



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.

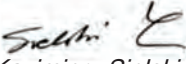
Our products quality is confirmed by numerous certificates:

- 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 61537:2001 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.
- 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, Eupen, Faber, Nexans, Prakab, Studer, Telefonika, and Technokabel.
- Certificate of Conformity ITB Warsaw No. ITB-1699/W
- Certificate of Conformity CNBOP Józefów No. 2621/2008
- Technical Approval CNBOP Józefów No. AT-0602-0151/2008
- Certificates DMT Dortmund
- Classifications FIRES Batizovce
- TÜV ISO 9001:2000 certificate, confirming that all products designed and manufactured by BAKS comply with the ISO 9001:2000 quality system.
- ITB Technical Recommendation - voluntary recommendation covering all manufactured products except for the fire resistance system.

In this catalogue more than 20,000 products are offered. All the production lines have been modernized and adjusted to provide our customers with even the most advanced solutions based on supplied documentation. As a respected and reliable business partner we were invited to co-operate in construction of such significant projects in Poland as Orlen Płock, Rafineria Gorlice, Galeria Mokotów - Warszawa, VW Poznań, Philips Morris- Kraków, Metro Warszawa, and many others. BAKS' strategy is to meet our customers' even most demanding needs by providing top quality products at the lowest price. This, together with our professional logistic services found reliable among our Customers and proved effective through co-operation with more than 500 wholesalers and distributors, made our company renowned and trusted.

For many years our products have been exported to numerous European countries, such as Belarus, Bulgaria, Croatia, The Czech Republic, Estonia, France, Spain, Kazakhstan, Lithuania, Latvia, Germany, Russia, Romania, Serbia, Slovakia, Ukraine, and Hungary. We are proud of our ever increasing export rates, a clear mark of quality and excellent services provided by BAKS.

We are looking forward to doing business with you!


Kazimierz Sielski
President

BAKS technology: the quality you can afford!





The following information will instruct you in properties of coating against corrosion applied to our products.

The primary factor of selecting materials for installation is the environment of the cable route to be assembled.

Protection against Corrosion through Zinc-Coating

In conditions defined as normal the best performance has been achieved in structural of structural steelwork with zinc coating.

The warranty period is established upon the thickness of zinc coating, as well as upon yearly reduction value of protection layer in relation to various environmental influence on zinc (acc. to the corrosion category).

Corrosion Category	Reduction of Protective Layer (µm)	Examples of Environment in Temperate Climate (for Information only)
C1 insignificant	< 0.1	Indoor: heated buildings with clean atmosphere, e.g.: offices, shops, etc. Outdoor: –
C2 low	> 0.1 to 0.7	Indoor: non-heated buildings with condensation, e.g.: sport halls, warehouses, etc. Outdoor: atmosphere with low level of pollution
C3 medium	> 0.7 to 2.1	Indoor: production facilities with increased humidity and moderate pollution e.g.: breweries, laundries, creameries and dairies, etc. Outdoor: urban and industrial atmosphere
C4 high	> 2.1 to 4.2	Indoor: chemical plants, swimming pools, shipyards Outdoor: industrial zones and inshore areas with moderate salinity
C5 very high (industrial)	> 4.2 to 8.4	Indoor: buildings or areas with permanent condensation and extreme pollution Outdoor: industrial zones with damp conditions and aggressive atmosphere
C5-M very high (marine)	> 4.2 to 8.4	Indoor: buildings or areas with permanent condensation and extreme pollution Outdoor: inshore and offshore areas with intense salty atmosphere

The required thickness of zinc coating can be measured by multiplying the value of annual reduction by the expected time of operation. There are three basic methods of zinc coating offered that provide fundamentally different thickness levels of the protective layer:

Electro Galvanizing (EG)

Small elements (bolts, nuts, washers) are covered with thin and uniform zinc coating in electrolytic bath; the 5µm coating looks bright and shiny.

Strip Galvanizing According to the Sendzimir Method (SG)

Up to 3mm thick hot steel sheets are zinc-coated in mill. Thus produced, average ca. 19µm zinc layer is uniformly and firmly adherent. Such coating remains corrosion resistant even when damaged through cutting, perforating, or drilling. All types of strip galvanized trays, ladders, and most of support elements are intended for application in predominantly dry premises of C1 and C2 class.

Mild Steel Hot-Dip Galvanizing (HDG)

Dipping in molten zinc in conformity with PN-EN ISO 1461:2011.

Completely processed details – small components (after the stages of cutting, bending, welding etc.) are immersed in molten zinc at the temperature around 450-460°C. This advanced technology based upon the phenomenon of diffusion excellently protects steel against corrosion. It consists in zinc atoms penetrating the outer surface of steel, thus forming a new, superficial iron-zinc alloy. The articles pulled out from galvanizing bath become coated with fine pure zinc layer.

Depending upon the conditions of the whole galvanization process (period of dipping, process of cooling, quality of surface in applied base material and its chemical constitution, etc.) the colour of zinc coating surface may vary from bright and shiny to matt dark grey – it will not influence the quality of protective layer whatsoever. In damp conditions white spots on the surface may appear. It is zinc hydroxide named 'white corrosion' – this will not in any respect deteriorate the quality of protective layer, however, it will negatively impact the product's physical appearance. All types of cable trays, ladders, and load-bearing elements coated with zinc through hot-dip galvanizing are recommended for prolonged outdoor exposure where condensation of fumes of aggressive chemical substances are active. Hot-dip galvanized products are used primarily in corrosive environments classed as C4* where high relative humidity takes place (basements, garages, boiler rooms, etc.) and in very aggressive environments classed as C5-I and C5-M*, where condensation of fumes of aggressive chemical substances, such as saltwater, flue gases from fossil-fuel combustion, etc. are present (e.g. large shipyards, refineries, petrochemical, chemical and gas-processing plants, and mines).

Acc. to PN-EN ISO 12944-2/2001

Parts and Thickness	Local Thickness of Zinc Protective Coating (minimum value) (µm)	Mean Thickness of Zinc Protective Coating (minimum value) (µm)
Steel >6mm	70	85
Steel >3mm to <6mm	55	70
Steel >1.5mm to <3mm	45	55
Steel <1.5mm	35	45

Acc. to PN-EN ISO 1461

During the assembly in uncovered areas exposed to sheet cutting the anti-corrosion layer is likely to be damaged. It is recommended to protect these areas through applying zinc paint in spray onto their edges.

Powder Coating (PC)

Elements intended for painting are covered with powder paint through electrostatic or electrokinetic spraying, then warmed in a test furnace for about 20 minutes in the temperature of 160-200°C. The paint is then applied directly to metal without the use of primers or solvents. Coatings obtained thereby will always produce a smooth surface, free of cracks, damp patches, or wrinkles. The finished products perform high corrosion and water resistance along with excellent mechanical properties. Powder-coated elements are applied in places where increased corrosion resistance is required (galvanized sheets) or attractive overall interior appearance expected to harmonize with the fittings' range of colours.

Stainless Steel (SS)

Perfect material regarding a very high extent of resistance against corrosion is stainless steel, e.g. 0H18N9. Installations made from stainless steel are superior to alternative structures made from plastic. Such elements find application particularly in highly aggressive chemical environments (refineries, wastewater treatment plants, plastics production works) and in food industry (meat factories, creameries and dairies, etc). False economy may sooner or later lead to production downtimes in face of the need to replace the supporting structure or cable runways.



PROTECT GALVANIZED AND PREPACKED PRODUCTS AGAINST DAMP ENVIRONMENTS!!!

RECOMMENDATIONS ON APPROPRIATE STORAGE OF PRODUCTS TO AVOID STORAGE STAIN (WHITE CORROSION):

1. The products pre-packed for transport (i.e. delivered all wrapped in original package from BAKS) should be kept unchanged in the storage that is dry and of air permeable conditions.
2. When storing avoid violent changes in humidity and temperature leading to the decrease in the level of steam condensation. White corrosion may appear when the a/m conditions are not met.
3. In case temporary products storage in the open area proves necessary, provide dry and air permeable environment. Use an air permeable screen.
4. Dry the products immediately after found wet (place each piece separately in the dry and airy room, avoid direct contact with the others, and wait until they are all air dried) before storing.
5. Any damage to the product's sheet surface caused by its moisture will cause the rejection of any possible claims.

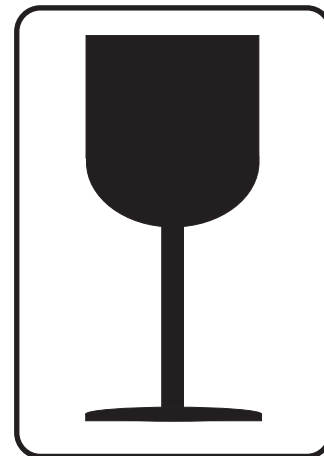
Claims will not be considered in the event the goods are stored inappropriately and against the recommended storage conditions!

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.



Storage:
Warehouse the products in a roofed and aired location. Keep away from water!



Electrical Continuity

The International Standard of PN EN 61537: 2007* specifies methodology of safe working load tests for cable trays, ladders, cantilever brackets, pendants, and other fittings. Apart from mechanical requirements, this norm describes methodology of testing electrical continuity, as well as describes the electrical requirements that cable runways and couplers must meet.

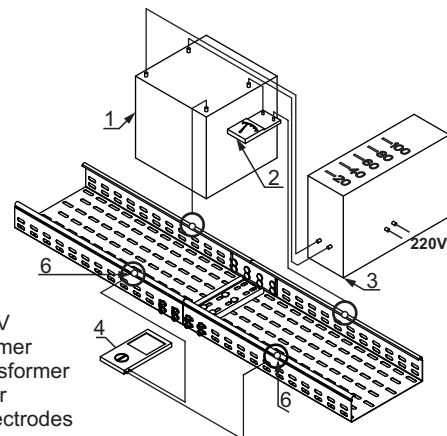
The calculated impedances shall not exceed 50mΩ ($Z \leq 50 \text{ m}\Omega$) across the joint (i.e. coupler or integral coupling), and 5 mΩ ($Z \leq 5 \text{ m}\Omega/\text{m}$) without the joint**.

Certificate no. TM 61000061.001 issued by TUV Rheinland Polska is a confirmation of meeting the PN EN 61537: 2007 standard requirements for product safety both in respect of mechanical, and electrical performance.

BAKS has accomplished non-standard tests for electrical continuity in the testing facility of the Polish Building Research Institute (ITB), Warsaw, Poland.

* Polish version of IEC 61537:2006: Cable management – Cable tray systems and cable ladder systems
** Op. cit. IEC 61537-11-1: Clause 2: 2006: Electrical properties – Electrical continuity, p. 31

Measurement System for the Test of System Circuit Integrity



1. 220V/12V
2. Transformer
3. Autotransformer
4. Voltmeter
5. Metal electrodes



Certificate

Standard **ISO 9001:2008**

Certificate Registr. No. **75 100 6850**

TÜV Rheinland InterCert Kft. certifies:

Certificate Holder: **BAKS Kazimierz Sielski**
ul. Jagodne 5
PL - 05-480 Karczew



Scope: design and manufacture of metal supporting systems for cables , wires and ventilation ducts as well as of metal cabinets and shelves, powder painting

An audit was performed. Proof has been furnished that the requirements according to ISO 9001:2008 are fulfilled.

Validity: The certificate is valid from **2011-04-19** until **2014-04-18**.
First certification: 2001

Warsaw, 2011.04.06.

Gregor Guabka

Accredited Certification Body
TÜV Rheinland InterCert Kft.
H-1132 Budapest, Váci út 48/a-b

Branch Office in Poland
TÜV Rheinland Polska Sp. z o.o.,
PL-02-146 Warszawa,
ul. 17 Stycznia 56





VDE 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)** 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

nr: TM 6100061.001



Hologram



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
26100073

Our reference
210/PS11/00698

Expiration date
2016.05.03

Testet acc. to
PN-EN 61537:2007

Certified Product (Product Identification)

Metal cable management systems
Cable trays H30 – H200
Mesh trays H30 – H110
Cable ladders H45 – H200
Sub-floor channels H28 – H48
Wall channels H68 – H100
Fittings, supporting constructions, and other accessories in the BAKS catalogue.

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



Certification Body



Tomasz Opaszowski

Warsaw , 09.05.2011

This certificate is subjected to the Certification Regulations as well as the General Conditions of Including Transactions in JCW TRP and refers only to the products consistent with the sample being the basis of the carried out confirmation test. This certificate alone does not entitle the holder to attach the CE marking.



Production monitored
Product tested



TÜVRheinland®
Precisely Right.

www.tuv.pl



According to the tests carried out in the testing laboratory of the Building Research Institute in Poland it was proved that all assembled cable trays and ladders conform to the PN-IEC 61537:2003 (U) standard in respect of the electric properties – maintenance of the circuit continuity.
Mechanical connections cable trays and ladders provides electric equipotential continuity according to standard requirements.

INSTYTUT TECHNIKI BUDOWLANEJ
PL 00-611 WARSZAWA, ul. FILTROWA 1
tel.: (48 22) 825-04-71; (48 22) 825-76-55; fax: (48 22) 825-82-86
Członek Europejskiej Unii Akceptacji Technicznej w Budownictwie - UEATC
Członek Europejskiej Organizacji ds. Aprobacji Technicznych - EOTA

Seria: APROBATY TECHNICZNE

**REKOMENDACJA TECHNICZNA ITB
RT ITB-1082/2007**

Instytut Techniki Budowlanej w Warszawie, na wniosek firmy:
BAKS WYTWARZANIE OSPRZĘTU INSTALACYJNO-ELEKTROTECHNICZNEGO
Kazimierz Siskaki
05-480 Karczew, ul. Jagodne 5

stwierdza przydatność do stosowania w budownictwie wyrobów pod nazwą:

**ZESTAWY WYROBÓW
BAKS®
DO WYKONYWANIA TRAS KABLOWYCH**

w zakresie i na zasadach określonych w Załączniku, który jest integralną częścią niniejszej Rekomendacji Technicznej ITB.

Termin ważności:
28 czerwiec 2012 r.

DYREKTOR
Instytutu Techniki Budowlanej
doc. dr inż. Stanisław M. Wierzbicki

Załącznik:
Postanowienia ogólne i techniczne

Warszawa, 28 czerwiec 2007 r.

Dokument Rekomendacji Technicznej RT ITB-1082/2007 zawiera 53 strony. Tekst tego dokumentu można kopiować tylko w całości. Publikowanie lub uproszczenie w każdej innej formie fragmentów tekstu Rekomendacji Technicznej wymaga pisemnego uzgodnienia z Instytutem Techniki Budowlanej.

CE CERTIFICATE: is the CE declaration of conformity confirming that wire mesh cable tray systems comply with applicable EC directives and bear the CE marking. This product is allowed on every market in the European Economic Area (EEA)

**Declaración de Conformidad
Declaration of Conformity**

CE

La Empresa:
The Company: **INTERFLEX S.A.**

Declara que el producto: **BANDEJA PORTACABLES DE REJILLA**
Declares that the product:

Instalado de acuerdo con las normas de instalación, instrucciones del fabricante y conforme a las reglas profesionales, debidamente mantenido y utilizado en las aplicaciones para las que está previsto.
Installed in accordance to the installation standards, manufacturer's instructions and professional rules, duly maintained and used for the applications as intended.

Cumple con los requisitos esenciales de las Directivas del Consejo:
Complies with the essential requirements of the Council Directives:

73/23 CEE y su modificación 93/88 CEE (Directiva de Baja Tensión)
73/23 CEE and its modification 93/88 CEE (Low Voltage Directive)

Incorporado en la Legislación Española en: R.D. 7/1988 y su modificación R.D. 154/1995.
Incorporated in the Spanish Legislation in: R.D. 7/1988 and its modification R.D. 154/1995.

Es adecuado y seguro para el uso a que está destinado y es conforme con el siguiente proyecto de norma:
And it is suitable and safe for the intended use and it is in conformity with the following draft standard:

IEC/SC 23A/265/CD

Información adicional:
Additional information:

Este producto está previsto para ser instalado y mantenido por un profesional, puede ser usado por una persona no formada para reemplazamiento de uno idéntico.
This product is intended to be installed and maintained by skilled persons, it may be used by ordinary persons only as a replacement part, to substitute for an identical device.

Año de fijación del marcado CE: **96**
Year of affixing the CE marking:

Lugar y Fecha:
Place and date: **Nombre, cargo y firma de la persona autorizada:**
Name, function and signature of the authorised person

MONTCADA I REIXAC, (ESPAÑA)
11 de DICIEMBRE de 1996 **XAVIER VERNET**
RESPONSABLE CONTROL CALIDAD

Certificate GOST
Certificate of Conformity to apply and distribute
BAKS' products in The Russian Federation

СИСТЕМА СЕРТИФИКАЦИИ ГОСТ Р
ФЕДЕРАЛЬНОЕ АГЕНТСТВО ПО ТЕХНИЧЕСКОМУ РЕГУЛИРОВАНИЮ И МЕТРОЛОГИИ

СЕРТИФИКАТ СООТВЕТСТВИЯ

№ РОСС PL_ДЕ01.НЗ7042
Срок действия с 27.12.2010г. по 26.12.2013г.
№ 0114482

ОРГАН ПО СЕРТИФИКАЦИИ
РОСС.ДЕ.0001.11.ДЕ.01
ДНИ ГОСТ ТЮФ БЕРЛИН-БРАУЦЕНБУРГ Общество по сертификации в Европе,
Буденштр. Штр. 31, 10787 Берлин, Германия, Тел. 0049302001 2310

ПРОДУКЦИЯ
несущие системы для кабелей, типы H30; H42; H45; H50; H60; H80;
H100; H120; H150; H200
серийный выпуск

КОД ОК 003 (ОКСТ):
34 0000

СООТВЕТСТВУЕТ ТРЕБОВАНИЯМ НОРМАТИВНЫХ ДОКУМЕНТОВ
ГОСТ 12.2.007.0-75

КОД ТН ВЭД России:
7216 91 800 0

ИЗГОТОВИТЕЛЬ
BAKS Wytwarzanie Osprzętu Instalacyjno-Elektrotechnicznego,
ul. Jagodne 5, PL-05-480 Karczew, Polonia

СЕРТИФИКАТ ВЫДАН
BAKS Wytwarzanie Osprzętu Instalacyjno-Elektrotechnicznego,
ul. Jagodne 5, PL-05-480 Karczew, Polonia

НА ОСНОВАНИИ
-протоколов ИЦ ТЮФ Рейнланд ЛГА Produkte ГмбХ (РОСС RU.0001.21MЛ13)
№ 21160332_001 от 27.12.2010г.
-сертификата ДНИ ГОСТ ТЮФ № 1168-10 от 27.12.2010г.

ДОПОЛНИТЕЛЬНАЯ ИНФОРМАЦИЯ
сертификат изготовителя сертифицирована по ИСО 9001-2000

Руководитель органа: **Г. Славик**
Эксперт: **В. Фримман**

сертификат не применяется при обязательной сертификации

Certificate ZHODY CSKS08
Certificate of Conformity to apply and distribute
BAKS' products in Slovakia

BAKS

BAKS, ul. Jagodne 5, 05-480 Karczew, Polska

Vyhlasenie vyrobcu o preukazani zhody
V zmysle § 6 ods. 1 písm. c) a § 25 zákona č. 90/1998 Z.z. o stavebných výrobkoch v znení neskorších predpisov
č. 4301C/02/0202/V/008

Vyrobcu: BAKS, ul. Jagodne 5, 05-480 Karczew, Polska
Miesto výroby: BAKS, ul. Jagodne 5, 05-480 Karczew, Polska
Vyrobnok: Káblové žľaby, rebríky, podlahové kanály a príslušenstvo

Varianty výrobcu: Káblové žľaby – systém H30, H42, H80, H80, H100 a príslušenstvo, káblové žľaby – samonosný systém H100 a príslušenstvo, káblové žľaby – masivný korábkový systém H30, H100, H200 a príslušenstvo, káblové rebríky – systém H45, H50, H60, H80, H100, H120, H150, H200 a príslušenstvo, podlahové kanály – systém H25, H35, H45 a príslušenstvo, nosné a montážne prvky.

Technický popis: Káblové žľaby, rebríky, podlahové kanály s príslušenstvom predstavujú stavebný výrobok, ktorý slúži pre umiestnenie a uloženie optických káblov, vodičov a štrôv, ako aj na udržiavanie rozvodov vzduchu a vody vo vodovodných a zvláštnych rozvodoch.

ČZ: 4301C KP: 31.20.27 PCS: 7215

Stavebný výrobok bol podrobený postupu preukazovania zhody podľa § 6 ods. 1 písm. c) zákona č. 90/1998 Z.z. v znení neskorších predpisov a nariadenia vlády č. 392/1998 Z.z., ktorým sa ustanovujú podmienky o technických požiadavkách a postupoch posudzovania zhody pre elektrické zariadenia, ktoré sa používajú v určitom rozsahu napätia. Zákon č. 430/2001 Z.z., ktorým sa mení a dopĺňa zákon č. 264/1998 Z.z. o technických požiadavkách na výrobky a o posudzovaní zhody a o zmene a doplnení niektorých zákonov, Vyhláska č. 520/2001 Z.z., ktorou sa určujú skupiny stavebných výrobkov a podmienky o preukazovaní zhody pri ktorom sa použije tento postupe.

Protokol o preukazaní ekolácie č. 508/02/0036/4301C/SL s platnosťou do 12.12.2007, ktorý vypracoval EVPU, s.a. Nová Dubnica ako AO reg. č. C/5 09/1998

Správa o výsledku (poľstotočnej) inspekcie č. 210/Q01/0316 s platnosťou do 30.10.2004, ktorú vypracoval TÜV Rheinland ZETOM Polska Sp. z o.o.

Údaje o vhodnosti použitia stavebného výrobku v stavbe: Umiestnenie a uloženie izolovaných káblov, vodičov, štrôv, rozvodov vzduchu a vody vo vodovodných a zvláštnych rozvodoch.

Vyrobcu v zmysle ustanovení zákona č. 90/1998 Z.z. o stavebných výrobkoch v znení neskorších predpisov vyhlasuje, že

výrobok je v zhode

s technickými špecifikáciami a príslušnými predpismi uvedenými na nabe tohto vyhlásenia o zhode. Vyrobcu označí výrobok značkou zhody CSKS. Zoznam výrobkov, za ktoré stavebný výrobok nemá vlastností overené preukazovanie zhody, zmlá výrobcu.

Karczew, dňa 20.12.2002

BAKS
WYTWARZANIE OSPRZĘTU
INSTALACYJNO-ELEKTROTECHNICZNEGO
Karczew, ul. Jagodne 5,
05-480 KARCZEW, ul. Jagodne 5,
tel. 716 91 80 00, fax: 716 91 02 04
Regon: 000277880

Kazimierz Siskaki
nastfel

008774

Certificates of Compliance ITB and CNBOP E-30, E-90



Info

CNBOP Technical Approval for Support Systems of Cable Runways from BAKS, Integrated Function Maintenance Rated E30, E90 Systems confirming the results of fire tests in conformity with DIN 4102-12

Centrum Naukowo – Badawcze Ochrony Przeciwpowarowej
im. Józefa Tuliszkowskiego
ul. Nadwiślańska 213, 05-420 Józefów k/Otwocka
tel. +48 22 7803 300 fax +48 22 7803 306
www.cnbop.pl e-mail: cnbop@cnbop.pl

Seria: APROBATY TECHNICZNE

**APROBATA TECHNICZNA CNBOP
AT-0602-0151/2010 wydanie 2**
Niniejsza Aprobata Techniczna zastępuje Aprobata Techniczną CNBOP AT-0602-0151/2010

Na podstawie rozporządzenia Ministra Infrastruktury z dnia 8 listopada 2004 r. w sprawie aprobat technicznych oraz jednostek organizacyjnych upoważnionych do ich wydawania (Dz. U. nr 249, poz. 2497) w wyniku postępowania aprobacyjnego dokonanego w Centrum Naukowo-Badawczym Ochrony Przeciwpowarowej w Józefowie k/Otwocka na wniosek firmy:

BAKS Wytwarzanie Osprzętu Instalacyjno – Elektrotechnicznego
Kazimierz Sielski, ul. Jagodne 5, 05-480 Karzew

stwierdza się przydatność do stosowania w budownictwie wyrobu pod nazwą:

Systemy nośne tras kablowych BAKS o odporności ogniowej E-30, E-90
produkowanego przez: BAKS Wytwarzanie Osprzętu Instalacyjno-Elektrotechnicznego Kazimierz Sielski, ul. Jagodne 5, 05-480 Karzew

o przeznaczeniu, zakresie, warunkach i na zasadach określonych w załączniku, który jest integralną częścią niniejszej Aprobata Technicznej CNBOP.

Termin ważności
12 maja 2013 r.

Załącznik
Postanowienia ogólne i techniczne

Józefów, 25 października 2010 r.

Dyrektor Centrum Naukowo-Badawczego Ochrony Przeciwpowarowej im. Józefa Tuliszkowskiego
mł. brzoj. dr inż. Dariusz Wróblewski

Aprobata Techniczna CNBOP AT-0602-0151/2010 wydanie 2 zawiera 31 stron. Dopuszcza się kopiowanie Aprobata Technicznej w całości albo tylko pierwszej strony. Kopiowanie, publikowanie lub upowszechnianie w każdej innej formie (również elektronicznej) fragmentów Aprobata Technicznej wymaga pisemnego uzgodnienia z Centrum Naukowo-Badawczym Ochrony Przeciwpowarowej.

This certificate confirms that Support Systems of Cable Runways from BAKS, Integrated Function Maintenance Rated E30, E90 are fully compliant to the DIN 4102-12 standard, based upon fire tests conducted in accredited testing centres.

JEDNOSTKA CERTYFIKUJĄCA
The Certification Body
CENTRUM NAUKOWO-BADAWCZE OCHRONY PRZECIWPOWAROWEJ
im. Józefa Tuliszkowskiego
SCIENTIFIC AND RESEARCH CENTRE FOR FIRE PROTECTION
ul. Nadwiślańska 213, 05-420 Józefów k/Otwocka, Substancja 213

**CERTYFIKAT ZGODNOŚCI
CERTIFICATE OF ACCORDANCE**
Nr 2621/2008

Zgodnie z rozporządzeniem Ministra Infrastruktury z dnia 11 sierpnia 2004 r. w sprawie sposobów deklarowania zgodności wyrobów budowlanych oraz sposobu znakowania ich znakami budowlanymi (Dz. U. 2004 Nr 198, poz. 2041), stwierdza się, że wyrobów budowlanych:

Systemy nośne tras kablowych BAKS o odporności ogniowej E30 i E90

wprowadzony do obrotu przez: BAKS Wytwarzanie Osprzętu Instalacyjno-Elektrotechnicznego Kazimierz Sielski ul. Jagodne 5 05-480 Karzew

wyprodukowany przez: BAKS Wytwarzanie Osprzętu Instalacyjno-Elektrotechnicznego Kazimierz Sielski ul. Jagodne 5 05-480 Karzew

zakład produkcyjny: BAKS Wytwarzanie Osprzętu Instalacyjno-Elektrotechnicznego Kazimierz Sielski ul. Jagodne 5 05-480 Karzew

spełnia wymagania: Aprobata Techniczna CNBOP Nr AT-0602-0151/2010 wydanie 2 z dnia 25.10.2010 r.

W ocenie zgodności zastosowano system 1.

Opis oraz warunki dotyczące stosowania wyrobu budowlanego określa załącznik stanowiący integralną część certyfikatu. Certyfikat pozostaje w mocy pod warunkiem przestrzegania przez Dostawcę wymagań zawartych w umowie Nr 49/DC/2008

Okres ważności certyfikatu od 05.11.2010 r. do 12.05.2013 r. pod warunkiem, że wymagania określone w powyższej specyfikacji technicznej lub warunkach produkcji w zakładzie albo sam system zakładowej kontroli produkcji nie ulegną znaczącym zmianom.

KIEROWNIK JEDNOSTKI CERTYFIKUJĄCEJ
mł. kpt. mgr inż. Tomasz Kiełbasa

DYREKTOR CENTRUM NAUKOWO-BADAWCZEGO OCHRONY PRZECIWPOWAROWEJ
mł. brzoj. dr inż. Dariusz Wróblewski

Józefów, dnia 5 listopada 2010 r.

DC29/18.05.2009 Zastępuje Certyfikat Zgodności Nr 2621/2008 z dnia 19.05.2008 r.

Technical Approval for BAKS' cable systems is consistent with positive fire test results of BAKS support systems in combination with cables of chosen producers and it is in accordance with the recent Ordinance of the Minister of Infrastructure of 12 March 2009 (Journal of Laws [Dz. U.] No. 56, item 461) in force since 8 July 2009 and fully meet requirements of the DIN 4102-12:1998-11 standard.

NEW! First in Poland CNBOP Certificate of Conformity for cable systems with E30, E60, E90 integrated function maintenance classes, issued by CNBOP Warsaw, Poland. This E30, E60, E90 Certificate of Conformity is consistent with approx. 40 positive test reports with the following cable manufacturers: Bitner, Dätwyler, Elkond, Eupen, Faber, Nexans, Prakab, Studer, Technokabel, Telefonika.

Centrum Naukowo – Badawcze Ochrony Przeciwpowarowej
im. Józefa Tuliszkowskiego
ul. Nadwiślańska 213, 05-420 Józefów k/Otwocka
tel. +48 22 7803 300; fax +48 22 7803 306
www.cnbop.pl e-mail: cnbop@cnbop.pl

Seria: APROBATY TECHNICZNE

**APROBATA TECHNICZNA CNBOP
AT-0605-0270/2010 wydanie 3**
Niniejsza Aprobata Techniczna zastępuje Aprobata Techniczną CNBOP AT-0602-0270/2010 wydanie 2

Na podstawie rozporządzenia Ministra Infrastruktury z dnia 8 listopada 2004 r. w sprawie aprobat technicznych oraz jednostek organizacyjnych upoważnionych do ich wydawania (Dz. U. nr 249, poz. 2497 z późn. zm.) w wyniku postępowania aprobacyjnego dokonanego w Centrum Naukowo-Badawczym Ochrony Przeciwpowarowej w Józefowie k/Otwocka na wniosek firmy:

BAKS Wytwarzanie Osprzętu Instalacyjno – Elektrotechnicznego
Kazimierz Sielski

stwierdza się przydatność do stosowania w budownictwie wyrobu pod nazwą:

Zespoły kablowe BAKS (kablowe konstrukcje nośne wraz z przewodami i kablami elektrycznymi) o klasie podtrzymania funkcji elektrycznych E30, E60, E90 wg DIN 4102-12:1998-11

Producent konstrukcji nośnych: BAKS
Producenci przewodów i kabli: BITNER, DÄTWYLER, ELKOND, EUPEN, FACAB LYNEN, NEXANS, PRAKAB, LEONI STUDER, TECHNOKABEL, TELE-FONIKA KABLE

o przeznaczeniu, zakresie, warunkach i na zasadach określonych w załączniku, który jest integralną częścią niniejszej Aprobata Technicznej CNBOP.

Termin ważności
9 lutego 2015 r.

Załącznik
Postanowienia ogólne i techniczne

Józefów, 16 marca 2011 r.

Dyrektor Centrum Naukowo-Badawczego Ochrony Przeciwpowarowej im. Józefa Tuliszkowskiego
mł. brzoj. dr inż. Dariusz Wróblewski

Aprobata Techniczna CNBOP AT-0605-0270/2010 wydanie 3 zawiera 69 stron. Dopuszcza się kopiowanie Aprobata Technicznej tylko w całości. Kopiowanie, publikowanie lub upowszechnianie w każdej innej formie (również elektronicznej) fragmentów Aprobata Technicznej wymaga pisemnego uzgodnienia z Centrum Naukowo-Badawczym Ochrony Przeciwpowarowej.

JEDNOSTKA CERTYFIKUJĄCA
The Certification Body
CENTRUM NAUKOWO-BADAWCZE OCHRONY PRZECIWPOWAROWEJ
im. Józefa Tuliszkowskiego
SCIENTIFIC AND RESEARCH CENTRE FOR FIRE PROTECTION
ul. Nadwiślańska 213, 05-420 Józefów k/Otwocka, Substancja 213

**CERTYFIKAT ZGODNOŚCI
CERTIFICATE OF ACCORDANCE**
Nr 2756/2011

Zgodnie z rozporządzeniem Ministra Infrastruktury z dnia 11 sierpnia 2004 r. w sprawie sposobów deklarowania zgodności wyrobów budowlanych oraz sposobu znakowania ich znakami budowlanymi (Dz. U. 2004 Nr 198, poz. 2041), stwierdza się, że wyrobów budowlanych:

Zespoły kablowe BAKS - kablowe konstrukcje nośne wraz z przewodami i kablami elektrycznymi o klasie podtrzymania funkcji elektrycznych E30, E60, E90 wg DIN 4102-12:1998-11

wprowadzony do obrotu przez: BAKS Wytwarzanie Osprzętu Instalacyjno-Elektrotechnicznego Kazimierz Sielski ul. Jagodne 5 05-480 Karzew

wyprodukowany przez: BAKS Wytwarzanie Osprzętu Instalacyjno-Elektrotechnicznego Kazimierz Sielski ul. Jagodne 5 05-480 Karzew

zakład produkcyjny: BAKS Wytwarzanie Osprzętu Instalacyjno-Elektrotechnicznego Kazimierz Sielski ul. Jagodne 5 05-480 Karzew

spełnia wymagania: Aprobata Techniczna CNBOP Nr AT-0605-0270/2010 wydanie 3 z dnia 16.03.2011 r.

W ocenie zgodności zastosowano system 1.

Opis oraz warunki dotyczące stosowania wyrobu budowlanego określa załącznik stanowiący integralną część certyfikatu. Certyfikat pozostaje w mocy pod warunkiem przestrzegania przez Dostawcę wymagań zawartych w umowie Nr 27/DC/2011

Okres ważności certyfikatu od 18.05.2011 r. do 09.02.2015 r. pod warunkiem, że wymagania określone w powyższej specyfikacji technicznej lub warunkach produkcji w zakładzie albo sam system zakładowej kontroli produkcji nie ulegną znaczącym zmianom.

KIEROWNIK JEDNOSTKI CERTYFIKUJĄCEJ
mł. kpt. mgr inż. Tomasz Kiełbasa

DYREKTOR CENTRUM NAUKOWO-BADAWCZEGO OCHRONY PRZECIWPOWAROWEJ
mł. brzoj. dr inż. Dariusz Wróblewski

Józefów, dnia 18 maja 2011 r.

DC29/18.05.2009



UP until now BAKS has carried out tests with the following cable producers:
Bitner, Dätwyler, Elkond, Eupen, Faber, Nexans, Studer, Technokabel i Telefonika


DMT Deutsche Medien
 Technologie GmbH
 Fachstelle für Brandschutz
 Tremmschstraße 13
 44137 Dortmund
 Telefon 0231-5333-211
 Telefax 0231-5333-297
 E-Mail: ga@dmtd.de
 http://www.dmt.de

Allgemeines bauaufsichtliches Prüfzeugnis

Prüfzeugnisnummer: P - 1005 DMT DO

Gegenstand: Kabelanlage mit integriertem Funktionserhalt mit Tragsystemen der Fa. BAKS und Kabeln der Fa. Dätwyler der Funktionserhaltsklassen E 30, E 60 bzw. E 90 nach DIN 4102-12 : 1998 - 11

Antragsteller: BAKS
 ul. Jagodne 5
 PL-05-480 Karczew

Ausstellungsdatum: 30.11.2005
Geltungsdauer: 30.11.2011



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

Dieses Prüfzeugnis umfasst 38 Seiten inklusive 10 Anlagen und darf nur vollständig und unverändert weiterverbreitet werden. Die auszugsweise Weitergabe bedarf der schriftlichen Zustimmung der DMT.


DMT Deutsche Medien
 Technologie GmbH
 Fachstelle für Brandschutz
 Tremmschstraße 13
 44137 Dortmund
 Telefon 0231-5333-211
 Telefax 0231-5333-299
 E-Mail: ga@dmtd.de
 http://www.dmt.de

Allgemeines bauaufsichtliches Prüfzeugnis

Prüfzeugnisnummer: P - 1002 DMT DO

Gegenstand: Kabelanlage mit integriertem Funktionserhalt mit Tragsystemen der Fa. BAKS und Kabeln der Fa. Eupen und der Fa. Telefonika der Funktionserhaltsklasse E 90 nach DIN 4102-12 : 1998 - 11

Antragsteller: BAKS
 ul. Jagodne 5
 PL-05-480 Karczew

Ausstellungsdatum: 31.08.2005
Geltungsdauer: 31.08.2010



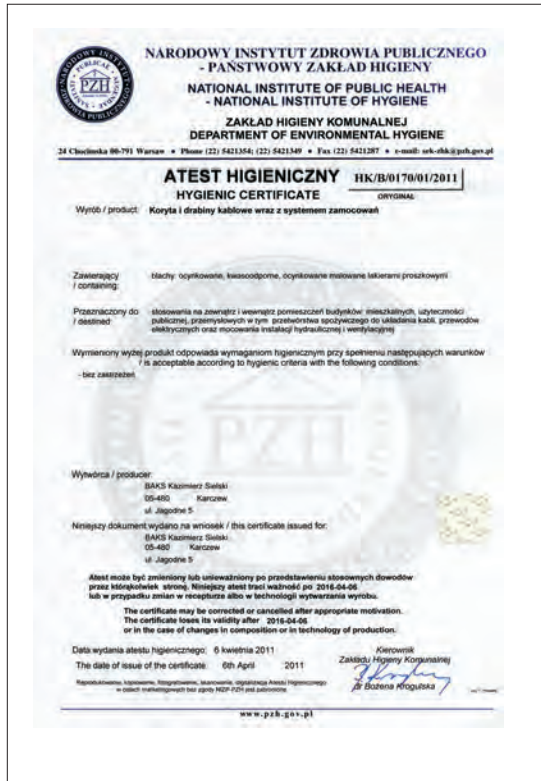
Dieses Allgemeine bauaufsichtliche Prüfzeugnis ersetzt das Allgemeine bauaufsichtliche Prüfzeugnis vom 28.07.2004.

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

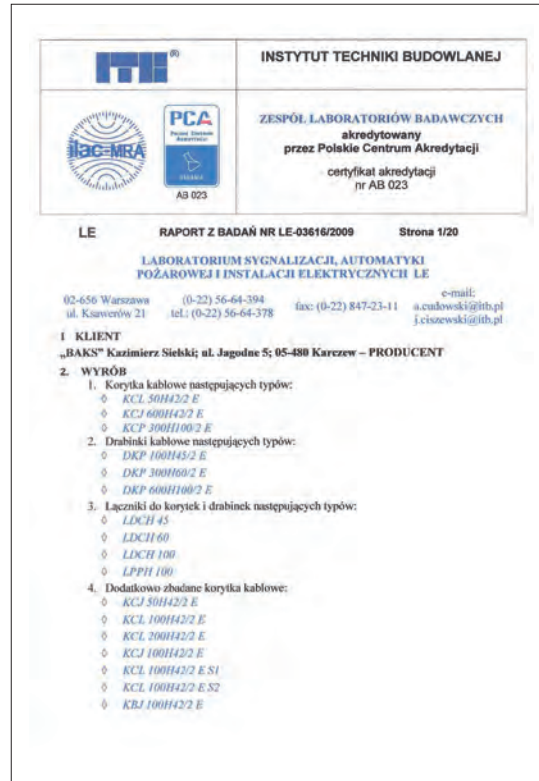
Dieses Prüfzeugnis umfasst 51 Seiten inklusive 12 Anlagen und darf nur vollständig und unverändert weiterverbreitet werden. Die auszugsweise Weitergabe bedarf der schriftlichen Zustimmung der DMT.



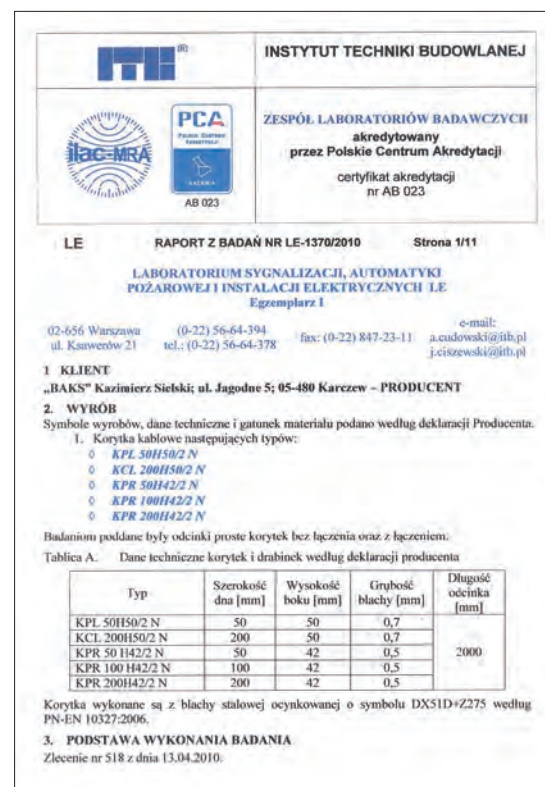
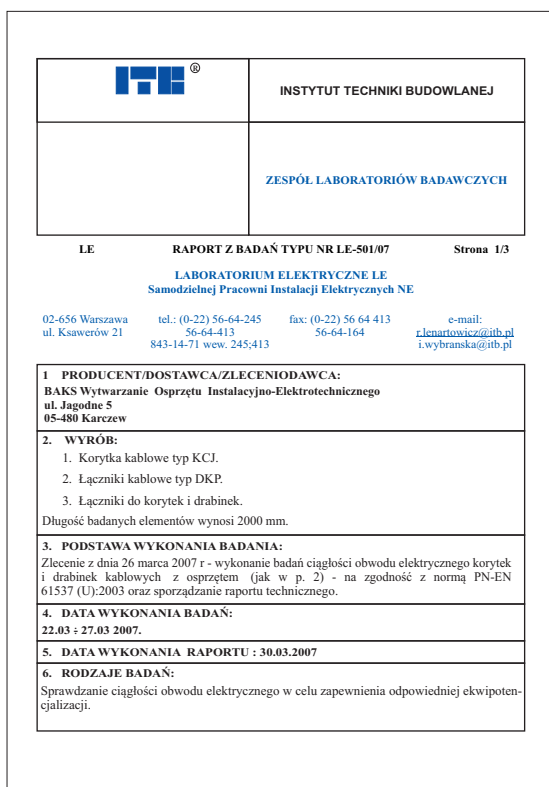
Hygienic Certificate that approves the use of cable trays and ladders together with support systems for applications inside and outside residential and public utility buildings, and occupancies for industrial purposes including food processing.



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.



Testing laboratory of the Building Research Institute in Poland (ITB) decided upon testing of fully assembled cable trays and ladders from BAKS 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.





CAD Software for Designing and Simulation of Cable Management Systems

Application for AutoCAD®
AutoCAD® 2000, AutoCAD®2002, AutoCAD®2004, AutoCAD®2005,
AutoCAD®2006, AutoCAD®2007, AutoCAD®2008, AutoCAD®2009, AutoCAD®2010
(software incompatible with LT versions).

Complete Products Catalogue from BAKS

Designing based on a full product range available from BAKS:

- cable trays systems
- long span trays systems
- outdoor cable trays - extra heavy duty systems
- cable ladders systems
- underfloor trunking systems
- mounting and support components

Advanced and Intuitive Drawing Methods

- fast drawing with the use of predefined blocks
- drawing support through suggested solutions
 - three levels of drawing precision
 - option of unlimited defining of layers
- joining a variety of related installations within a cable route
- complicated terminology concerning rail profiles within a cable route
 - cable route visualization

Simulation Module for Cable Concentration in Tray and Ladder Cable Route

- ready cable data base
- possible defining of cables' end-user cables
- distribution of cable wiring within cable runways
- indication of cable concentration within cable runways in all sections

Simulation module for cable loadings

- load determination with specific cable concentration
- calculating deflection of sections under a given load
- support point indication under a given load
- selection of elements for a given load

Module of file generation

- projects in execution
- products listings
- offers and inquiries
- data export to external applications

Technical support for software implementation

- advanced assistance files
- instructional materials for comprehensive practical training in CAD software

How to Specify:

To place an order for stiffened channels:
 3.0mm thick, 40mm wide
 40mm high, 3m long
 number of pcs: 50
 please always specify:
CWT40H60/3, cat. no. 641330, no of pcs: 50

Marking of Non-Standard Products

An additional type of marking has been introduced for non-standard products. When ordering the last letter of the symbol should be accompanied by additional and appropriate letter indicating the type of material.

Type of material - marking:

F - steel, hot-dip galvanized to PN-EN ISO 1461:2000.

E - stainless steel (standard steel type: 0H18N9).

A - aluminum

L - powder coating in full variety of colours.

Products manufactured on special request – placement of order

KCJ100H60/3N-L KCJ100H60/3N tray powder coated

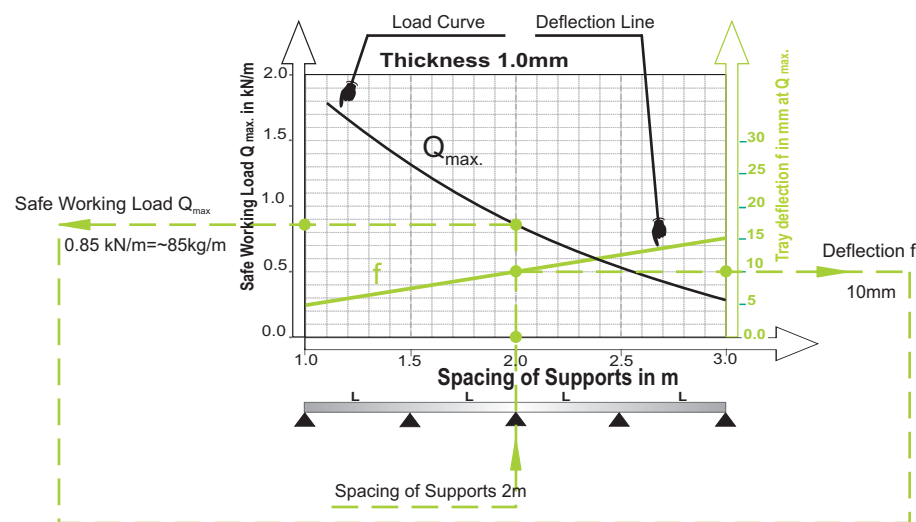
KCJ100H60/3N-F KCJ100H60/3N tray, hot-dip galvanized steel

Application of Load – Curve Diagram

Among problems which may occur with accurate selecting the cable tray or cable ladder are:
 Safe working load for any particular tray or ladder at given spacing of support.

Example:

Cable tray type: KPJ200H60/3 is supported in spans of 2m. How to define the safe working load for the tray?



Reading the diagram:

- On the spacing of supports axis read the value of 2m.
- Draw a line perpendicular to the spacing of supports axis until it crosses the Q_{max} 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 0.85 kN/m (~85kg/m)

The read out value indicates that the volume of about 85kg/m of cables can be safely laid within a 1m section.

Because the spacing of supports is 2m, on the section of 2m spacing of supports, the volume of 170kg/m of cables can be safely laid.

Coefficient of safety for safe working load is 70%.

Layout Guide



System Category


Reference Drawing

Product Table

- 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
- Material Thickness Marked by Letters

Cable Trays - System of Side Height H30

Cable Tray - Straight



KGR...H30 0.5mm						KGJ...H30 1.0mm					
CODE	Width a [mm]	Length L [m]	Weight kg	Catalogue No.	Pack. Qty	CODE	Width a [mm]	Length L [m]	Weight kg	Catalogue No.	Pack. Qty
KGR100H30/2	100	3000	0.67	130916	12	KGJ100H30/3	100	3000	1.19	130518	12
KGR150H30/3	150	3000	0.85	131116	8	KGJ150H30/3	150	3000	1.53	130618	8
KGR200H30/3	200	3000	1.04	131116	6	KGJ200H30/3	200	3000	1.86	130716	6
KGR300H30/3	300	3000	1.40	131216	6	KGJ300H30/3	300	3000	2.52	130816	6

KGJ...H30 0.7mm

CODE	Width a [mm]	Length L [m]	Weight kg	Catalogue No.	Pack. Qty
KGL100H30/2	100	3000	0.50	130316	12
KGL150H30/3	150	3000	1.06	130216	8
KGL200H30/3	200	3000	1.39	130316	6
KGL300H30/3	300	3000	1.89	130416	6

KPR...H30 0.5mm

CODE	Width a [mm]	Length L [m]	Weight kg	Catalogue No.	Pack. Qty
KPR35H30/2	35	2000	0.42	130103	20
KPR35H30/3	35	3000	0.22	130203	20
KPR50H30/2	50	2000	0.48	130105	20
KPR50H30/3	50	3000	0.48	130205	20
KPR100H30/2	100	2000	0.67	130110	12
KPR100H30/3	100	3000	0.67	130210	12
KPR150H30/2	150	2000	0.85	130115	8
KPR150H30/3	150	3000	0.85	130215	8
KPR200H30/2	200	2000	1.04	130120	6
KPR200H30/3	200	3000	1.04	130220	6
KPR300H30/2	300	2000	1.40	130130	6
KPR300H30/3	300	3000	1.40	130230	6

KPJ...H30 1.0mm

CODE	Width a [mm]	Length L [m]	Weight kg	Catalogue No.	Pack. Qty
KPJ35H30/2	35	2000	0.76	130503	20
KPJ35H30/3	35	3000	0.76	130603	20
KPJ50H30/2	50	2000	0.86	130505	20

KPL...H30 0.7mm

CODE	Width a [mm]	Length L [m]	Weight kg	Catalogue No.	Pack. Qty
KPL35H30/2	35	2000	0.57	130303	20
KPL35H30/3	35	3000	0.57	130403	20
KPL50H30/2	50	2000	0.65	130305	20
KPL50H30/3	50	3000	0.65	130405	20
KPL100H30/2	100	2000	0.90	130310	12
KPL100H30/3	100	3000	0.90	130410	12
KPL150H30/2	150	2000	1.08	130315	8
KPL150H30/3	150	3000	1.08	130415	8
KPL200H30/2	200	2000	1.39	130320	6
KPL200H30/3	200	3000	1.39	130420	6
KPL300H30/2	300	2000	1.89	130330	6
KPL300H30/3	300	3000	1.89	130430	6

Note: Improved perforation of Cable Trays KPR, KPL and KPJ 35mm wide. The smallest gauge of all cable trays from BAKS, ideal for distributing small gauge wires feeding small electrical appliances. Connecting tray sections through sliding them one into another and screwing up. This eliminates the need to apply couplers. Universal perforation in the bottom tray for direct attachment to walls and will suit all types of cantilever brackets from BAKS.

Possibility of joining cable tray sections together through sliding one into another and connector-free assembly. To install cable tray - straight use Screw Sets SGK M6x10 or SG M6x10. Information on Covers for Cable Trays and on Covers for Fittings available on pages: 110-116.

Fluorescent green highlighting of the catalogue number: NEW in the range

Basic Product Dimensions

Loadings Diagram

Usable Cross-Section Table

Material

Color Marking for Material Thickness

Material Thickness

Pack. Qty

Catalogue Number

Weight in Units of Measurement

Product Symbol: KPJ50H30/2

Length in [m]
R1 = 0.1m
I2 = 2m

Width in [mm]

Product Symbol

KPJ...H30 1.0mm					
CODE	Width a [mm]	Length L [m]	Weight kg	Catalogue No.	Pack. Qty
KPJ 35H30/2	35	2000	0.76	130503	20
KPJ 35H30/3	35	3000	0.76	130603	20
KPJ 50H30/2	50	2000	0.86	130505	20

Width in mm

Length in mm



	Cable Trays – System of Side Heights H30, H42, H50, H60, H80, H100, H110	Section I
	Wire Mesh Cable Trays – System of Side Heights H30, H60, H110	Section II
	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 III
	Outdoor Cable Trays – Extra Heavy Duty System of Side Heights H50, H100, H200	Section IV
	Cable Ladders – Side Heights H45, H50, H60, H80, H100, H120	Section V
	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 VI
	Heavy Duty Cable Ladders – Vertical System of Side Heights H55, H80	Section VII
	Steel Framing Channel Fittings and Supports – Channels, Angles, Z-Sections, Frame Rails, Flats	Section VIII
	Mounting and Supporting Accessories – Rods, Chains, Wire Ropes, Anchors, Sleeves, Screws	Section IX



	Steel Framing Fittings and Supports – Wall-Mount Supports	Section X
	Load-Bearing Elements and Mounting Hardware – Ceiling Mounted&Suspended Systems	Section XI
	Spring Steel Fasteners and Plastic Cable Ties and Fixings	Section XII
	Ceiling-Mount Beam Suspended and Support System	Section XIII
	Underfloor Trunking of Side Heights H28, H38, H48	Section XIV
	Steel Surface Trunking – System of Side Heights H68 - H100	Section XV
	Lighting Trunking System for Functional and Decorative Tasks	Section XVI
	Support System – Photovoltaic Cell Modules	Section XVII
	E30, E90 Systems – Assemblies Exceeding Standard	Section XVIII
NEW	NEW PRODUCTS AND SOLUTIONS	Section XIX



Catalogue of products and DVD-ROM presentation



The electronic version of this Catalogue is now available both on a CD-ROM, and on our web site at www.baks.com.pl.

This electronic Catalogue allows our designers, installers, investors, and business partners for fast and efficient work with our innovative solutions.

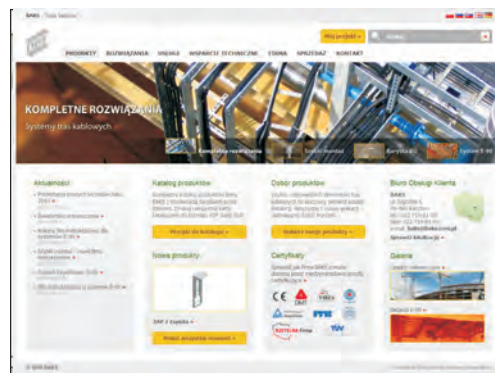
The following are the advantages of this eCatalogue:

It allows for:

- Searching for and localizing products according to a number of specified criteria
- Generating sets of products that may be treated as an order, specification, or inquiry
 - Calculating cable routes systems work parameters (load, deflection, etc.)
- Selecting cable route dimensions based on the expected cable concentration.

This eCatalogue distributed in form of a CD-ROM 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.

Internet : www.baks.com.pl



This eCatalogue, available on our web-site, allows for on-line orders and provides Information on our innovative solutions. Included is an abridged version of the Product Catalogue in the electronic form.