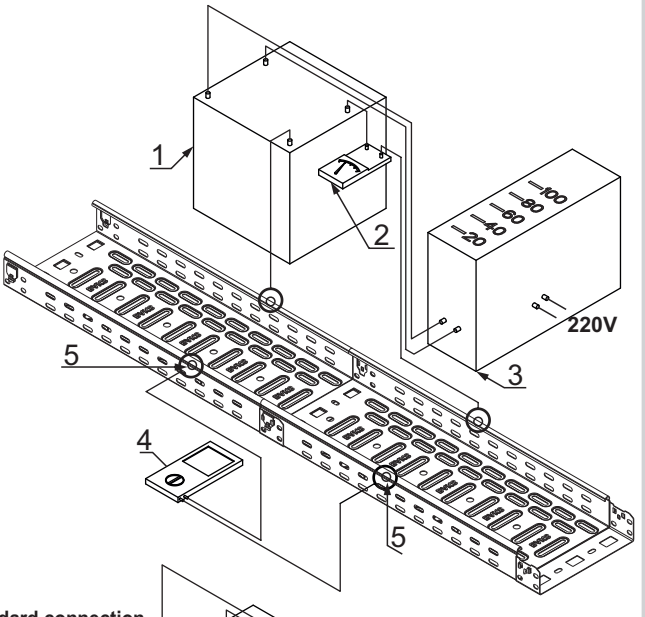
** Op. cit. IEC 61537-11-1: Clause 2: 2006: Electrical properties – Electrical continuity, p. 31

Measurement Systems for the Testof System Circuit Integrity

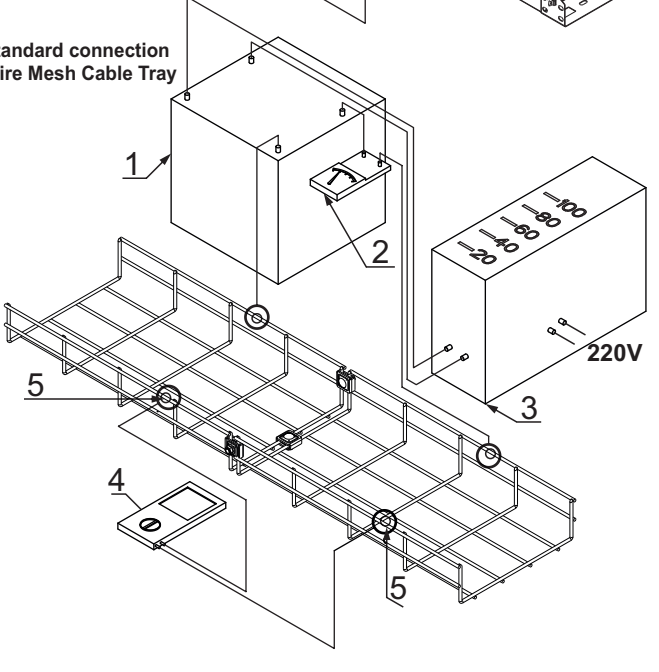
Standard connection Cable Trays



CLICK connection



Standard connection Wire Mesh Cable Tray



1.220V/12V
2.Transformer
3.Autotransformer
4.Voltmeter
5.Metal electrodes

ZERTIFIKAT
CERTIFICATE

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

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

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

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

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

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

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

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

VDE

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

Tabelle 1: Kabeltragsysteme der Firma BAKS Table 1: Cable carrier sy stems of manufacturer BAKS			
Bezeichnung Designation	Typ Type	Höhe (mm) Height (mm)	Breite (mm) Width (mm)
Kabelrinne / Cable tray	KC	42, 50, 60, 80, 100, 110	50, 100, 150, 200, 300, 400, 500, 600
	KG	30, 42, 50, 60, 80, 100, 110	35, 50, 100, 150, 200, 300, 400, 500, 600
	KB	30, 42, 50, 60, 80, 100, 110	35, 50, 100, 150, 200, 300, 400, 500, 600
	KA	42, 60, 110	50, 100, 150, 200, 300, 400, 500, 600
KLICK Kabelrinne / CLICK Cable tray	KF	60, 100	50, 100, 150, 200, 300, 400, 500, 600
Kabelleiter / Cable ladder	DU	45, 50, 60, 80, 100, 120	100, 200, 300, 400, 500, 600
	DK	45, 50, 60, 80, 100	100, 200, 300, 400, 500, 600
KLICK Kabelleiter / CLICK Cable ladder	DKF	45, 60, 100, 120	100, 200, 300, 400, 500, 600
	DF	45, 60, 100, 120	100, 200, 300, 400, 500, 600
C-Profil / C-Profile	C	12, 20, 30, 50	28, 40, 50, 55, 70
	CW	10, 22, 30, 35, 40, 47, 60, 80	20, 30, 40,
	CM	21, 22, 30, 40, 41, 50, 60, 100	40, 41, 50
	CTM	40, 42, 50, 60, 80, 82, 100	40, 41, 50, 80, 100
KLICK C-Profil / CLICK C-Profile	CMF	41, 50, 60, 62, 100	41, 50, 60, 100

A

Managing Director
Dipl.-Ing. Michael Jungnitsch, CEO
EUR-/Dipl.-Ing. Wolfgang Niedziella
Merianstrasse 28
63069 Offenbach
e-mail: vde-institut@vde.com
http://www.vde.com

Venue:
Frankfurt am Main
HRB 43618
VAT-IDNo.: DE261922990
Tax No.: 04425092566
Phone: +49 69 8306 0
Fax: +49 69 8306 555

Make Payments to
Commerzbank AG Frankfurt
BLZ 500 800 00
Account-No.: 198 027 000
S.W.I.F.T.-Code:
DRES DE FF XXX
IBAN:
DE91500800000198027000

ZERTIFIKAT
CERTIFICATE

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

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

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

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

A. Herzog

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

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

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

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

VDE

Page 3 - 23.08.2016 Our reference 5018795-5430-0001/228892
CC4/hue-di

Tabelle 1: Kabeltragsysteme der Firma BAKS
Table 1: Cable carrier systems of manufacturer BAKS

Bezeichnung *Designation*	Typ *Type*	Höhe (mm) *Height (mm)*	Breite (mm) *Width (mm)*
Gitterrinne / *Mesh Tray*	KDS	60, 110	60, 100, 150, 200, 300, 400, 500, 600
	KSG	60, 110	60, 100, 150, 200, 300, 400, 500, 600
	KWDS	60	60
	KGS	60	60, 100
	KCS	60, 110	60, 100, 200, 300, 400, 500, 600
KLICK Gitterrinne / *CLICK Mesh Tray*	KDSZ	60, 110	60, 100, 150, 200, 300, 400, 500, 600

Tabelle 2: Geprüfte Kabeltragsysteme
Table 2: Tested cable carrier systems

Bezeichnung *Designation*	Typ *Type*
Gitterrinne / *Mesh Tray*	KDS60H60
	KDS200H60
	KDS600H110
	KSG200H60
	KSG600H110
	KWDS60H60
	KGS60H60
	KCS60H60
	KCS600H110
KLICK Gitterrinne / *CLICK Mesh Tray*	KDSZ60H60
	KDSZ600H110

Managing Director
EUR-/Dipl.-Ing. Wolfgang Niedziella
Merianstrasse 28
63069 Offenbach / Germany
e-mail: vde-institut@vde.com
http://www.vde.com

Venue:
Frankfurt am Main
HRB 43618
VAT-IDNo.: DE261922990
Tax No.: 04425092566
Phone: +49 (0) 69 8306 0
Fax: +49 69 (0) 8306 555

Make Payments to
Commerzbank AG Frankfurt
BLZ 500 800 00
Account-No.: 198 027 000
S.W.I.F.T.-Code:
DRES DE FF XXX
IBAN:
DE91500800000198027000

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/EWG-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.
ul. 17 Stycznia 56,
02-146 Warszawa, Polska
Tel.: (+48/22) 846 79 99
Tel.: (+48/22) 868 37 42
e-mail: post@pl.tuv.com

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

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.

TÜVRheinland CERTIFIED
Safety
Regular
Production
Surveillance
www.tuv.com
ID 0000046268

TÜVRheinland®
Precisely Right.

www.tuv.pl

Certificate

Standard **ISO 9001:2008**

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 9001:2008 are met.

Validity: The certificate is valid from 2017-05-11 until 2018-09-14.
First certification 2001.

2017-05-15

Grzegorz Grabka

TÜV Rheinland Cert GmbH
Am Grauen Stein · 51105 Köln

www.tuv.com

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

TÜVRheinland®
Precisely Right.

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 Grabka

TÜV Rheinland Cert GmbH
Am Grauen Stein · 51105 Köln

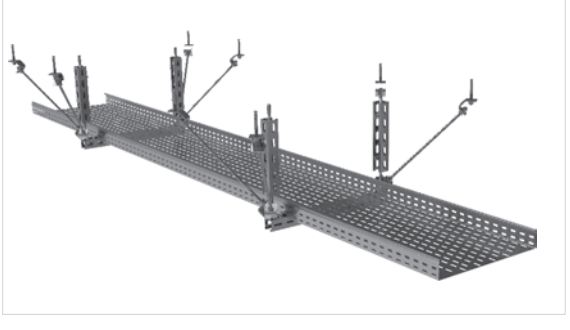
www.tuv.com

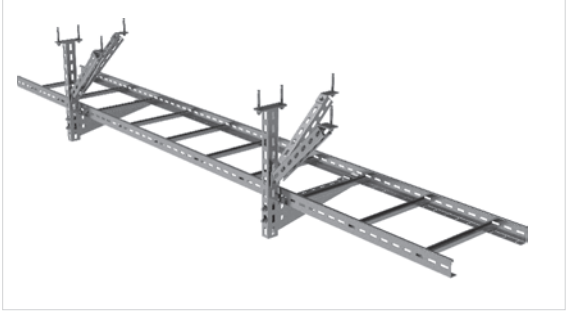
DAkkS Deutsche Akkreditierungsstelle D-ZM-16031-01-00

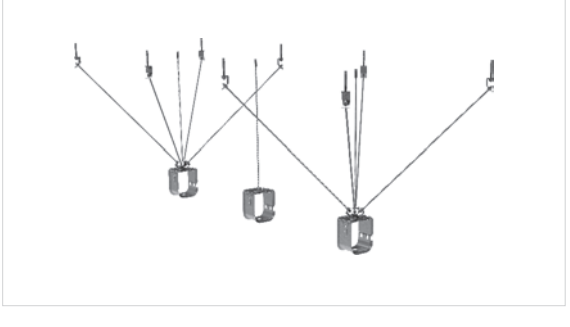
TÜVRheinland® Precisely Right.

IN 2017 SEISMIC RESISTANCE TESTS OF BAKS CONSTRUCTIONS WERE PERFORMED AT THE EMPA AND RUAG INSTITUTES IN SWITZERLAND. THE TEST RESULTS ARE DESCRIBED IN A REPORT 5214'015'167.

CONSTRUCTIONS DESIGNED IN ACCORDANCE WITH THE FOLLOWING STANDARDS: SIA261, EURKOD 8 : PN-EN 1998-1:2005 I PN-EN 1998-1 2004







Empa

Überlandstrasse 129
CH-8600 Dübendorf

T +41 58 765 11 11
F +41 58 765 11 22

www.empa.ch

Herr Łukasz Winiarczyk
BAKS - Kazimierz Sielski
ul. Jagodne 5
05-480 Karczew

Prüfbericht Nr. 5214‘015‘167

Prüfauftrag:	**Erdbebennachweis Kabelträger**
Auftraggeber:	BAKS - Kazimierz Sielski
Prüfobjekt:	Kabelträger
Kundenreferenz:	Herr Łukasz Winiarczyk
Ihr Auftrag vom:	17. Februar 2017
Eingang des Prüfobjektes:	22. März 2017
Ausführung der Prüfung:	22. März – 12. April 2017
Anzahl Seiten:	60

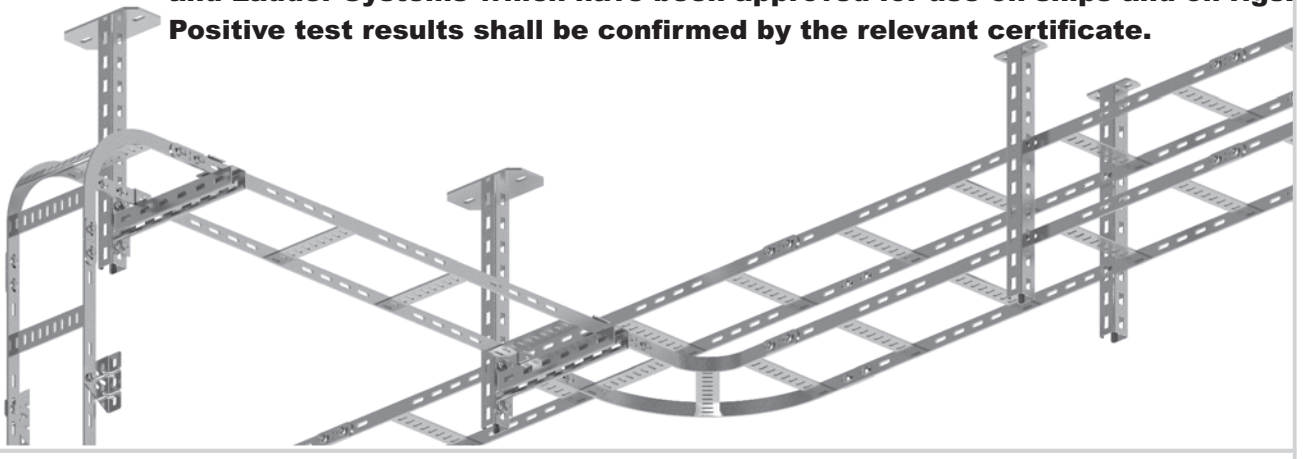
Eidg. Materialprüfungs- und Forschungsanstalt
Dübendorf, 6. Juli 2017

Prüfleiter:	Abteilungsleiter / Abteilungsleiterin:
Dr. Benedikt Weber	Prof. Dr. Masoud Motavalli

Anmerkung: Die Untersuchungsergebnisse haben nur Gültigkeit für das geprüfte Objekt. Das Verwenden des Berichtes zu Werbezwecken, der blosse Hinweis darauf sowie auszugsweises Veröffentlichen bedürfen der Genehmigung der Empa (vgl. Merkblatt). Bericht und Unterlagen werden 10 Jahre aufbewahrt. Angaben zur Messunsicherheit können beim Labor angefordert werden.

IN BUILDINGS WHICH MUST BE RESISTANT TO SEISMIC SHOCKS ALL NONSTRUCTURAL ELEMENTS INCLUDING CABLE ROUTES MUST BE DESIGNED AND MANUFACTRED SO THET THEY DO NOT POSE A THREAT TO PEOPLE, THE BUILDING STRUCTURE, AND OTHER INSTALLATIONS. SUCH CONSTRUCTIONS MUST BE MADE OF ELEMENTS WITH INCREASED STRENGTH AND FIXED TO THE BASE WITH REGARD TO THE IMPACT ON ITS RESISTANCE.

The tests are currently being performed with BAKS Ship Cable Tray and Ladder Systems which have been approved for use on ships and oil rigs. Positive test results shall be confirmed by the relevant certificate.



Our Company has been granted the TYPE APPROVAL CERTIFICATE issued by the POLISH REGISTER OF SHIPS. The CERTIFICATE refers to the selected cable routes with below mentioned elements approved for use on ships and oil rigs:

1. **Cable Trays: KC..., KG..., KB..., KA..., KF**
2. **Cable Ladders: DU..., DK..., DF..., DKI**
3. **Underfloor trunking: KN...,Knd...,Knt.**
4. **Wall trunking: KS...,KSd...**

Polski Rejestr Statków

TYPE APPROVAL CERTIFICATE

This is to certify that the undernoted product type

CABLE TRAYS AND DUCTS
SYSTEM H30 ... H200

CABLE LADDERS
SYSTEM H45 ... H200

UNDERFLOOR DUCTS
SYSTEM H28 ... H48

WALL DUCTS
SYSTEM H68 ... H100

ELEMENTS FOR ASSEMBLY OF a.m. CABLE WAYS

(ALL a.m. METTALIC)

produced by

BAKS Kazimierz Sielski
Ul. Jagodue 5
05-480 Karczew
Polska

is approved as complying with the requirements of the

- PRS Rules for Classification and Construction of Sea-going Ships;
- Publication PRS 105/P „Rules for Construction and Survey of fixed offshore platforms".

Certificate No. TE/2148/880567/17 Expiry date 2022-02-15

Issued at

Gdańsk, 2017-04-03

Signature

Polski Rejestr Statków S.A.
al. Gen. Józefa Hallera 126
80-416 Gdańsk, Poland

Tel. +(48) 58 346 17 00
Fax +(48) 58 346 03 92

e-mail: mailbox@prs.pl
www: http://www.prs.pl/

Continued overleaf

PRS/DI 2007-10-15 ver. 1.0

1/2

UP until now BAKS has carried out tests with the following cable producers:

Bitner, Dätwyler, Elkond, Eupen, Faber, Kabtek, Nexans, Madex, NKT, Studer, Technokabel and Telefonika

DMT GmbH & Co. KG
Prüfstelle für Brandschutz
Allgemeines bauaufsichtliches Prüfzeugnis
P-1010 DMT DO vom 07.08.2013

DMT

Allgemeines bauaufsichtliches Prüfzeugnis

Prüfzeugnis Nummer:	**P – 1010 DMT DO**
Antragsteller:	ZAKŁADY KABLOWE BITNER, ul. Friedleina 3/3 PL-30-009 Kraków
Gegenstand:	Kabelanlage mit integriertem Funktionserhalt mit Tragsystemen der Fa. BAKS und Kabeln der Fa. BITNER der Funktionserhaltsklassen E 60 bzw. E 90 nach DIN 4102-12 : 1998 - 11
Ausstellungsdatum:	07.08.2013
Geltungsdauer:	31.01.2018

DMT-Prüfstelle für Brandschutz DMT

Dieses allgemeine bauaufsichtliche Prüfzeugnis umfasst 19 Seiten und 16 Anlagen.

Dieses allgemeine bauaufsichtliche Prüfzeugnis ersetzt das allgemeine bauaufsichtliche Prüfzeugnis mit dem Datum vom 31.01.2013

Aufgrund dieses allgemeinen bauaufsichtlichen Prüfzeugnisses ist der obengenannte Gegenstand im Sinne der Landesbauordnung des jeweiligen Bundeslandes anwendbar.

DMT GmbH & Co. KG
Prüfstelle für Brandschutz
Allgemeines bauaufsichtliches Prüfzeugnis
P-1015 DMT DO vom 20.05.2014

DMT

Allgemeines bauaufsichtliches Prüfzeugnis

Prüfzeugnis Nummer:	**P – 1015 DMT DO**
Antragsteller:	BAKS Kazimierz Sielski, ul. Jagdone 5 PL-05-480 KARCZEW
Gegenstand:	Kabelanlage mit integriertem Funktionserhalt mit Tragsystemen der Fa. BAKS und Kabeln der Fa. Leoni Studer der Funktionserhaltsklassen E 30, E 60 bzw. E 90 nach DIN 4102-12 : 1998 - 11
Ausstellungsdatum:	20.05.2014
Geltungsdauer:	20.06.2018

DMT-Prüfstelle für Brandschutz DMT

Dieses allgemeine bauaufsichtliche Prüfzeugnis umfasst 21 Seiten und 20 Anlagen.

Aufgrund dieses allgemeinen bauaufsichtlichen Prüfzeugnisses ist der obengenannte Gegenstand im Sinne der Landesbauordnung des jeweiligen Bundeslandes anwendbar.

Seite 1 von 21

DMT

DMT GmbH & Co. KG
Anlagen- und Produktsicherheit
Prüfstelle für Brandschutz

Tremoniastraße 13
44137 Dortmund
Deutschland

Telefon +49 231 5333-240
Telefax +49 231 5333-297
dmt-firetest@dmt-group.com
www.dmt-group.com

Prüfbericht

DMT-31/75

DMT-Prüfstelle für Brandschutz DMT

Dokumentennummer:	DMT-DO-31/75
Auftragsnummer:	20652527
Auftraggeber:	BAKS Kazimierz Sielski ul. Jagodne 5 05-480 KARCZEW Polen
Auftrag vom:	16.04.2015
Inhalt des Auftrags:	Brandtechnische Prüfung einer Kabelanlage mit integriertem Funktionserhalt (E 90). nach DIN 4102-12: 1998-11
Prüfungsgrundlage:	DIN 4102-12 : 1998-11
Probeneingang:	03.07.2015
Prüftermin:	09.07.2015
Geltungsdauer bis:	01.03.2020

Dieser Prüfbericht umfasst 54 Seiten inkl. Deckblatt und Anlagen. Er darf nur vollständig und unverändert weiterverbreitet werden. Auszüge oder Kürzungen bedürfen der schriftlichen Genehmigung der DMT GmbH & Co. KG. Dokumente ohne Unterschrift und Stempel haben keine Gültigkeit. Das Deckblatt und die Unterschriftenseite dieses Dokuments sind mit dem Stempel der DMT GmbH & Co. KG, Dortmund versehen. Übersetzungen des Prüfberichtes müssen den Hinweis „Von der DMT GmbH & Co. KG, Prüfstelle für Brandschutz, nicht geprüfte Übersetzung der deutschen Originalfassung" enthalten.
Das Probenmaterial ist verbraucht.

Hygenic Certificate that approves the use of cable trays and ladders together with support systems for applications inside and outside residential and public utility buildings, and occupancies for industrial purposes including food processing.

NARODOWY INSTYTUT ZDROWIA PUBLICZNEGO
- PAŃSTWOWY ZAKŁAD HIGIENY

NATIONAL INSTITUTE OF PUBLIC HEALTH
- NATIONAL INSTITUTE OF HYGIENE

ZAKŁAD HIGIENY KOMUNALNEJ
DEPARTMENT OF ENVIRONMENTAL HYGIENE

24 Chocimska 00-791 Warsaw • Phone: (22) 5421354; (22) 5421349 • Fax (22) 5421207 • e-mail: sek-zhk@pzh.gov.pl

ATEST HIGIENICZNY HK/B/0170/01/2011
ORYGINAŁ
HYGIENIC CERTIFICATE

Wyrób / product: **Koryta i drabiny kablowe wraz z systemem zamocowań**

Zawierający / containing: blachy: ocynkowane, kwasoodporne, ocynkowane malowane lakierami proszkowymi

Przeznaczony do / destined: stosowania na zewnątrz i wewnątrz pomieszczeń budynków: mieszkalnych, użyteczności publicznej, przemysłowych w tym gastronomii spożywczego do układania kabli, przewodów elektrycznych oraz mocowania instalacji hydraulicznej i wentylacyjnej

Wymieniony wyżej produkt odpowiada wymaganiom higienicznym przy spełnieniu następujących warunków / is acceptable according to hygienic criteria with the following conditions:

- bez zastrzeżeń

Wytwórca / producer:
BAKS Kazimierz Sielski
05-480 Karczew
ul. Jagodne 5

Niniejszy dokument wydano na wniosek / this certificate issued for:
BAKS Kazimierz Sielski
05-480 Karczew
ul. Jagodne 5

Atest może być zmieniony lub unieważniony po przedstawieniu stosownych dowodów przez którąkolwiek stronę. Niniejszy atest traci ważność po: 2016-04-06 lub w przypadku zmian w recepturze albo w technologii wytwarzania wyrobu.

The certificate may be corrected or cancelled after appropriate motivation.
The certificate loses its validity after 2016-04-06
or in the case of changes in composition or in technology of production.

Data wydania atestu higienicznego: 6 kwietnia 2011
The date of issue of the certificate: 6th April 2011

Kierownik Zakładu Higieny Komunalnej
dr Bożena Kroguleska

Reprodukowanie, kopiowanie, fotografowanie, skanowanie, digitalizacja Atestu Higienicznego w celach marketingowych bez zgody NIZP-PZH jest zabronione.

www.pzh.gov.pl

Testing laboratory of the Building Research Institute in Poland (ITB) decided upon testing of fully assembled cable trays and ladders from BAKS manufactured from stainless steel, that the above products fully comply with the PN-IEC 61537:2003 (U) standard in respect of electrical properties of maintaining system circuit integrity. Mechanical connections of cable tray and ladder lengths allows for equipotential bonding for electrical continuity in accordance with the requirements of this standard.

INSTYTUT TECHNIKI BUDOWLANEJ
ZESPÓŁ LABORATORIÓW BADAWCZYCH
akredytowany przez Polskie Centrum Akredytacji
certyfikat akredytacji nr AB 023

AB 023

Strona 1 z 16

ZAKŁAD BADAŃ OGNIOWYCH
LABORATORIUM AUTOMATYKI, SYGNALIZACJI POŻAROWEJ
I INSTALACJI ELEKTRYCZNYCH LE

RAPORT Z BADAŃ NR LE00-2584/11/Z00NP
Egzemplarz I

Klient: „BAKS" Kazimierz Sielski – Producent

Adres klienta: ul. Jagodne 5; 05-480 Karczew

Informacje dotyczące obiektu badań

Obiekt badań: nazwa, opis, stan i identyfikacja: *Korytka siatkowe z drutu stalowego*

Data przyjęcia/pobrania obiektu badań: 07.11.2011

Nr protokołu przyjęcia/pobrania obiektu badań: LE00-2584/11/Z00NP

Procedura przyjęcia/pobrania obiektu badań:

Informacje dotyczące badań

Data rozpoczęcia badań: 14.11.2011

Data zakończenia badań: 25.11.2011

LABORATORIUM AUTOMATYKI, SYGNALIZACJI POŻAROWEJ I INSTALACJI ELEKTRYCZNYCH LE
Warszawa | ul. Ksawerów 21 | tel. (22) 56-64-394; (22) 56-64-413 | fax (22) 847-23-11

System Category

Certificates

Product Table

Basic Product Dimensions

Usable Cross-Section Table

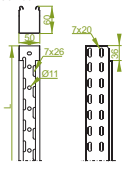
Reference Drawing

Material

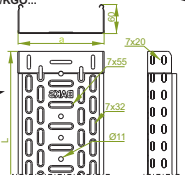
Cable Trays – System of Side Height H60

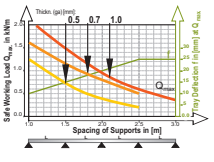
Cable Tray

KG.../KC...50H60



KG.../KGO...



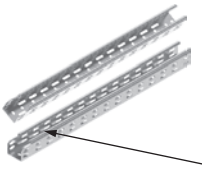


Width	Usable Cross-Section
50	29 cm²
100	58 cm²
150	88 cm²
200	118 cm²
300	178 cm²
400	238 cm²
500	298 cm²
600	358 cm²

KGR...H60

± 0.5 mm

CODE	Width a mm	Length L mm	kg 1 m	Catalogue No.	Qty/m
KGR50H60/3	50	3000	0.67	160224	12/36
KGR100H60/3	100	3000	0.84	161516	6/18
KGR150H60/3	150	3000	1.01	161616	6/18
KGR200H60/3	200	3000	1.18	161716	6/18
KGR300H60/3	300	3000	1.88	161816	4/12



KGL/KGOL...H60

± 0.7 mm

CODE	Width a mm	Length L mm	kg 1 m	Catalogue No.	Qty/m
KGL/KCL50H60/2	50	2000	0.98	160324	12/24
KGL/KCL50H60/3	50	3000	0.98	160424	12/36
KGL/KGOL100H60/2	100	2000	1.18	164011	12/24
KGL/KGOL100H60/3	100	3000	1.18	160116	6/18
KGL/KGOL150H60/2	150	2000	1.43	164012	12/24
KGL/KGOL150H60/3	150	3000	1.43	160216	6/18
KGL/KGOL200H60/2	200	2000	1.68	164021	12/24
KGL/KGOL200H60/3	200	3000	1.68	160316	6/18
KGL/KGOL300H60/2	300	2000	2.18	164031	8/16
KGL/KGOL300H60/3	300	3000	2.18	160416	4/12
KGL400H60/3	400	3000	2.67	160516	4/12
KGL500H60/3	500	3000	3.17	160616	2/6
KGL600H60/3	600	3000	3.67	160716	2/6

KGJ/KGOJ...H60

± 1.0 mm

CODE	Width a mm	Length L mm	kg 1 m	Catalogue No.	Qty/m
KGJ/KCJ50H60/3	50	3000	1.33	160624	6/18
KGJ/KCJ50H60/6	50	6000	1.33	169460	6/36
KGJ/KGOJ100H60/3	100	3000	1.63	160816	6/18
KGJ100H60/6	100	6000	1.63	160817	6/36
KGJ/KGOJ150H60/3	150	3000	1.98	160916	6/18
KGJ150H60/6	150	6000	1.98	160917	6/36
KGJ/KGOJ200H60/3	200	3000	2.28	161016	6/18
KGJ200H60/6	200	6000	2.28	161017	6/36
KGJ/KGOJ300H60/3	300	3000	2.96	161116	4/12
KGJ300H60/6	300	6000	2.96	161117	4/24
KGJ/KGOJ400H60/3	400	3000	3.65	161216	4/12
KGJ400H60/6	400	6000	3.65	161217	4/24
KGJ500H60/3	500	3000	4.32	161316	2/6
KGJ500H60/6	500	6000	4.32	161317	2/12
KGJ600H60/3	600	3000	4.99	161416	2/6
KGJ600H60/6	600	6000	4.99	161417	2/12

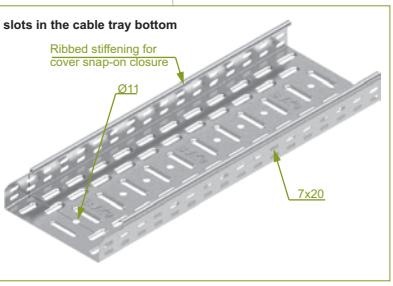
Possibility of joining cable tray sections together through sliding one into another and connector-free assembly. For the assembly use Screw Sets SGKM6x12 or SGM6x12. Information on Covers for Cable Trays and on Covers for Fittings are available on pages: 153-162

MATERIAL
Steel, strip-galv. acc. to the Sendzimir method PN-EN 10346:2015-09 (SG)
Available finishes:
F - steel, hot-dip galv.to PN-EN ISO 1461:2011 (HDG) **only for :**
- KGL... of width 50-200mm
- KGJ... of length 3m
L - powder coating in a full range of colours (PC) (info p. 4)

APPLICATIONS
Cable routing

NEW type of cable trays from BAKS with stamping around the slots in the cable tray bottom

Benefits of the New System:
- sidewall (side rail) perforation sized 7x20mm laid in a row, one over another
- dense perforation with stamping around the slots for excellent heat transfer - designed to enable cable tray installation on supports from BAKS anywhere within the system
- transverse stamping around the slots in the cable tray bottom for even 20% increased strength
- longitudinal ribbed stiffening of cable tray flange edges allow the covers to snap firmly into place
- slotted holes Ø11 in the cable tray bottom allow for suspension on a threaded rod
- cut in the flange at the cable tray end and the shift of the last-row slots to the end enable sliding one section into another, and connector-free assembly
- the shape of sheet-metal stamping along the end edges of the cable tray bottom prevents from cables damage upon their distribution (cable pulling)



R – 0,5
L – 0,7
F – 0,8
J – 1,0
D – 1,2
P – 1,5
C – 2,0
M – 2,5
T – 3,0
E – 4,0
V – 5,0
S – 6,0
O – 8,0
X – 10,0
Material Thicknes Marked by Letters

KGL/KGOL100H60/3

Length in [m] /01 = 0.1m /2 = 2m

Height in [mm]

Width in [mm]

Product Symbol

KGL/KGOL...H60

± 0,7 mm

CODE	Length L mm	Width a mm	kg 1m	Catalogue No.	Qty/m
KGL/KGOL100H60/3	3000	100	1,18	160116	6/18

Length in mm

Width in mm

Weight in Units of Measurement

Catalogue Number

Pack. Qty

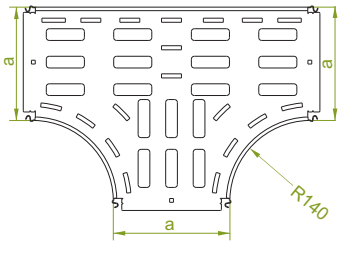
Guide and description of the special marks on products

Our goal is to simplify work with catalogue. Why to decided to change descriptions of products to special marks.

Example of the Tee

Horizontal Tee

TKS...

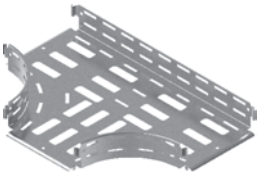


APPLICATION
Branching out cable runs

TKS...H60

CODE	Width a mm	kg 1 pc	Catalogue No.	qty
TKS60H60	60	0.71	971106	1
TKS100H60	100	1.18	971110	1
TKS150H60	150	1.77	971115	1
TKS200H60	200	2.04	971120	1
TKS300H60	300	3.16	971130	1
TKS400H60	400	4.52	971140	1
TKS500H60	500	6.12	971150	1
TKS600H60	600	7.96	971160	1

Benefits:
Faster assembly of cable routes thanks to the integrated connector for fittings



MATERIAL
Steel, strip-galv. acc. to the Sendzimir method to PN-EN 10346:2015-09 (SG)
Available finishes:
E- stainless steel (SS), grade 1.4301 (AISI304)
L- powder coating in a full range of colours (PC) (info p. 4)

E-90

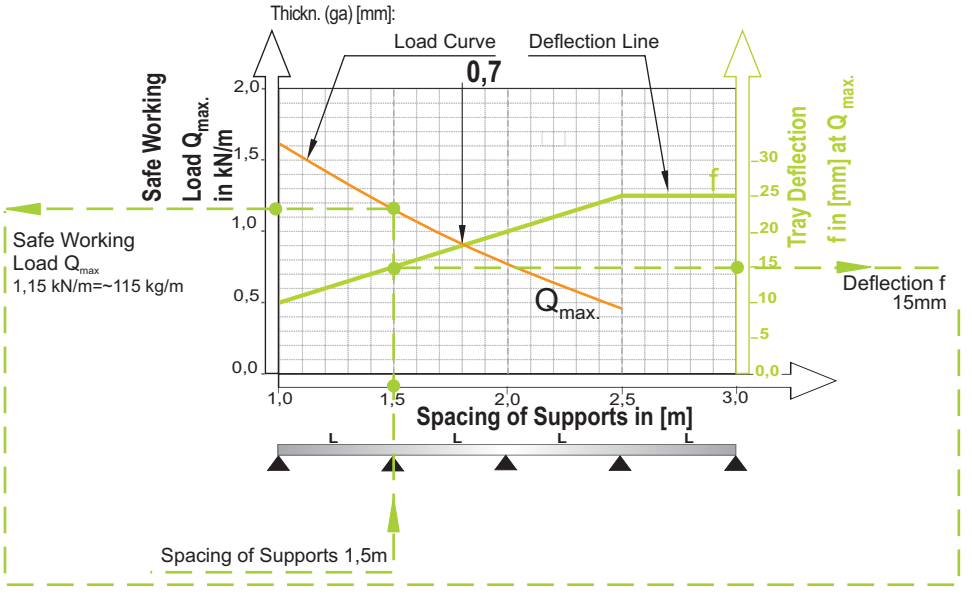
Guide:

N **New product** | **Rapid assembly** | **Assembly without use of any additional tools** | strong **Heavy duty product** | E90 **Product available also in E-90 system**

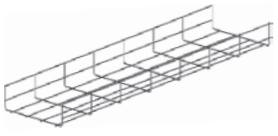
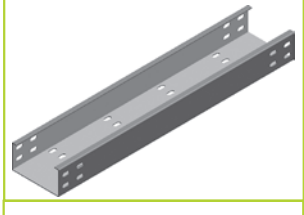
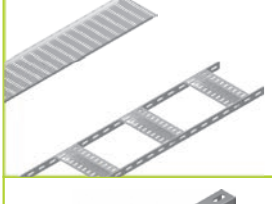
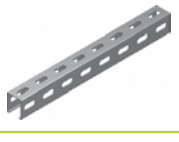
Application of Load – Curve Diagram

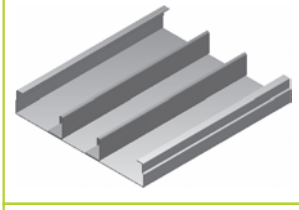
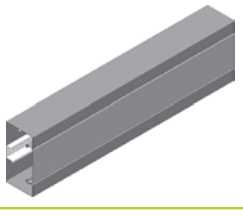
Among problems which may occur with accurate selecting the cable tray: Safe working load for any particular tray at given spacing of support.
Example:
Cable tray type: KGL/KGOL100H60/3 is supported in spans of 1,5m. How to define the safe working load for the cable tray?

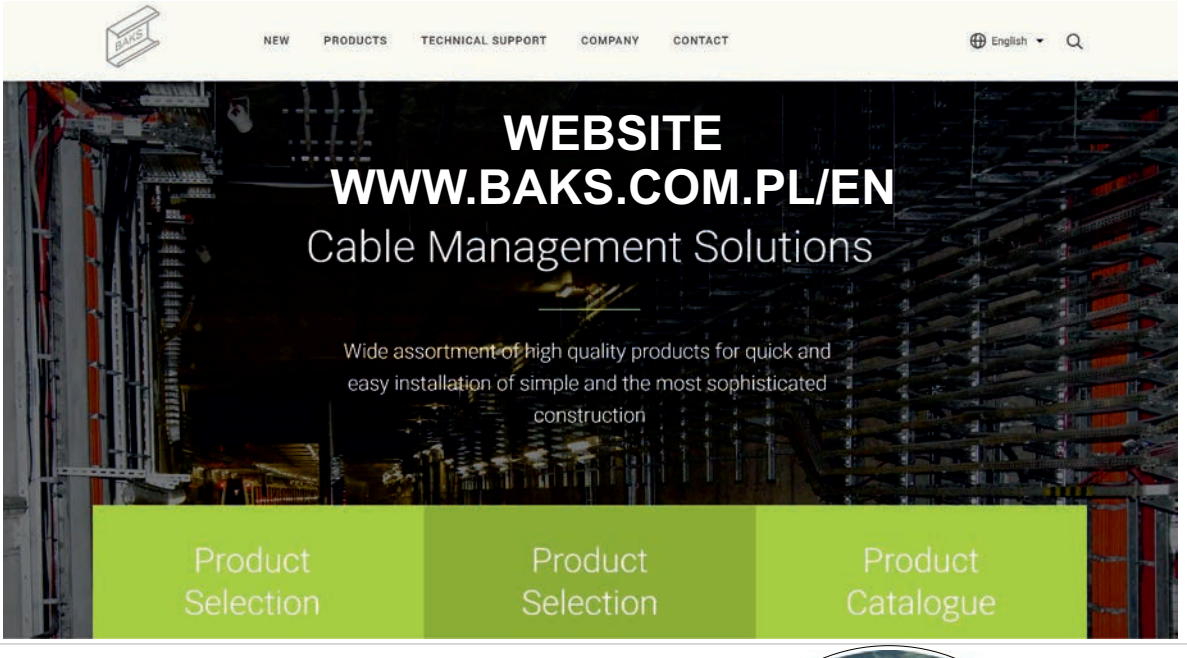
Reading the diagram:
– On the spacing of supports axis read the value of 1,5m.
– Draw a line perpendicular to the spacing of supports axis until it crosses the Qmax. on the load curve
– From the intersection point draw a line parallel to the support bracket axis and to the left, up to the safe working load, then read the value 1,15 kN/m (~115 kg/m)



The read out value indicates that the volume of about 115kg/m of cables can be safely laid within a 1,5m section.
Because the spacing of supports is 3m, on the section of 1,5m spacing of supports, the volume of 225kg/m of cables can be safely laid.
Coefficient of safety for safe working load is 70%.

	**Cable Trays – System of Side Heights H30, H42, H50, H60, H80, H100, H110**	**Section I**
	**Wire Mesh Cable Trays – System of Side Heights H35, H60, H110**	**Section II**
	**Long Span Cable Trays – Side Heights H100, H110, H120, H150, H200** **Important! BAKS is introducing the multi-purpose side rail for long span cable trays and ladders**	**Section III**
	**Outdoor Cable Trays – Extra Heavy Duty System of Side Heights H50, H100, H200**	**Section IV**
	**Cable trays - power supply to machines H50, H100, H200**	**Section V**
	**Cable Ladders – Side Heights H45, H50, H60, H80, H100, H120**	**Section VI**
	**Long Span Cable Ladders – Side Heights H100, H110, H120, H150, H200** **Important! BAKS is introducing the multi-purpose side rail for long span cable trays and ladders**	**Section VII**
	**Vertical Cable Ladders – System of Side Heights H55, H80**	**Section VIII**
	**Ship Cable Trays and Ladders**	**Section IX**
	**Support System - Channels, Angles, Z - Profiles, DIN Rails, Flats, Accessories**	**Section X**

	**Mounting and Supporting Accessories - Rods, Chains, Wire Ropes, Anchors, Sleeves, Screws**	**Section XI**
	**Support System – Wall-Mounted**	**Section XII**
	**Support System – Ceiling-Mounted & Suspended Spring Steel Fasteners, Cable Ties and Fixings**	**Section XIII**
	**Support Systems – Beam Suspended and Support System**	**Section XIV**
	**Underfloor Trunking of Side Heights H28, H38, H48**	**Section XV**
	**Wall Trunking – System of Side Heights H68, H100**	**Section XVI**
	**Lighting Trunking System**	**Section XVII**
	**Support System of Photovoltaic Cell Modules**	**Section XVIII**
	**E30, E90 Systems**	**Section XIX**
NEWS	**NEW PRODUCTS AND SOLUTIONS**	**Section XX**



DVD-ROM presentation

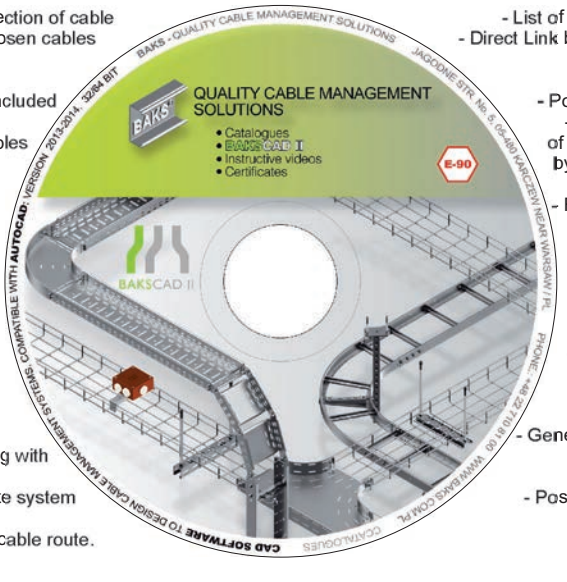
This eCatalogue distributed in form of a DVD contains comprehensive instructing materials, i.e. films and visualizations, which present characteristics of the company's products and systems, including demonstration of assembly and installation instructions

BAKSCAD II - new CAD software to design cable management systems

Software compatible with:
AutoCAD: edition 2010 - 2018 32/64 bit
BRICSCAD: edition V12 - V17 32/64 bit
ZWCAD: edition 2010-2017 32/64 bit

Product selection
- Possibility to select apropriate straight section of cable management system with previously choosen cables and support spacing
- Database for several cable producers
- Possibility to align cables to previously included parts of cable ways
- Fast and easy description of included cables in project

Drawing module
- Possibility to add to the project elements from all group of products:
- Cable trays
- Wire mesh cable trays
- Long span system of cable trays
- Heavy duty outdoor cable trays
- Cable ladders
- Long span system of cable ladders
- Underfloor trunking
- E-30, E-90 fire protection system
- There are two drawing methods: instertion of single blocks and fast drawing with automatic insertion of bends
- Automatic selection of fittings to apropriate system and dimensions
- Fast describtion for all parts of designed cable route.

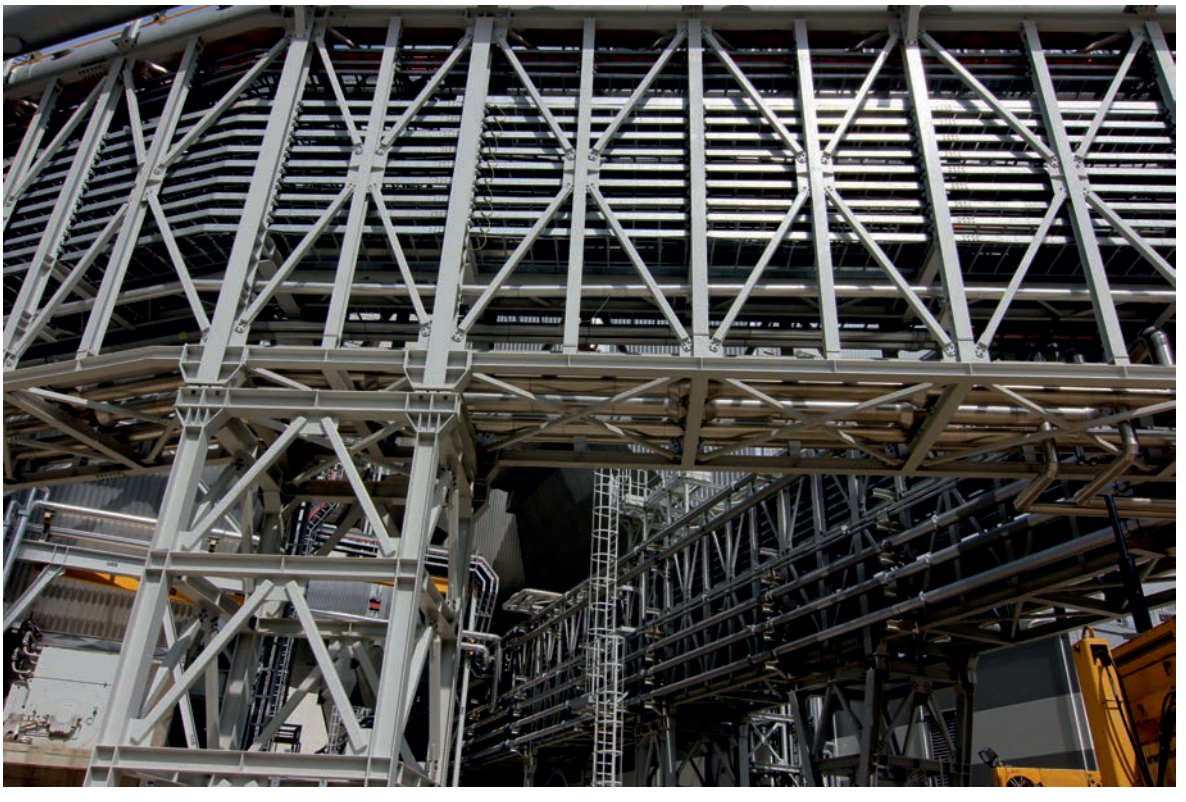


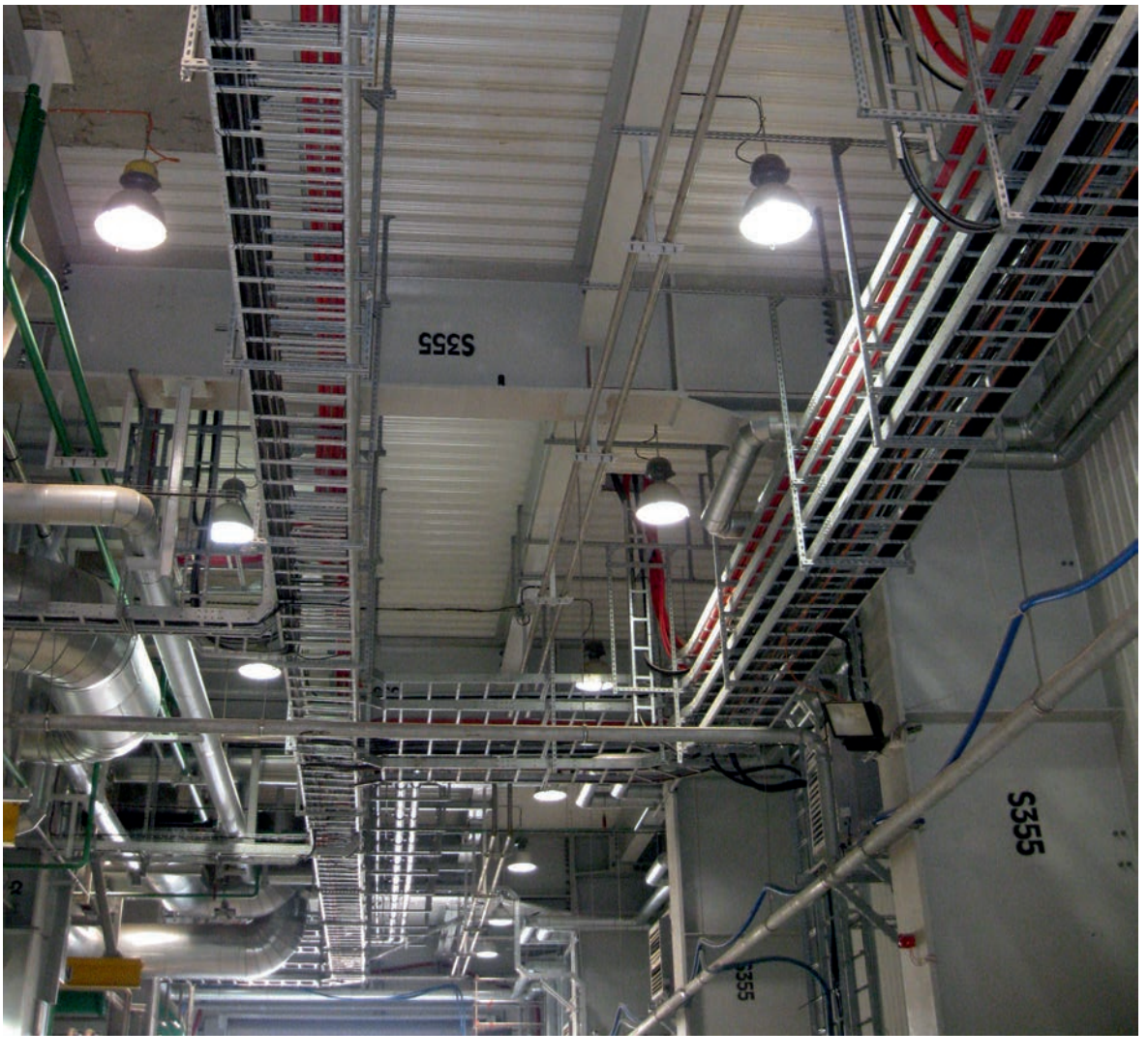
Product catalogue
- List of all elements manufactured by company BAKS
- Direct Link between the products and its catalogue sheets

Support system
- Posibility to include supports to the cable routes.
- 2 ways to define a supports: one by selection of single products from BAKS catalogue, second by chosing predefined construction prepared for different types of cable routes.
- Fast descrition of elements included in support
- Fast insertion of drawings shawing predefined constructions

Loading simulation
- Control of loading capacity and filling every part of cable route. After adding supports and cables to the cable routes program shows possible overload or overfilling"

List of products
- Generation of list of elements included on a project with already calculated number of connectors and screw sets and all products from support.
- Possibility to put table with list of elements directly to the project or to XLS file.




S355
S355