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Accredited Product Certification Body No. 3041
according to ČSN EN ISO/IEC 17065
Certificate of Accreditation No. 314/2021 issued by Czech Accreditation Institute,
Public Service Company

issues

according to the scope of the accreditation

Zakázka č.: Z220210176

Number of pages: 11
Copy No.: 1

CERTIFICATION REPORT

č. P-2021/0097

1 NAME OF THE CERTIFIED PRODUCT

Cable runways with circuit integrity maintenance under fire conditions

Cable trays, cable ladders, wire cable trays, junction boxes, clamps, wiring pipes, halogen-free parapet and wiring trunkings, supporting profiles and trunkings and accessories

Manufacturer: KOPOS KOLÍN a.s., Havlíčkova 432, 280 02 Kolín, Czech Republic, ID 61672971

Place of production: KOPOS KOLÍN a.s., Havlíčkova 432, 280 02 Kolín, Czech Republic



2 SUPPORTING DOCUMENTS FOR CERTIFICATION

- [1] Application form for performance actions by Certification Body from 12.5.2021
- [2] Test Report No. FIRES-FR-194-10-AUNS, issued by FIRES, s.r.o. on 9.12.2010
- [3] Test Report No. FIRES-FR-088-12-AUNS, issued by FIRES, s.r.o. on 30.5.2012
- [4] Test Report No. FIRES-FR-156-12-AUNS, issued by FIRES, s.r.o. on 27.8.2012
- [5] Test Report No. FIRES-FR-204-12-AUNS, issued by FIRES, s.r.o. on 27.11.2012
- [6] Test Report No. FIRES-FR-104-14-AUNS, issued by FIRES, s.r.o. on 21.6.2014
- [7] Test Report No. FIRES-FR-238-14-AUNS, issued by FIRES, s.r.o. on 23.1.2015
- [8] Test Report No. FIRES-FR-130-15-AUNS, issued by FIRES, s.r.o. on 24.6.2015
- [9] Test Report No. FIRES-FR-228-15-AUNS, issued by FIRES, s.r.o. on 26.1.2016
- [10] Test Report No. FIRES-FR-270-16-AUNS, issued by FIRES, s.r.o. on 16.1.2017
- [11] Test Report No. FIRES-FR-027-09-AUNS, issued by FIRES, s.r.o. on 12.3.2009
- [12] Test Report No. FIRES-FR-139-09-AUNS, issued by FIRES, s.r.o. on 11.12.2009
- [13] Test Report No. FIRES-FR-220-11-AUNS, issued by FIRES, s.r.o. on 21.11.2011
- [14] Test Report No. FIRES-FR-088-11-AUNS, issued by FIRES, s.r.o. on 4.5.2011
- [15] Test Report No. FIRES-FR-172-10-AUNS, issued by FIRES, s.r.o. on 3.11.2010
- [16] Test Report No. FIRES-FR-166-17-AUNS, issued by FIRES, s.r.o. on 7.11.2017
- [17] Test Report No. FIRES-FR-178-17-AUNS, issued by FIRES, s.r.o. on 5.12.2017
- [18] Test Report No. Pr-18-2.005, issued by PAVUS a.s. AZL 1026 Veselí nad Lužnicí on 15.1.2018
- [19] Test Report No. FIRES-FR-104-18-NURS2, issued by FIRES, s.r.o. on 10.7.2018
- [20] Test Report No. FIRES-FR-217-18-AUNS, issued by FIRES, s.r.o. on 21.11.2018
- [21] Test Report No. FIRES-FR-205-19-AUNS, issued by FIRES, s.r.o. on 30.10.2019
- [22] Test Report No. FIRES-FR-153-20-AUNS, issued by FIRES, s.r.o. on 14.12.2020
- [23] Test Report No. 20659036-30, DMT-31/97, issued by DMT GmbH & Co. KG, Dortmund, Germany on 21.12.2016
- [24] Test Report No. 8118211813, DMT-31/157, issued by DMT GmbH & Co. KG, Dortmund, Germany on 17.9.2020
- [25] Function in fire expert judgement report with classification No. FIRES-CR-115-15-AUPS, issued by FIRES, s.r.o. on 10.7.2015
- [26] Function in fire expert judgement report with classification No. FIRES-CR-170-10-AUPS, issued by FIRES, s.r.o. on 16.12.2010
- [27] Function in fire expert judgement report with classification No. FIRES-JR-006-17-NURS, issued by FIRES, s.r.o. on 29.1.2017
- [28] Function in fire expert judgement report with classification No. FIRES-JR-032-17-NURS, issued by FIRES, s.r.o. on 17.3.2017
- [29] Function in fire expert judgement report with classification No. FIRES-JR-134-16-NURS, issued by FIRES, s.r.o. on 6.3.2017
- [30] Function in fire expert judgement report with classification No. FIRES-JR-044-12-NURS, issued by FIRES, s.r.o. on 05.6.2012
- [31] Function in fire expert judgement report with classification No. FIRES-JR-053-17-NURS, issued by FIRES, s.r.o. on 23.5.2017
- [32] Function in fire expert judgement report with classification No. FIRES-JR-074-12-NURS, issued by FIRES, s.r.o. on 10.10.2012
- [33] Function in fire expert judgement report with classification No. FIRES-JR-100-17-NURS, issued by FIRES, s.r.o. on 7.11.2017
- [34] Function in fire expert judgement report with classification No. FIRES-JR-142-17-NURS, issued by FIRES, s.r.o. on 6.12.2017
- [35] Classification Report No. PK9-03-18-901-C-0, issued by PAVUS, a.s. – PCB 3041 on 2.2.2018
- [36] Function in fire expert judgement report with classification No. FIRES-JR-105-18-NURS2, issued by FIRES, s.r.o. on 17.7.2018



- [37] Function in fire expert judgement report with classification No. FIRES-JR-156-18-NURS2, issued by FIRES, s.r.o. on 23.11.2018
- [38] Function in fire expert judgement report with classification No. FIRES-JR-186-19-NURS, issued by FIRES, s.r.o. on 21.11.2019
- [39] Function in fire expert judgement report with classification No. FIRES-JR-193-19-NURS, issued by FIRES, s.r.o. on 10.12.2019
- [40] Function in fire expert judgement report with classification No. FIRES-JR-096-19-NURS, issued by FIRES, s.r.o. on 17.7.2019
- [41] Function in fire expert judgement report with classification No. FIRES-JR-150-20-NURS, issued by FIRES, s.r.o. on 15.12.2020
- [42] Function in fire expert judgement report with classification No. FIRES-JR-004-21-NURS, issued by FIRES, s.r.o. on 2.2.2021
- [43] Allgemeines bauaufsichtliches Prüfzeugnis P-1041 DMT-DO, issued by DMT GmbH & Co. KG, Dortmund, Germany on 14.4.2021
- [44] Overview of tested cable runways with circuit integrity maintenance under fire conditions with classification according to DIN 4102-12, issued by PAVUS, a.s. on 23.8.2021
- [45] Reaction to fire classification No. PK-17-144, issued by CSI, Praha on 7.12. 2017
- [46] Reaction to fire classification No. PK-17-145, issued by CSI, Praha on 7.12. 2017
- [47] Technical report – Measurement of optical attenuation of cable samples during a fire test, issued by Vysoká škola báňská, Technická univerzita Ostrava on 9.9.2020
- [48] Technical assessment of use of PRAFlaDur +1-CSKH-V180 cables with constructions tested with PRAFlaDur 1-CSKH-V180 cables, issued by PAVUS a.s. on 4.4.2018
- [49] Technical assessment of use of PRAFlaDur® +, PRAFlaDur® 90 +, PRAFlaGuard® + F cables and PRAFlaGuard® + FTP cables, issued by PAVUS a.s. on 27.8.2018
- [50] Assessment of factory production control report No. Z220210098/D, issued by PAVUS, a.s. – PCB 3041 on 6.4.2021
- [51] Certification Report P-2020/0038 from 12.3.2020, issued by PAVUS, a.s. – PCB 3041
- [52] Certificate No. C-2020/0038 from 12.3.2020, issued by PAVUS, a.s. – PCB 3041
- [53] DIN 4102-12 Fire behaviour of building materials and building components – Part 12: Circuit integrity maintenance of electric cable systems; requirements and testing
- [54] ČSN 73 0810 Fire protection of buildings – General requirements
- [55] ČSN 73 0895 Fire protection of buildings – Circuit integrity maintenance of cable systems under fire conditions – Requirements, testing, classification Px-R, PHx-R and application of the test results
- [56] ČSN EN 1363-1 Fire resistance tests – Fire resistance tests
- [57] ČSN EN 13501-1 Fire classification of construction products and building elements – Part 1: Classification using test data from reaction to fire tests
- [58] Commission Decision 2000/605/EC amending Decision 96/603/EC establishing the list of products belonging to Classes A 'No contribution to fire' provided for in Decision 94/611/EC implementing Article 20 of Council Directive 89/106/EEC on construction products

3 TECHNICAL PRODUCT SPECIFICATION, INTENDED USE IN CONSTRUCTION AND PERFORMANCE – CLIENT DECLARATION

3.1 TECHNICAL PRODUCT DESCRIPTION AND HIS IDENTIFICATION

The subject of classification carried out based on classifications are Cable runways with circuit integrity maintenance under fire conditions – Cable trays, wire cable trays, cable ladders, junction boxes, clamps, wiring pipes, halogen-free parapet and wiring trunkings, supporting profiles and trunkings and other accessories with the cables of PRAKAB PRAŽSKÁ KABELOVNA, s.r.o., NKT s.r.o., Kabelovna Kabex a.s., ELKOND HKK, a.s., CICM s.r.o., Prysmian Kablo s.r.o., Dätwyler Cables GmbH, Kabelwerk Eupen AG, Klaus Faber AG, TOP CABLE S.A., Zakłady Kablowe BITNER Sp. z o.o., Technokabel S.A., TeleFonika Kable S.A., Reichle & De-Massari Czech Republic a.s. and Studer Cables AG.

The cable runways are carried out as standard and nonstandard constructions.

Standard cable ladder construction according to DIN 4102-12 shall have a maximum width of 400 mm and side height of 60 mm, a sheet thickness of 1.5 mm with rungs spacing of 150 mm. If the rungs



spacing is 300 mm, a steel sheet with a width of 150 mm shall be placed on every rung. The support spacing is 1 200 mm and the maximum mechanical load is 20 kg/m. Other constructions are nonstandard.

Standard cable tray construction according to DIN 4102-12 shall have a maximum width of 300 mm and side height of 60 mm, a sheet thickness of 1,5 mm with $(15 \pm 5) \%$ perforation of the whole area, support spacing of 1 200 mm and a maximum mechanical load of 10 kg/m. Other constructions, including wire cable trays, are nonstandard.

A standard cable clamp according to DIN 4102-12 can be either a clamp attached to rails at the ceiling or individual clamp attached directly to the building construction. The width of the cable clamp shall be (15 ± 5) mm. The cables shall be attached every 300 mm. Other constructions are nonstandard.

Circuit integrity test results of cables accommodated on the standard cable bearing construction of one manufacturer are transferable to the tested standard cable bearing constructions of the given type of a different manufacturer. Transfer of test results between nonstandard constructions is not permissible.

The tests were carried out according to and ČSN 73 0895 and comply with the requirements of DIN 4102-12:1998. The diversion in the test according to these standards is especially in measuring and controlling the furnace temperature. The plate thermometers according to ČSN EN 1363-1 are used according to ČSN 73 0895. According to DIN 4102-12:1998, common thermocouples according are used until issuing of ČSN EN 1363-1. The measuring using plate thermocouples according to ČSN EN 1363-1 can be assumed to be a stricter way of temperature control.

3.1.1 CABLE TRAYS MARS

Cable trays NKZI

Made of galvanized or hot-dip galvanized steel sheet with a thickness of 0,7 mm, 0,8 mm, 1,00 mm or 1,25 mm. The side height is 50 mm or 100 mm. The width of the tray is 62 mm, 125 mm, 250 mm up to 500 mm. The side and bottom of the tray are perforated. The integrated coupling is a part of the cable tray. The cable trays are connected using 2 to 6 NSM 6x10 screws. The maximum load of the cable tray is 20 kg/m.

The NKZI cable trays were also tested with tray covers V 250 made from a galvanized steel sheet with a thickness of 0,55 mm. Standard and profiled (crosswise and lengthwise) tray covers were used.

Cable trays NKZIN

Made of galvanized steel sheet with a thickness of 0,7 mm, 0,8 mm, 1,0 mm and 1,25 mm. The side height is 50 mm or 100 mm. The width of the tray is 62 mm, 125 mm and 250 mm. The side and bottom of the tray are solid without perforation. The integrated coupling is a part of the cable tray. The cable trays are connected using 2 to 6 NSM 6x10 screws. The maximum load of the cable tray is 20 kg/m.

Cable trays NIXKZN

Made of stainless steel sheet with a thickness of 0,8 up to 1,0 mm. The side height is 50 mm or 100 mm and max. width of the tray is 500 mm. The cable tray sides and bottom are solid without perforation. The cable trays are connected using NIXS 50 or NIXS 100 and NIXSMP 8x12 screws or NIXSM 6x10. The maximum load of the cable tray is 20 kg/m.

Cable trays NKZN

Made of steel sheet with a thickness of 1,5 mm. The side height is 50 mm or 100 mm. The width of the tray is 250 mm. The cable trays are solid without perforation. The trays with a side height of 50 mm are connected using NS8 50x250 or NS50 coupling and NSMP 8x12 screws. The trays with a side height of 100 mm are connected using NS8 100x250 coupling with NSMP 8x12 screws. The maximum load of the cable trays is 10 kg/m.

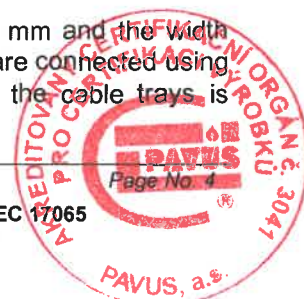
Cable trays NKZ

Made of steel sheet with a thickness of 1,5 mm. The side height is 50 mm or 100 mm. The width of the tray is 250 mm. The cable tray sides and bottom are perforated. The trays with a side height of 50 mm are connected using NS 50x250 coupling and NSM 6x10 screws. The trays with a side height of 100 mm are connected using NS 100x250 coupling and NSM 6x10 screws. The maximum load of the cable trays is 10 kg/m.

3.1.2 CABLE TRAYS JUPITER

Cable trays KZ

Made of galvanized steel sheet with a thickness of 1,5 mm. The side height is 60 mm and the width of the tray max. 300 mm. The cable tray sides and bottom are perforated. The trays are connected using KSBS 300 coupling and 24 pieces of NSM 6x10 screws. The maximum load of the cable trays is 10 kg/m. It is a standard construction.



Cable trays KZI

Made of galvanized steel sheet with a thickness of 0,75 mm, 1,0 mm and 1,25 mm. The side height is 60 mm and the width of the tray is 50 mm up to 600 mm. The cable tray sides and bottom are perforated. The integrated coupling is a part of the cable tray. The cable trays are connected using 2 to 8 NSM 6x10 screws according to the cable tray width. The maximum load of the cable tray is 20 kg/m.

Cable trays KZIN

Made of steel sheet with a thickness of 0,75 mm, 1,0 mm and 1,25 mm. The side height is and with max. 300 mm. The cable tray sides and bottom are solid without perforation. The cable trays are connected using an integrated coupling and 2 – 6 NSM 6x10 screws according to the tests. The maximum load of the cable tray is 10 kg/m.

3.1.3 WIRE CABLE TRAYS

Wire cable trays DZ

Made of steel wire with a thickness of 3,9 mm, 4, 3 mm or 4,6 mm according to the cable tray width. The side height is 60 mm and max. width of the cable tray is 600 mm. Grid size is 50x100 mm. Cable trays are connected using 2 DZSP/B + DZSU/B coupling (on the sides) and 5 DZS/B screws (on the bottom). The maximum load of the wire cable tray is 10 kg/m.

Wire cable trays DZI

Made of steel wire with a thickness of 3,9 mm, 4, 3 mm or 4,6 mm according to the cable tray width. The side height is 60 mm and max. width of the cable tray is 600 mm. The cable trays are connected using an integrated coupling and DZS/B screws according to the cable tray width. The maximum load of the wire cable tray is 20 kg/m.

3.1.4 CABLE LADDERS

Cable ladders KL

Made of galvanized steel sheet. The thickness of the sides is 1,5 mm and the rungs thickness is 1,0 mm to 1,25 mm. The side height is 60 mm and 110 mm. The width of the ladder is 150 to 600 mm. The rungs are spaced 300 mm. The sides are perforated. The ladders are connected using S 60x200 or S 110x200 couplings (for the ladder width 600 mm) and NSM 6x10 screws (4-8 pcs for 1 coupling). The maximum load of the cable ladder is 30 kg/m

Cable ladders KL ... PO

Made of galvanized steel sheet. The thickness of the sides is 1,5 mm and the rungs thickness is 1,0 mm to 1,25 mm. The side height is 60 mm. The width of the ladder is 150 to 400 mm. The rungs are spaced 150 mm. The sides are perforated. The ladders are connected using KPBSKL coupling with 12 NSM 6x10 screws. The maximum load of the cable ladder is 20 kg/m. It is a standard construction

Cable ladders KLZ

Sides and rungs are made of galvanized steel sheet with a thickness of 1,5 mm. The side height is 60 mm. The width of the ladder is 400 mm. The rungs are spaced 150 mm. The sides have punched out perforations for connecting. The ladders are connected using KPBSKLZ coupling and NSM 6x10 screws. The maximum load of the cable ladder is 20 kg/m

3.1.5 CABLE CLAMPS

Cable clamps OMEGA 52xx

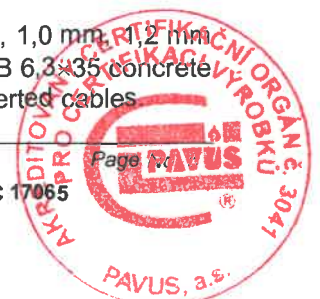
Clamps are made of steel sheet with a thickness of 1,5 mm and a width of 15 ± 5 mm. Clamps are divided into 2 parts and connected using 2 M5 screws. They are attached to the ceiling or wall by means of die-cast anchors, concrete screws, metal dowels for aerated concrete. They can also be shot with suitable nails. The load is given by inserted cables

Cable clamps DOBRMAN 52XX D

Clamps are made of steel sheet with a thickness of 1,0 mm and 1,5 mm and a width of 15 ± 5 mm. Clamps are divided into 2 parts and connected using 2 M5 screws. They are attached to the ceiling or wall with an M6 thread and anchor, threaded rods or threaded head screws. The load is given by inserted cables.

Cable clamps 67xx PO, 67XX, and 67XXD

Cable simple and double clamps are made of steel sheet with a thickness of 0,8 mm, 1,0 mm, 1,2 mm and 1,5 mm and a width of 15 ± 5 mm. They are attached to the ceiling or wall using SB 6,3x35 concrete bolts or M6 anchors. They can also be shot with suitable nails. The load is given by inserted cables



Group cable holder SD2

Group cable holders are made of steel sheet with a thickness of 0,8 mm, width 15 ± 5 mm. They are attached to the ceiling or wall by means of through-bolt bolts into concrete, or into aerated concrete by means of screw bolts in metal dowels. They can also be shot with suitable nails. The maximum load of the group cable holder is 6 kg/m.

Cable clamps PKC1 NP rails

Made of steel sheet with a thickness of 1 mm, 1,5 mm and 2,0 mm and a width of 15 ± 5 mm. They are used for fixing the cables to grids or individual supporting profiles (NP, MP).

3.1.6 HALOGEN-FREE RIGID PIPES 15XXHF, 40XXHF AND 80XXHF

Halogen-free rigid pipes 15xxHF made of PC/ABS plastic with a thickness of 1 mm to 3 mm (according to the pipe diameter). The symbols xx mark the conduit diameter – from 16 to 63 mm. They are attached to the ceiling or wall using OMEGA 52xx clamps with a maximum spacing of 600 mm.

Halogen-free rigid pipes 15xxHF are plastic pipes with low mechanical resistance with a diameter of 16 mm to 63 mm. Halogen-free pipes 40xxHF has medium mechanical resistance and a diameter of 16 mm to 63 mm and a thickness of 1 mm to 2 mm (according to the conduit diameter). Pipes 80xxHF has a high mechanical resistance and a diameter of 16 to 63 mm and a thickness of 2 mm to 3 mm (according to the conduit diameter).

NOTE: Pipes with 16 mm diameter are marked xx16 EHF (e.g. 1516 EHF), where E stands for the European series of pipes and HF stands for halogen-free material. Other tube diameters are marked only HF (e.g. 1520HF, 1532HF).

3.1.7 STEEL PIPES 60XX

Steel pipes are made of steel sheet with a thickness of 1,1 to 1,4 mm (6016E), 1,5 to 1,8 mm (6020, 6025, 6032, 6040 and 6050) and 1,8 mm (6063). The ends of the pipes are treated with threads for pipes connection. The pipes are connected using 316E/1 to 363/1 (313/3 to 342/3) couplings and are attached to the ceiling using OMEGA clamps.

3.1.8 HALOGEN-FREE PARAPET AND WIRING TRUNKINGS

Parapet trunkings PK...HF with steel PEP 60/K divider

Made of halogen-free PC/ABS plastic material with a max. size of 110×70 mm and with the divider made of the steel sheet with a thickness of 0,5 mm and a size of 44×39 mm.

Halogen-free trunking

Plastic trunkings are made of halogen-free PC/ABS plastic material with a max. size of 40×20 mm. The trunkings are anchored to the ceiling or wall with a spacing of 600 mm using M6 anchors with 67xx series clamps.

3.1.9 JUNCTION BOX

Junction box KSK and 81xx

Made of halogen-free type material A¹) and are designed to connect or branch cables with circuit integrity maintenance under fire conditions. They are fitted with a ceramic terminal block and are provided with softened bushings for IP 66 protection for easy cable entry.

KSK boxes:

The lid is closed by two or four stainless steel screws. To connect the cable cores in the boxes, ceramic clamps (single, double or multi-pole) are used or fastened by means of screws on the trapeze, which is anchored via spacers through the back wall of the box to the building structure. Ceramic terminals can be supplemented with 1 or more ground terminals. The KSK boxes are equipped with softened inlets (membrane passages) and there is no need for bushings. The KSK boxes can be equipped with terminals designed for cable cores with a cross section from 0,5 to 16 mm². Degree of protection is IP 66.

The fastening of KSK boxes to the load-bearing structure must be carried out by anchoring elements which are able to transmit the tensile and shear forces corresponding to the cable tray load due to the actual weight of the cables in the considered fire scenario.

KSK series box variants:

Item	Configuration	Item	Configuration	Item	Configuration
KSK 80	PO	KSK 125	PO	KSK 175	PO
KSK 80	PO6	KSK 125	PO6J	KSK 175	PO6J
KSK 80	PO10	KSK 125	PO10J	KSK 175	PO10J
KSK 80	PO4J	KSK 125	PO4J	KSK 175	PO16J-5
KSK 80	PO6J	KSK 125	PO6	KSK 175	PO6
KSK 80	PO10J	KSK 125	PO6P	KSK 175	PO6P
KSK 80	PO6P	KSK 125	PO10	KSK 175	PO10
KSK 80	PO10P	KSK 125	PO10P	KSK 175	PO10P
KSK 100	PO4J	KSK 125	PO6J-5	KSK 175	PO10J-5
KSK 100	PO6J	KSK 125	2PO6	KSK 175	2PO6
KSK 100	PO10J	KSK 125	2PO6P	KSK 175	2PO6P
KSK 100	PO	KSK 125	PO10J-5	KSK 175	PO6J-5
KSK 100	PO6	KSK 125	2PO10	KSK 175	2PO10
KSK 100	PO6P	KSK 125	2PO10P	KSK 175	2PO10P
KSK 100	PO10	KSK 125	PO16	KSK 175	PO16
KSK 100	PO10P	KSK 125	PO16J	KSK 175	PO16J
KSK 100	2PO6	KSK 125	2PO16	KSK 175	2PO16
KSK 100	2PO6P	KSK 125	2PO16P	KSK 175	2PO16P
KSK 100	2PO10	KSK 125	PO16P	KSK 175	PO16P
KSK 100	2PO10P	KSK 125	DPO	KSK 175	DPO
KSK 100	DPO	KSK 125	PO4J-5	KSK 175	PO4J-5

Thermal fuse boxes:

These boxes are equipped with a thermal fuse, which can disconnect the end string from the main distribution in the event of a short circuit risk from the terminal. The fuse thermal value is 150 °C, the maximum current load is given by the manufacturer depending on the cable cross-section. The box is equipped with softened inputs providing IP 66 protection. The box is made of halogen-free material.

The 81XX wiring boxes differ from the KSK boxes by a lid that is fitted without screws. Degree of protection is IP 54

81XX series box variants: 8110 PO6, 8117 2PO10, 8135 PO and 8117 DPO.

Boxes marked PO are designed for power cables, boxes marked DPO are designed for communication cables. The boxes are identical in construction and material, they differ only in size

Note: *) Simplified marking for identification of the type of product whose composition is known to the certification body.

3.1.10 SUPPORTING RAILS 5820 AND PROFILES NP

Supporting profiles NP

Supporting profiles are made of steel sheet with a thickness of 1,2 mm. The bottom is perforated for mounting. The supporting profiles are intended as a supporting construction for fixing the cables using the PKC1 cable clamps to a ceiling or a wall.

Supporting rails 5820

Supporting rails 5820 are made of steel sheet with a thickness of 0,7 mm and the size is 10×20 mm. The bottom is perforated for mounting. The supporting rails are intended as a supporting construction for fixing the cables to the substrate using the metal SPK.

3.1.11 ACCESSORIES

Cable tray cover

The cover is made of steel sheet with a thickness of 0,55 mm. The typical length is 2 m. Fastening to the cable tray is carried out using VU and NVU fixtures (2 per meter).



Wall bracket NPS

The wall bracket is made of steel sheet with a thickness of 2.0 mm. The top and side are perforated for mounting. Wall bracket is intended as a support for cable trays wall installation.

Light ceiling profile SPL

The ceiling profiles consist of 122,5×122,5 mm foot with a thickness of 4 mm and a 41,5×21 mm profile with a thickness of 1,5 mm. The length is from 200 to 1 500 mm. The foot and the profile have punched out holes for fixing and mounting. It is intended for cable trays fastening to a ceiling or on a wall.

Ceiling profile SPS

The ceiling profiles consist of welded or individual foot with a thickness of 3 to 4 mm and a 41×41 mm profile with a thickness of 1,5 to 2,5 mm. The length is from 200 to 2 000 mm. The foot and the profile have punched out holes for fixing and mounting. It is intended for cable trays fastening to a ceiling or on a wall.

Holder DS

The holder is made of steel sheet with a thickness of 2,0 mm. The DS medium holder length is from 118 to 618 mm. The head plate is fastened to the horizontal part using 1 screw. The holder is intended for supporting cable trays and ladders. It is attached to the ceiling profile or on the wall.

Heavy holder DT

The length of the DT heavy holder is from 120 to 420 mm. The head plate is welded to the horizontal part of the holder. The sheet thickness is 2 mm. The holder is intended for supporting cable trays and ladders. It is attached to the ceiling profile or on the wall.

Standard heavy holder with a clip DT+DT OKO

The holder is made of steel sheet with a thickness of 1,5 mm. The foot with a thickness 4,0 mm is perforated for mounting. On the end of the holder is attached a clip for ZT threaded rod fastening using two M8×16 screws.

Note: The original designation stated in test reports and classifications is DTBS.

Adjustable brackets DSU

The foot and the fixture are made of steel sheet with a thickness of 3,0 mm. The horizontal part of the bracket is made of steel sheet with a thickness of 2,0 mm. The foot is perforated for adjusting the angle of the bracket to 45° and the top of the horizontal part of the bracket is perforated for mounting.

Mounting profile MP

The 41×21 and 41×41 mm profile is made of steel sheet with a thickness of 1,5 mm – 2,5 mm. The MP mounting profiles are intended as a support for installation of cable trays and ladders when mounted on threaded rods

Mounting profile INOXMP

Profile 41×21 is made of stainless steel sheet thickness of 2,5 mm (AISI 316L).

Wall support DZDS

The support is made of steel sheet with a thickness of 2,0 mm. It is intended for fastening the wire cable trays to the wall. On the surface of the wall support are placed fastening noses that when bent fasten the cable tray to the holder.

Cable clamp cover SONAP (KPS)

The outer boards are made of Promatect LS (density 510 kg/m³). The inner part is made of Isover T mineral wool (density 140 kg/m³). The top and bottom of the mineral wool are treated with a Promastop, type P putty. They are fastened to the wall using the MS KPS kit. It is intended for the cable trays and ladders width of max. 600 mm. It can be used also for individual cable clamps 67xx_PO, Omega and Dobrman type.

Cable ladder wall bracket KLSU

The bracket is made of steel sheet with a thickness of 1,5 mm. The bracket is perforated for mounting. It is intended for fastening cable trays on the wall.

Holder LTS

The holder is made of steel sheet with a thickness of 1,8 mm. The top is perforated for mounting. It is intended to be placed on a wall or ceiling profile.

Threaded rods ZT and INOXZT

Threaded rods ZT are made of steel, threaded rods INOXZT are made of stainless steel AISI 304 (INOXZT 8 was tested).



Test results of cable runways may be applied to all components of cable system used for change of direction, dimension or the ending of the section (bends, T-section, crossing etc.).

More detailed description of individual cable runways, including the used cables and classifications, is given in the relevant test and classification reports and in [44] chap. 2 of this document.

3.2 DEFINITION OF USE OF PRODUCT IN CONSTRUCTION INCLUDING EVENTUAL LIMITING

Cable trays, wire cable trays, cable ladders, junction boxes, clamps, wiring pipes, halogen-free parapet and wiring trunkings, supporting profiles and trunkings and other accessories are used for safe accommodation of cables in building constructions with required circuit integrity maintenance under fire conditions.

3.3 PERFORMANCE DECLARED BY THE CLIENT

The performance of the products declared by the manufacturer is stated in [44] chap. 2 of this document.

4 TECHNICAL REQUIREMENTS OF THE CERTIFIED PRODUCT – REQUIREMENTS OF TECHNICAL REGULATIONS, TECHNICAL STANDARDS OR OTHER DOCUMENTS

Monitored/declared performance	Technical document	Required/declared level
Circuit integrity maintenance of cable runways under fire conditions	DIN 4102-12	E 30 to E 90
Reaction to fire	ČSN 73 0810 ČSN EN 13501-1	Steel elements: A1 Junction boxes: E Wiring pipes, halogen-free parapets and trunkings: E

5 PERFORMANCE VERIFIED BY TESTS, EXPERT ASSESSMENT AND OTHER FINDINGS

The following tests were carried out (determination and assessment of product performance):

Monitored/declared performance

Circuit integrity maintenance of cable runways under fire conditions: document [2 - 44], chap. 2 of this certification report
Reaction to fire: document [45, 46], chap. 2 of this certification report
Commission Decision 96/603/EC, as amended



6 CONFORMITY ASSESSMENT OF THE PERFORMANCE OF THE CERTIFIED PRODUCT WITH THE PERFORMANCE DECLARED BY THE MANUFACTURER AND THE REQUIRED TECHNICAL REGULATIONS, TECHNICAL STANDARDS OR OTHER DOCUMENTS

Results of verification of monitored performance:

Monitored/declared performance	Determined (requirement)/classification standard	Required/declared level	Observed/classification	Conformity Assessment
Circuit integrity maintenance of cable runways under fire conditions	DIN 4102-12	E 30 to E 90	Cable trays MARS NKZI, NKZIN, NIXKZN, NKZN a NKZ Cable trays JUPITER KZ, KZI, KZIN Wire cable trays DZ and DZI Cable ladders KL, KLZ, KL..PO E 30 - E 90	Conforms ¹⁾
			Cable clamps: OMEGA, DOBRMAN, 67xx, PKC1 and group cable holder SD2 E 30 - E 90	
			Wiring pipes: halogen-free rigid pipes 15xxHF, 40xxHF, 80xxHF and steel pipes 60xx E 30 - E 90	
			Halogen-free parapet and wiring trunkings E 30 - E 60	
			Junction boxes KSK and 81xx E 30 - E 90	
			Supporting trunkings 5820 and supporting profiles NP E 30 - E 90	
			Accessories E 30 - E 90	
Reaction to fire	ČSN 73 0810 ČSN EN 13501-1	Steel elements: A1 Junction boxes: E Wiring pipes, halogen-free parapets and trunkings: E	Steel elements: A1 Junction boxes: E Wiring pipes, halogen-free parapets and trunkings: E	Conforms ²⁾
¹⁾ Conforms according to the test results in [2 - 44], chap. 2 of this document. ²⁾ Conforms according to the test results in [45, 46], chap. 2 of this document.				

7 ASSESSMENT OF THE PREMISS OF THE CLIENT FOR CONTINUOUS QUALITY COMPLIANCE OF THE CERTIFIED PRODUCT

The following documents were submitted:

- Assessment of the factory production control report No. Z220210098/D, issued by PAVUS, a.s. – from 2021-04-16.

The audit was executed in 2021-04-07.

8 JUSTIFICATION OF ISSUING OF THE CERTIFICATE

8.1 ESTABLISHING OF PRODUCT PERFORMANCE COMPLIANCE WITH DIN 4102-12 AND OTHER REGULATIONS AND TECHNICAL DECLARATION OF THE MANUFACTURER

The compliance of the specified product performance with the requirements given by the technical standards and the regulations and the declaration of the manufacturer stated in full in chap. 3 of this document was established using the tests, expert assessments and findings.

8.2 ESTABLISHING OF FACTORY PRODUCTION CONTROL

The conclusion of the submitted documents shows that the factory production control system at the manufacturer is sufficiently effective.

Based on these findings, the related certificate can be issued.

9 CONDITIONS OF THE CERTIFICATE VALIDITY

- 9.1 The manufacturer provides the customers the technical documentation, operating instructions, material safety data sheet and use and storage conditions.
- 9.2 The manufacturer is obliged to immediately report any changes concerning the performance of the product under certification, the legal personality of entities referred to in chapter 1, the documents referred to in this Certificate and the method of use of the product to the Certification Body No. 3041 no later than the date when these changes occur.
- 9.3 The manufacturer will maintain the validity of documents used in the certification process.
- 9.4 Using the Certificate is possible only under the conditions stated in chapter 5 of this certification report. These conditions will be stated in the technical documentation.
- 9.5 The client will allow the Certification Body to carry out surveillance of the factory production control system and compliance with regulatory requirements for products at least once per 12 months. For the evaluation of surveillance, eventually control of compliance with defined requirements, the Certification Body No. 3041 shall issue a report that will be handed over to the client.

This classification report consists of 11 pages and is issued in 2 original copies. The copy No. 1 receives the client and the copy No. 2 will be deposited in the archive of the Certification Body. Each part of the report has the stamp of the Certification body No. 3041. The certification report is issued together with the Certificate No. C-2021/0097.

Prague 24th August 2021

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Author



Ing. Jaroslav Kopečný
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