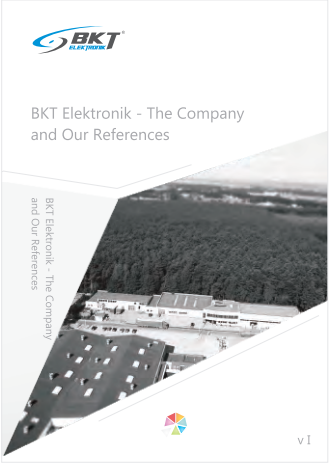
Broadband

Broadband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and Our References
BKT Elektronik - The Company
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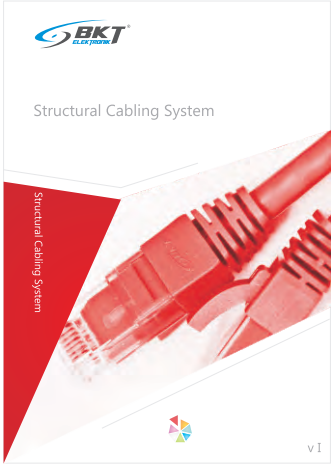
Structural Cabling System
Structural Cabling System
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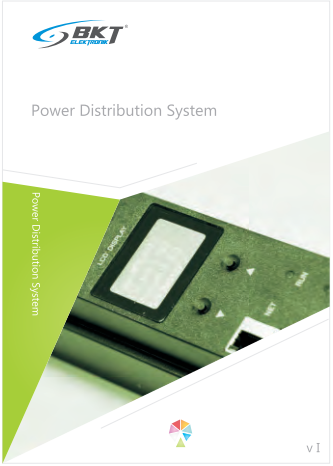
Power Distribution System
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Guidebook for Designers
Guidebook for Designers
v I

Optical products belong to a yet another assortment group offered by BKT Elektronik. They are designed for setting up optical fibre broadband networks, FTTH networks and office building networks.
Over 15 years of experience in production of optical-technical goods resulted in the development of our own, high production standards recognized by our Polish and foreign customers as well as new designs of cabinets and optical distribution boxes that meet our recipients' expectations.
Know-how pertaining to optical cables, professional production equipment, specialized measuring equipment as well as properly configured production processes, developed and supervised by high-class experts, let us offer high quality products which comply with the requirements of the UPC and APC standards.

Optical fibre cables offered by BKT Elektronik are delivered by the biggest producer of cables in the world, Prysmian Group which comprises Draka. We constantly strengthen the position of cables bearing BKT's trademark on the Polish market.

Our offer includes:

- ODF distribution boxes
- Distribution boxes to be placed in 19-inch cabinets
- Microducts
- Indoor optical fibre cables
- Outdoor optical fibre cables
- Universal optical fibre cables
- PRE-TERM cables
- Microcables
- ADSS cables
- Standard and Premium optical fibre pigtails
- Optical fibre patch cords (Simplex, Duplex, Mode Conditioning)
- MPO/MTP optical fibre patch cords
- Optical accessories – ODF distribution box and 19' cabinet equipment
- Subscriber outlets and panels
- Optical fibre ducting system
- Optical fibre enclosures

Contents

Optical Distribution Box

The leading assortment offered by BKT Elektronik includes optical distribution boxes. The offer comprises standard solutions – price-optimised BKT Light DATA distribution boxes as well as more technically advanced solutions, i.e. BKT Veni distribution boxes or distribution boxes with a BKT TOP telescopic guide. Products in the said assortment group are very simple and functional which is appreciated by our Polish and foreign customers. They can be successfully used in FTTx systems or Structured Cabling Systems. The vast offer of distribution boxes also includes wall-mounted fibre optic cabinets which are an alternative to 19" distribution point solutions.

Retractable Optical Distribution Box 19" "Light DATA"

- RAL colour standard 7035 (light grey),
- Four holes (two open + two closed) for cable grommets PG13,5 and PG16 at the rear,
- Equipped with a retractable shelf for easy access to the inside of the box,
- The box cover made of powder coated steel plate, constituting the runner for the retractable shelf,
- Retractable shelf integrated with the front panel, made of powder coated steel plate. At the bottom there is a thumb screw for fixing up to four optical cassettes. The shelf has ribs for fixing the cables inside the box.

Type	Front plate type	Depth (mm)	Index RAL 7035	Index RAL 7021
1U	24 x ST	240	11120151	11120222
1U	24 x SC - Duplex	240	11120141	11120212
1U	24 x SC - Simplex	240	11120191	11120202

Telescopic Retractable Optical Distribution Box 19" with a lock

- RAL colour standard 9005 (black)
- Four holes (two open + two closed) for cable grommets PG13,5 and PG16 at the rear side,
- Equipped with a retractable shelf on telescopic runners for easy access to the inside of the box,
- Equipped with two latches on the front panel (optionally – handle with a lock),
- At the bottom there is a thumb screw for fixing up to four optical cassettes,
- The shelf has ribs for fixing the cables inside the box,
- Front panel with white numerical identification.

Type	Type of front panel	Depth (mm)	Index
1U	24 x ST	240	11121173
1U	24 x SC - Duplex	240	11121174
1U	24 x SC - Simplex	240	11121175

Optical Distribution Box 19" "VENI"

The retractable distribution box „Veni" has been designed to meet very high requirements of the wide group of Customers, thanks to modularity and optional accessories.

Features

- Adjustable mounting lugs
- Two levels of shelf retraction
- Five rear cable slots
- Removable screw that fastens the splice cassette
- Wide choice of front panels
- High quality of finish
- Many additional accessories
- Available in RAL colours 7035, 7021 i 9005.

Type	Width (mm)	Depth (mm)	Height (mm)	Weight (kg)	Index RAL 7035	Index RAL 7021	Index RAL 9005
1U	443	241	42	2,4	11111001.1V	11111001.2V	11111001.3V
2U	443	241	42	2,8	11111002.1V	11111002.2V	11111002.3V
3U	443	241	42	3,4	11111003.1V	11111003.2V	11111003.3V

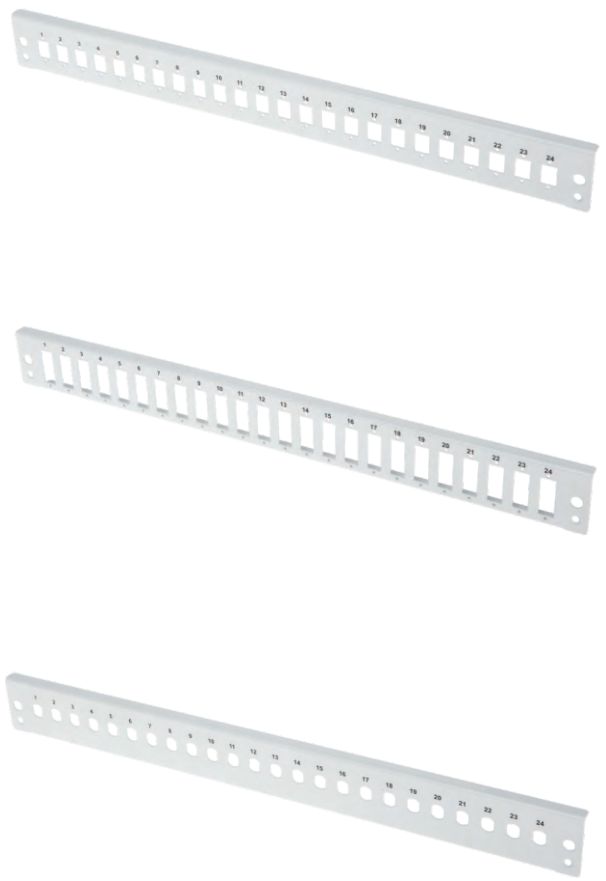
Front cable organizer

Type	Index RAL 7035	Index RAL 7021	Index RAL 9005
Front cable organizer	11111201.1V	11111201.2V	11111201.3V

Angular rear cable slot

Type	Index RAL 7035	Index RAL 7021	Index RAL 9005
Angular rear cable slot	11111301.1V	11111301.2V	11111301.3V

Distribution box accessories, MPO cassettes



Front panel

Type	Front panel	Index RAL 7035	Index RAL 7035	Index RAL 7035
1U	12 x SC simplex/MTRJ/ E2000	11122121.1V	11122121.2V	11122121.3V
1U	24 x SC simplex/MTRJ/ E2000	11122241.1V	11122241.2V	11122241.3V
1U	12 x SC duplex	11121121.1V	11121121.2V	11121121.3V
1U	24 x SC duplex	11121241.1V	11121241.2V	11121241.3V
1U	12 x ST/ FC/PC	11123121.1V	11123121.2V	11123121.3V
1U	24 x ST/ FC/PC	11123241.1V	11123241.2V	11123241.3V
1U	12 x SC simplex/MTRJ/ E2000 (description field)	11132121.1V	11132121.2V	11132121.3V
1U	24 x SC simplex/MTRJ/ E2000 (description field)	11132241.1V	11132241.2V	11132241.3V
1U	12 x ST/ FC/PC (description field)	11133121.1V	11141155.2V	11141155.3V
1U	24 x ST/ FC/PC (description field)	11133241.1V	11133241.2V	11133241.3V
1U	12 x SC simplex/MTRJ/ E2000 (screwless kit)	11125121.1V	11125121.2V	11125121.3V
1U	24 x SC simplex/MTRJ/ E2000 (screwless kit)	11125241.1V	11125241.2V	11125241.3V
1U	12 x SC duplex (screwless kit)	11124121.1V	11124121.2V	11124121.3V
1U	24 x SC duplex (screwless kit)	11124241.1V	11124241.2V	11141155.3V
1U	3 x MPO LGX			11123723.3V
1U	5 x MPO HD			11123725.3V
2U	24 x SC duplex	11131112.1V	11131112.2V	11131112.3V
2U	48 x SC duplex	11131132.1V	11131132.2V	11131132.3V
2U	48 x SC simplex	11131142.1V	11131142.2V	11131142.3V
2U	48 x ST/FC/PC	11131152.1V	11131152.2V	11131152.3
2U	72 x SC simplex	11131162.1V	11131162.2V	11131162.3V
2U	72 x ST V2	11131172.1V	11131172.2V	11131172.3V
3U	72 x SC duplex V2	11141113.1V	11141113.2V	11141113.3V
3U	72 x ST/FC/PC	11141123.1V	11141123.2V	11141123.3V
3U	72 x SC simplex	11141133.1V	11141133.2V	11141133.3V
3U	96 x SC simplex	11141143.1V	11141143.2V	11141143.3V
3U	96 x ST/FC/PC	11141153.1V	11141153.2V	11141153.3V
3U	144 x SC simplex	11141155.1V	11141155.2V	11141155.3V

BKT MPO cassettes

In data centers and structured cabling for fast connections through factory pre-wired MPO-MPO cables, with no need for fusion splicing.

Features

Cassettes are available in two versions.
LGX standard – equipped with 12 or 24 SC duplex or LC duplex and quad connectors. It is possible to mount up to three cassettes in 19" optical distribution box 1U in height. Available cable forms in the cassette: A, B and C. Male and female MPO connectors. Compatible with fibers: OM2, OM3, OM4 and SM.
HD standard – with increased density, equipped with 24 LC quad connectors at the front of the cassette.
It is possible to mount up to three cassettes in 19" optical distribution box 1U in height. Available cable forms in the cassette: A, B and C. Male and female MPO connectors. Compatible with fibers: OM2, OM3, OM4 and SM.

Product description
LGX BKT MPO cassette - 6 x LC duplex OM3 RAL9005
LGX BKT MPO cassette - 6 x LC quad OM3 RAL9005
HD BKT MPO cassette - 6 x LC quad OM3 RAL9005
LGX BKT MPO cassette - 6 x LC duplex OM4 RAL9005
LGX BKT MPO cassette - 6 x LC quad OM4 RAL9005
HD BKT MPO cassette - 6 x LC quad OM4 RAL9005
LGX BKT MPO cassette - 6 x LC duplex SM RAL9005
LGX BKT MPO cassette - 6 x LC quad SM RAL9005
HD BKT MPO cassette - 6 x LC quad SM RAL9005
LGX BKT MPO cassette - 6 x LC APC duplex SM RAL9005
LGX BKT MPO cassette - 6 x LC APC quad SM RAL9005
HD BKT MPO cassette - 6 x LC APC quad SM RAL9005

Type	Width (mm)	Height (mm)	Depth (mm)
LGX cassette: without connectors	130	30	91
HD cassette: without connectors	88	34,5	110

MPO cables, Optical Distribution Box - FTTH

BKT factory pre-wired and tested optical cables with MPO connectors for connections between BKT MPO LGX or HD cassettes

In data centers and structured cabling for fast connections between BKT MPO cassettes, with no need for fusion splicing. Cable length at the request of the customer. Male and female MPO connectors. Cable forms: A, B and C.

Product description
BKT MPO - MPO OM2 cable
BKT MPO - MPO OM3 cable
BKT MPO - MPO OM4 cable
BKT MPO - MPO SM APC cable
*cable length at the request of the customer
**cable form: A, B or C

Property	Value
Type of Fiber	MM 50/125µm: OM2, OM3, OM4; SM 9/125µm
Connector Loss	for MM: maximum ⩽ 1,0 dB, typical: ⩽ 0,50 dB for SM: maximum ⩽ 0,75 dB, typical: ⩽ 0,35 dB
Cable Attenuation	for MM: OM2, OM3 and OM4 ⩽ 3,0 dB/km for 850 nm for MM: OM2, OM3 ⩽ 1,5 dB/km, for OM4 ⩽ 1,0 dB/km for 1310 nm for SM: ⩽ 0,65 dB/km for 1310 nm for SM: ⩽ 0,50 dB/km for 1550 nm

Property	Value
Number of fibers	12,24
Cable's Outer Diameter	Array 12F, Trunk 12F: ϕ 3,0 mm Trunk 24F: ϕ 9,0 mm
Maximum Tensile Strength	Short-term: 220 N Long-term: 70 N
Cable sheath	LSZH

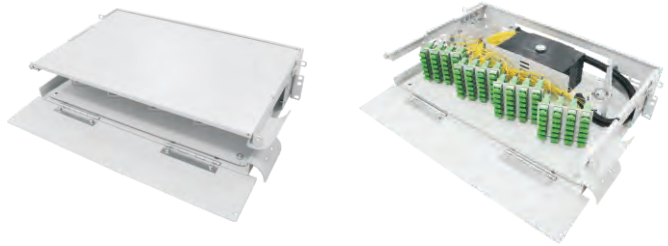
Modular 3U patch panel- (LGX® footprint)

Type	Index RAL 7035	Index RAL 7021	Index RAL 9005
1U	11130031.1A	11130031.2A	11130031.3A

The modular patch panel is designed for mounting various equipment compatible with the LGX format such as MPO, MPT as well as splice cassette modules. The patch panel can be mounted to the front or rear of 19″ racks.

Features

- Height 3U
- Compatible with LGX parameters
- Adjustable mounting ears
- 13 module capacity
- Simple module mounting
- Wide range of cassette types available



Optical Distribution Box – FTTH

Type	Width (mm)	Depth (mm)	Height (mm)	Weight (kg)	Capacity	Index RAL 7035
FTTH	241 (19")	90	87 (2U)	10	96 E2000	11100011.1T

FFTH 19″ Optical Distribution Box has been designed mainly for packed FTTX networks. It provides an easy access to front fiber patch cords and if retracted, an easy access to splice cassettes and fiber pigtails.

Features

- Mounting height: 2U
- 96 SC Simplex
- Openable front panel
- Revolving retractable tray
- Adjustable mounting depth
- Universal right/left arrangement

Use:

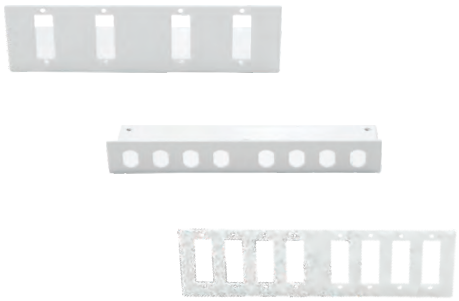
- FTTx Central Office Systems
- LAN/WAN
- Packed telecommunications systems

Enclosures and wall-mounted distribution cabinets (NSR)

Wall-mounted distribution cabinet – 'DATA PLUS' SMALL

- Single-point lock
- Cable glands at the top and bottom of the cabinet covered with insulating sponge
- The cabinet body is made of steel sheet, powder coated to RAL 7035 (light grey, standard). Inside there are two screws with a knurled nut for fixing the maximum of 4 optical fibre cassettes or distribution boards
- The base has a special shape which enables fixing of cables inside the cabinet
- The cabinet cover is made of steel sheet, powder painted to RAL 7035 (light grey, standard), and equipped with single-point lock

Type	Width (mm)	Depth (kg)	Height (kg)	Weight (kg)	Index RAL 7035
NSR small	150	95	256	1	11190161



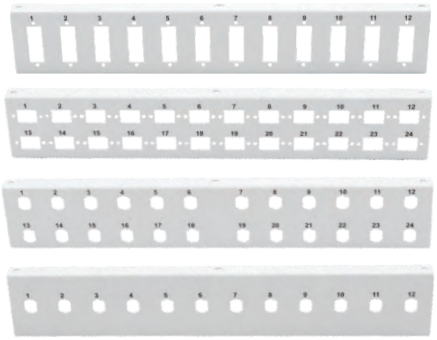
Front plate for NSR 'DATA PLUS' SMALL

Front panel	Item no. RAL 7035
8 x ST/FC/PC	11140251
4 x SC duplex	11140481
8 x SC duplex	11140491

Wall-mounted distribution cabinet – 'DATA PLUS' MEDIUM

- Single-point lock
- Cable glands at the top and bottom of the cabinet covered with insulating sponge
- The cabinet body is made of steel sheet, powder coated to RAL 7035 (light grey, standard). Inside there are two screws with a knurled nut for fixing the maximum of 2 x 4 optical fibre cassettes or distribution boards
- The base has a special shape which enables fixing of cables inside the cabinet
- The cabinet cover is made of steel sheet, powder painted to RAL 7035 (light grey, standard), and equipped with single-point lock

Type	Width (mm)	Depth (mm)	Height (mm)	Weight (kg)	Index RAL 7035
NSR medium	320	95	280	2,1	11120281



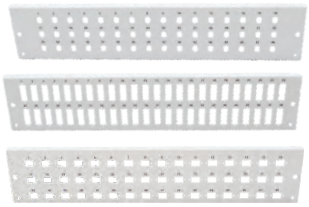
Front plate for NSR 'DATA PLUS' MEDIUM

Front panel	Index RAL 7035
12 x SC duplex	11140441
12 x SC simplex	11140451.1
12 x ST/FC/PC	11140451
24 x SC simplex/MTRJ/E2000	11140461
24 x ST/FC/PC	11140471

Wall-mounted distribution cabinet – 'DATA PLUS' BIG

- Housing with two separately lockable swivel doors, two different locks each with two keys, each with two cable entries (top and bottom) for PG,
- Two cable entries with sealing strip, height – adjustable,
- Additional strain relief clamps and guide clips for fibers and cables, for fixing with cable ties,
- Maximum five splice cassettes and one distribution plate can be fitted,
- Fixing of distribution plate with four M3 screws,
- Paint finish: RAL 7035 (light grey),
- Delivery in transport packaging.

Type	Width (mm)	Depth (kg)	Height (kg)	Weight (kg)	Index RAL 7035
NSR big	455	95	455	5,4	11120071



Front plate for NSR 'DATA PLUS' BIG

Type	Front panel	Index RAL 7035
2U	24 x SC-Duplex V2	11142371
2U	24 x ST/FC/PC V2	11142381
2U	48 x SC-Duplex V2	11142391
2U	48 x SC-Simplex V2	11142401
2U	48 x ST/FC/PC V2	11142411

Enclosure and wall-mounted excess cable storage, FO cable divider

Wall-mounted cable excess cabinet

- Casing made of steel sheet painted with a powder paint RAL 7035 (light grey).
- Rack made of galvanized steel sheet.
- Max. volume: 120 mm of cable (10 mm in diameter).

Type	Width (mm)	Depth (mm)	Height (mm)	Weight (kg)	Index
Casing	610	610	105	6,5	11190141
Rack	495	495	100	2,4	11190155
ECO rack	697	697	100	5	11190155.1

Optical fibre splitter, small and big distribution box

The structure of the casing allows it to be used as an optical fibre cable tube splitter or connection or distribution box for cables or micro optical fibre cables. The box used as a splitter provides safe transport and splitting of optical fibre cable tubes. A splitter/box can be mounted to the floor through the openings in the bottom part of the casing. The casing should be fitted inside rooms.

Product functions: as an optical fibre tube splitter.
The small splitter allows for fitting an optical fibre cable with a cable tie and sealing it with polyurethane foam. Following this, cable ties can be used to mount up to 5 protective corrugated conduits with the maximum diameter of 13 mm. The big splitter allows for fitting an optical fibre cable with a cable tie and sealing it with polyurethane foam. Following this, cable ties can be used to mount up to 10 protective corrugated conduits with the maximum diameter of 13 mm.

Product functions: as a distribution box
The small splitter allows for connecting 5 optical fibre cables in splice cassettes using cable ties and sealing them with polyurethane foam.
The big splitter allows for connecting 10 optical fibre cables in splice cassettes using cable ties and sealing them with polyurethane foam.

Features

- Material – steel sheet
- Colour – RAL 7035
- Weight:
- Small splitter: 1.3 kg
- Big splitter: 2.0 kg
- Assembly opening spacing:
- Small splitter: 165 x 70 mm
- Big splitter: 165 x 170 mm
- Fastening of cables from both sides, sealing with polyurethane foam, fastening of cables or protective conduits with cable ties.

Dimensions:
- Small splitter: 9.5 x 30.5 x 6cm
- Big splitter: 19 x 30.5 x 6 cm

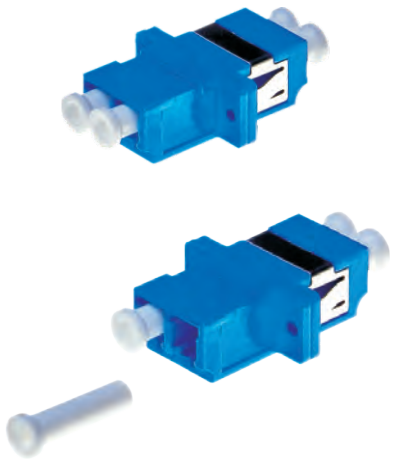
Type	Width (mm)	Depth (mm)	Height (mm)	Weight (kg)	Material	Colour
Small splitter	9,5	30,5	6	1,3	steel sheet	RAL 7035
Big splitter	19	30,5	6	2	steel sheet	RAL 7035

FO accessories

Adapters SC

Name	Index
MM SC Simplex Adapter, beige	104ASM20
MM SC Simplex Adapter, turquoise	104ASM2A
SM SC Simplex Adapter, blue	104ASS20
SM SC APC Simplex Adapter, green	104ASS30
MM SC Duplex Adapter, beige	104ADM20
MM SC Duplex Adapter, turquoise	104ADM2A
SM SC Duplex Adapter, blue	104ADS20
SM SC APC Duple Adapter, green	11330140

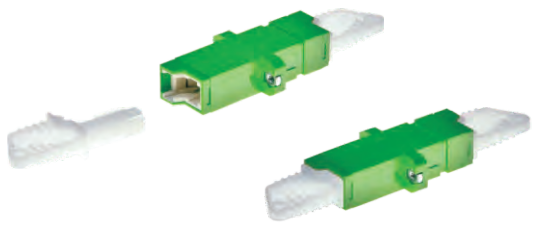
	Single-mode	Multi-mode
SC casing	plastic	plastic
Centring sleeve material	zircon ZrO2	bronze phosphate
SC colour	blue or green for APC	beige or turquoise
Max. attenuation	0,15 dB	0,20 dB
Compressive strenght	200-600 g	200-600 g
Max. attenuation increase after 500 cycles	0,2 dB	0,2 dB
Operation temperature	from -40°C to +80°C	from -40°C to +80°C
Non - combustibility degree	UL94-V0	UL94-V0



Adapters LC

Name	Index
MM LC Duplex Adapter, beige	104ADM60
MM LC Duplex Adapter, turquoise	104ADM6A
SM LC Duplex Adapter, blue	104ADS60
SM LC APC Duplex, green	104ADS70
MM LC quad Adapter, beige	104AQM60
SM LC quad Adapter, blue	104AQS60
SM LC APC quad Adapter, green	104AQS70

	Single-mode	Multi-mode
LC casing	plastic	plastic
Centring sleeve material	Zircon ZrO2	bronze phosphate
LC colour	blue or green for APC	beige or turquoise
Max. attenuation	0,15 dB	0,20 dB
Compressive strength	200-600 g	200-600 g
Max. attenuation increase after 500 cycles	0,2 dB	0,2 dB
Operating temperature	from -40°C to +80°C	from -40°C to +80°C
Non - combustibility degree	UL94-V0	UL94-V0



Adapters E2000

Name	Colour	Sleeve	Fastening	Index
Adapter SM E2000 APC Duplex R&M plastic	green	ceramic	bolts	104ADSEA
Adapter MM E2000 Simplex R&M plastic	beige	ceramic	bolts	104AMSEO
Adapter MM E2000 Simplex R&M plastic	beige	ceramic	clamps	104AMSEO.1
Adapter SM E2000 PC Simplex R&M plastic	blue	ceramic	bolts	104ASSEO
Adapter SM E2000 PC Simplex R&M plastic	blue	ceramic	clamps	104ASSEO.1
Adapter SM E2000 APC Simplex R&M plastic	green	ceramic	bolts	104ASSEA
Adapter SM E2000 APC Simplex R&M plastic	green	ceramic	clamps	104ASSEA.1

	Single-mode	Multi-mode
Casing	plastic	plastic
Centring sleeve material	Zircon ZrO2	Zircon ZrO2
Max. attenuation	0,15 dB	0,15 dB
Max. attenuation increase after 500 cycles	0,2 dB	0,2 dB
Operating temperature	from -40°C to +80°C	from -40°C to +80°C
Non - combustibility degree	UL94-V0	UL94-V0

FO accessories

Adaptery ST

Name	Index
MM ST Simplex Adapter	104ASM10
SM ST Simplex Adapter	104ASS20

	Single-mode	Multi-mode
ST casing	metal	metal
Centring sleeve material	zircon ZrO2	bronze phosphate
ST colour	metallic	metallic
Max. attenuation	0,15 dB	0,20 dB
Compressive strength	200-600 g	200-600 g
Max. attenuation increase after 500 cycles	0,2 dB	0,2 dB
Operating temperature	from -40°C to +80°C	from -40°C to +80°C
Non - combustibility degree	UL94-V0	UL94-V0

Adaptery FC

Name	Index
MM FC Simplex Adapter	104ASM40
SM FC Simplex Adapter	104ASS40

	Single-mode	Multi-mode
FC casing	metal	metal
Centring sleeve materials	zircon ZrO2	bronze phosphate
FC colour	metallic	metallic
Max. attenuation	0,15 dB	0,20 dB
Compressive strength	200-600 g	200-600 g
Max. attenuation increase after 500 cycles	0,2 dB	0,2 dB
Operating temperature	from -40°C to +80°C	from -40°C to +80°C
Non - combustibility degree	UL94-V0	UL94-V0

Aluminium sleeve

Shrink

Sleeves

Name	Index
Heat shrink sleeve (45 mm)	11320350
Heat shrink sleeve (61 mm)	11320360
Aluminium sleeve	10490050

Optical splitters are used for connecting or splitting an optical signal into 2-128 signals usually from one source. They come in two versions: fused biconic tapered (FBT)

PLC splitters

Ordering information

	Technology	Division	Casing	Fibre sheath	Joints	Length of pigtails (m)
112						
	F - FTB P - PLC	2 - 1x2 3 - 1x4 4 - 1x4 8 - 1x8 S - 1x16 T - 1x32 U - 1x64	1 - tube 2 - plastic casing 3 - metal casing 4 - in distribution box N - non-standard	1 - 250 µm 2 - 900 µm 3 - 2 mm 4 - 3 mm	0 - unterminated 1 - ST 2 - SC 3 - SC APC 4 - FC 6 - LC 7 - LC APC 8 - E2000 9 - E2000 APC	

	1 x 4	1 x 8	1 x 16	1 x 32	1 x 64
Bandwidth	1260 nm - 1650 nm	1260 nm - 1650 nm	1260 nm - 1650 nm	1260 nm - 1650 nm	1260 nm - 1650 nm
Max. attenuation	7,4dB	10,7dB	13,7dB	16,9dB	20,5dB
Uniformity	0,6dB	0,8dB	1,2 dB	1,7 dB	2,5 dB
Max. PDL	0,2 dB	0,3 dB	0,3 dB	0,3 dB	0,4 dB
Operating temperature	from -40°C to +85°C	from -40°C to +85°C	from -40°C to +85°C	from -40°Cto +85°C	from -40°C to +85°C

FTB splitters

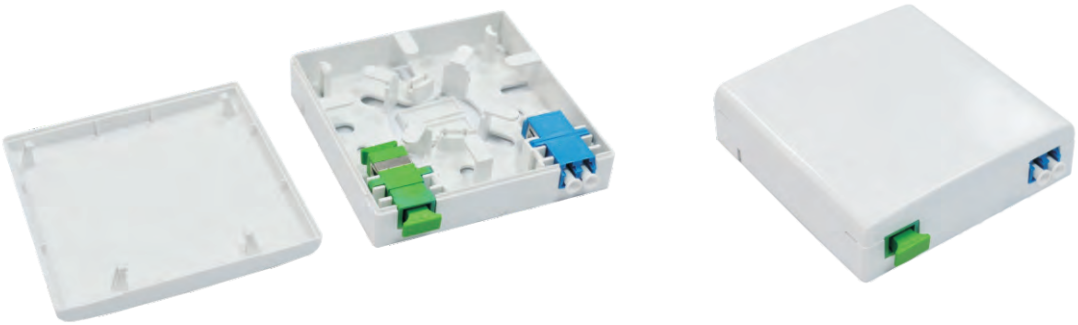
	1 x 2 (FTB)	1 x 3 (FTB)	1 x 4 (FTB)
Signal splitting	50/50	33,3/33,3/33,3	25/25/25/25
Reflection loss, min	50 dB	50 dB	50 dB
Directivity, min	50 dB	50 dB	50 dB
Tube dimensions	3 mm (Ø) x 47 mm	3 mm (Ø) x 54 mm	3 mm (Ø) x 54 mm
Fibre type	SMF-28e	SMF-28e	SMF-28e
Fibre shield	250 µm, 900 µm lub 2-3 mm	50 dB	50 dB
Standard pigtails	1m	1m	1m
Operating temperature	od -40°C do +85°C	od -40°C do +85°C	od -40°C do +85°C
Attenuation, mean/max (without connections)			
Broadband (1260-1600)	3,6/4	7,0/6,2	7/7,6
Three windows (1310/1490/1550 ± 20 nm)	3,4/3,7	6,8/6	6,8/7,5
Two windows (1310/1550 ± 40 nm)	3,3/3,6	6,6/5,8	6,6/7,4
One window (1310 lub 1550 ± 40 nm)	3,2/3,4	6,5/5,6	6,5/7,2

FTTX solutions

Optical fibre subscriber panel

Wall-mounted optical fibre subscriber panel enables easy management of optical fibres (up to 8 fibres with the use of 2 x LC quad adapters). Equipped with a removable front panel, fixed by four plastic clips, with two openings for an SC duplex optical fibre adapter and one opening for a PG gland (a standard panel is delivered with two caps and one PG gland). On the opposite side of the casing, there is a PG gland with a cap as standard, meaning that it can be used as a connection box. Installation of spliced cables inside the casing is possible thanks to a pair of special holders (2 x 6). The external casing can be easily removed and is equipped with a flange to protect the adapters and the cable gland.

Product description	Index
Optical fibre subscriber panel	111101100.1



FTTH socket

Wall-mounted BKT FTTH subscriber socket. Made of white plastic. Enables installation of two SC simplex adapters or two LC duplex sockets.

Features:

- Dimensions: 86x86x23 mm
- Material: plastic
- Colour: white
- IP rating: IP20
- Weight: 0.1 kg
- Two openings for installation of two SC simplex or LC duplex adapters

Product description	Index
Wall-mounted BKT FTTH fibre cable socket, plastic, white 2xSC simplex	11320202

ODF cabinets

New model of ODF series cabinets is adapted to meet the requirements of compact FTTX Central Office solutions and POP applications. The series includes two different sizes enabling management of 2mm or 3mm patchcords.

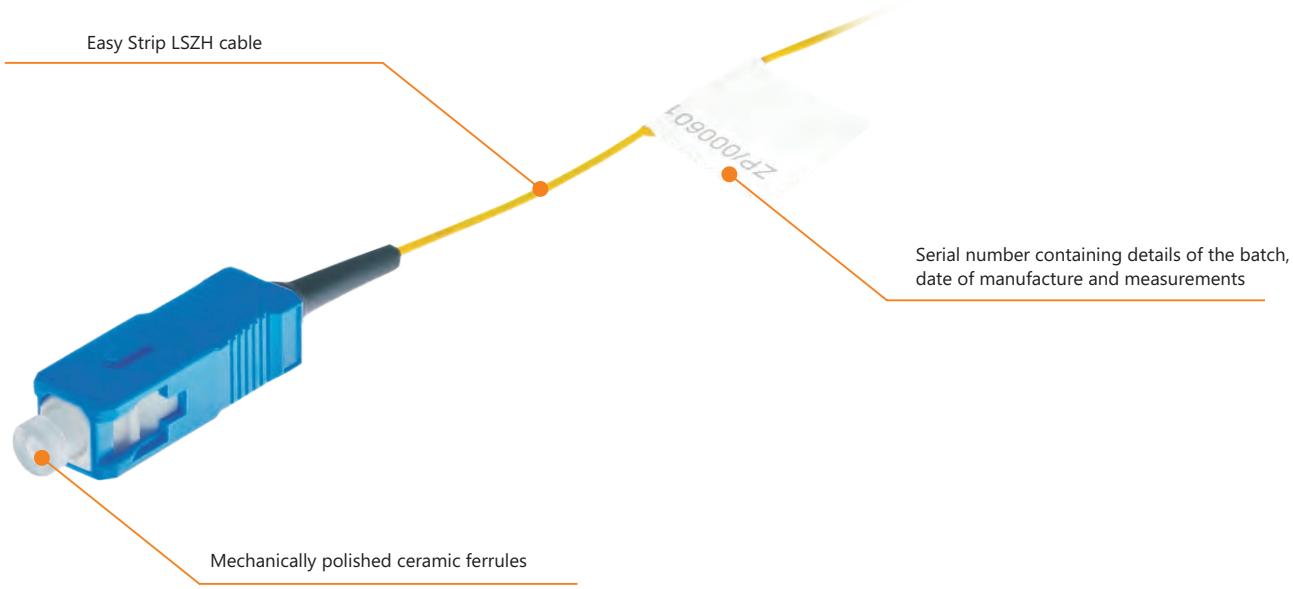
Features:

- Welded frame
- Installed holders for cable management
- Adjustable 19" assembly sections
- Various door options available

Type	Width (mm)	Depth (mm)	Height (mm)	Door size	Door type	Number of cable holder rows	Index RAL 7035
S Model	800	400	1980 (42U)	2 x 400	perforated	1	11140423.1V
L Model	900	400	1980 (42U)	1 x 600 + 1 x 300	perforated	2	11149423.1V
S Model	800	400	1980 (42U)	2 x 400	full metal	1	11140422.1V
L Model	900	400	1980 (42U)	1 x 600 + 1 x 300	full metal	2	11149422.1V

Pigtails BKT

BKT Elektronik has more than 10 years of experience in the manufacture of fibre cable products with the use of polishing machines and state-of-the-art measurement equipment. This series of products has been designed to support our dealers through offering quality products in a short time. The series has also been created to offer the most popular products at competitive prices with the possibility of individual marking and packaging of products according to customer requirements. This series is intended for LAN/WAN networks as well as advanced telecommunications and FTTH networks. Patchcords and pigtails are available in single-mode OS1 versions (9/125 µm) as well as multi-mode versions: OM1 (62.5/125 µm), OM2 (50/125 µm) and OM3(50/125 µm). The following connections are available: FC, FC APC, LC, SC, SCAPC, ST. All manufacturing components have been carefully selected to offer undisputable quality of the final product.



Length tolerance

The maximum length tolerance is + 6 cm

Polishing

Multi-mode connectors are polished to the PC standard, and single-mode connectors to the UPC or APC 8° standard.

	Multi-mode	Single-mode	
Polishing	PC	UPC	APC
Attenuation	≤ 0,3 dB	≤ 0,3 dB	≤ 0,3 dB
Reflection loss	———	≤ 52 dB	≤ 62 dB

Cables (pigtails)

	Single-mode	OM1 Multi-mode	OM2 Multi-mode	OM3 Multi-mode	OM4 Multi-mode
Cable type	easy strip	easy strip	easy strip	easy strip	easy strip
Cable diameter	900 µm	900 µm	900 µm	900 µm	900 µm
Maximum tension at system	6N	6N	6N	6N	6N
Maximum tension after system	3N	3N	3N	3N	3N
Minimum bend radius after system	30 mm	30 mm	30 mm	30 mm	30 mm

Pigtail colours

	UPC single-mode	OM1 single-mode	OM1, OM2 multi-mode	OM3, OM4 multi-mode
FC connector	metallic	metallic	metallic	metallic
FC shield	black	black	black	black
LC connector	blue	green	beige	beige
LC shield	white	white	white	white
SC connector	blue	green	beige	beige
SC shield	black	black	black	black
ST connector	metallic	metallic	metallic	metallic
ST shield	black	———	black	black
MTRJ connector	black	———	black	black
MTRJ shield	black	———	black	black
Cable colour	yellow	yellow	OM1 blue OM2 green	turquoise
Jacket colour	yellow	yellow	OM1 blue OM2 green	turquoise

Pigtails BKT

Pigtail ST MM OM1

Pigtail LC MM OM2

Pigtail SC APC SM

Pigtail E2000

Pigtail SC

Pigtail FC

Pigtail LC APC SM

Standard packaging

6 pigtails are coiled onto a paper disc.

Individual packaging

We offer a wide range of packaging options:

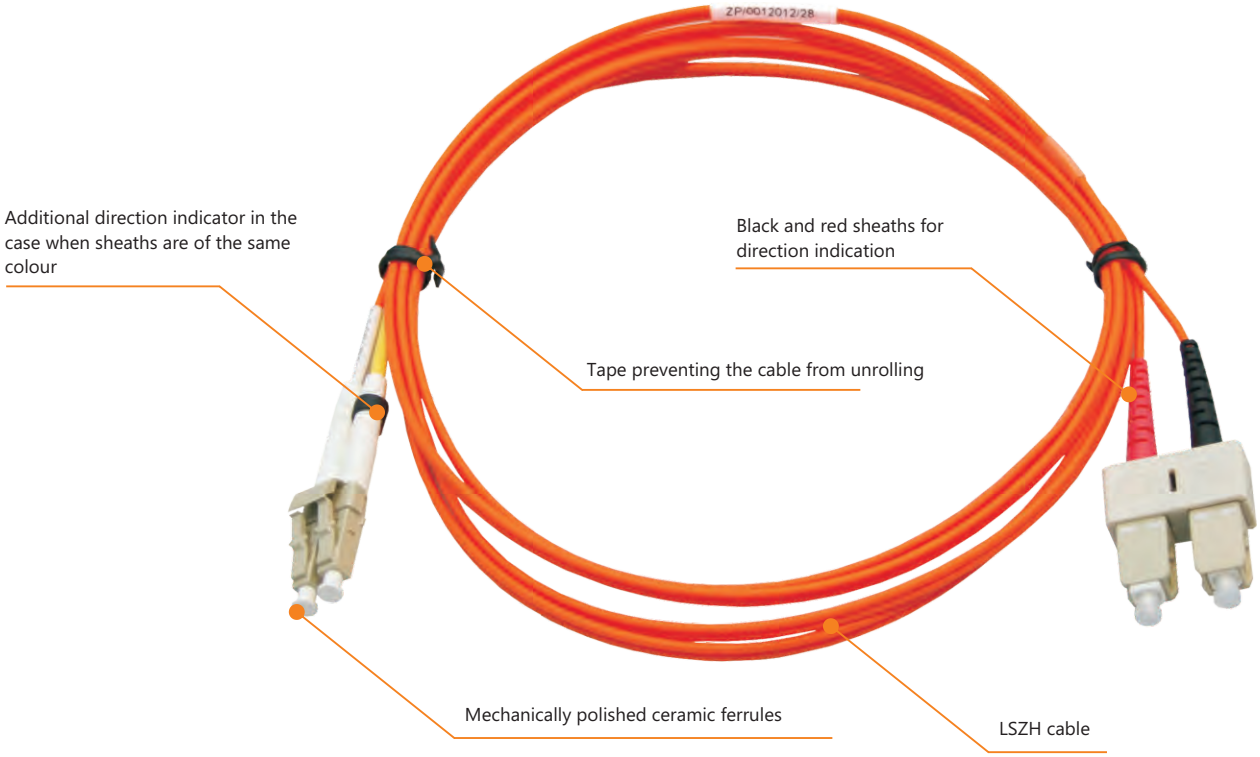
-
- Ziplock bags
- Coloured labels with customer logo
- Barcodes
- Other

Ordering information

	Cable type	Fibre type	First connector	Second connector	Packaging option		Length (m)
22Q						•	
	D - duplex S - simplex P - pigtail	9 - SM OS1 5 - MM OM2 6 - MM OM1 3 - MMOM3 4 - MMOM4 7 - GG57A.1	1 - ST 2 - SC 3 - SC APC 4 - FC 5 - FC APC 6 - LC 8 - E2000PC 9 - E2000APC	0 - none 1 - ST 2 - SC 3 - SC APC 4 - FC 5 - FC APC 6 - LC 7 - LC APC 8 - E2000 PC 9 - E2000 APC	0 - plastic bag Z - ziplock bag C - 12 pigtail colours S - customer		

Przykład: 22QD5210.2 - Patchcord SC/PC duplex MM OM2 50/125 µm duplex 2 m

Patchcords BKT



Duplex cables

	UPC single-mode	Om1, OM2 multi-mode	Om3, OM4 multi-mode
Fiber type	SM G652.D	MM	MM
Core diameter	9 µm	62,5 µm i 50 µm	50 µm
Outer jacket material	LSZH	LSZH	LSZH
Cable diameter LC and LC hybrid patchcords	2 mm	2 mm	2 mm
Cable diameter other then LC hybrid patchcords	2 mm	3 mm	3 mm
Maximum tensile load short term	400N	400N	400N
Maximum tensile load long term	200N	200N	200N
Minimum bend radius short term	30 mm	30 mm	30 mm
Minimum bend radius long term	45 mm	45 mm	45 mm
Cable weight 2mm (duplex)	9 kg/km	9 kg/km	9 kg/km
Cable weight 3mm (duplex)	16 kg/km	16 kg/km	16 kg/km

Duplex set colours

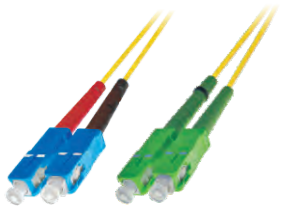
	UPC single-mode	APC single-mode	Om1, OM2 multi-mode	Om3, OM4 multi-mode
Connector FC	metallic	metallic	metallic	metallic
Shield FC	black and red	green	black and red	black and red
Connector LC	blue	green	beige	beige
Shield LC	white	green	white	white
LC duplex clip	blue	white	beige	beige
Connector SC	blue	green	beige	beige
Shield SC	black and red	green	black and red	black and red
S.C. duplex clip	blue	green	beige	beige
Connector ST	metallic	metallic	metallic	metallic
Shield ST	black and red		black and red	black and red
Cable colour	yellow	yellow	orange	turquoise

Patchcords BKT

Patchcord DUPLEX SC-SC SM

Patchcord SIMPLEX LC-LC SM

Patchcord E2000 APC-E2000 APC



Patchcord SC APC-SC

Patchcord ST-ST

Standard packaging

Provided as an approx 16cm coil.
When coiled, a patchcord is kept together with the use of tape.

Supplied in sealed plastic bags as a standard. The label inside provides information on:

- Product name
- Length
- Maximum permissible attenuation
- Minimum permissible reflection loss (single-modes)
- Index

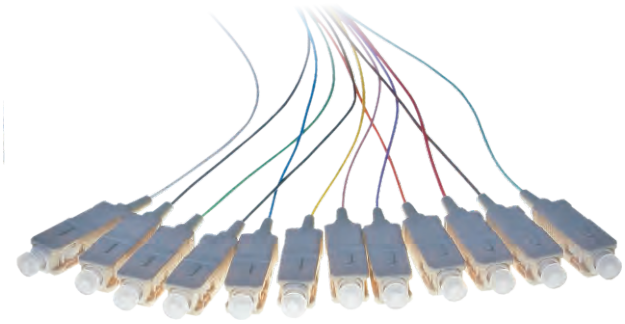
Ordering information

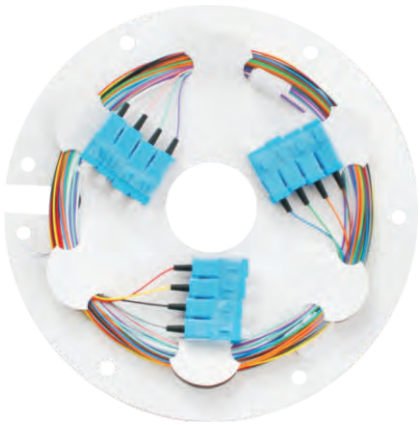
	Cable type	Fibre type	First connector	Second connector	Packaging option		Length (m)
22Q						•	
	D - duplex S - simplex P - pigtail	9 - SM OS1 5 - MM OM2 6 - MM OM1 3 - MMOM3 4 - MMOM4 7 - GG57A.1	1 - ST 2 - SC 3 - SC APC 4 - FC 5 - FC APC 6 - LC 8 - E2000PC 9 - E2000APC	0 - none 1 - ST 2 - SC 3 - SC APC 4 - FC 5 - FC APC 6 - LC 7 - LC APC 8 - E2000 PC 9 - E2000 APC	0 - plastic bag Z - ziplock bag C - 12 pigtail colours S - customer		

Example: 22QD5210.2 - Patchcord SC/PC-ST/PC OM2 (50/125) duplex 2 m

12 color pigtail

In order to facilitate installation and easy identification of spliced cables offered by BKT ELEKTRONIK, as many as 12 coloured pigtails are available. These pigtails have the same characteristics as the standard version and are available in the following colours regardless of the fibre type: red, green, blue, yellow, white, grey, brown, purple, orange, black, pink and turquoise.

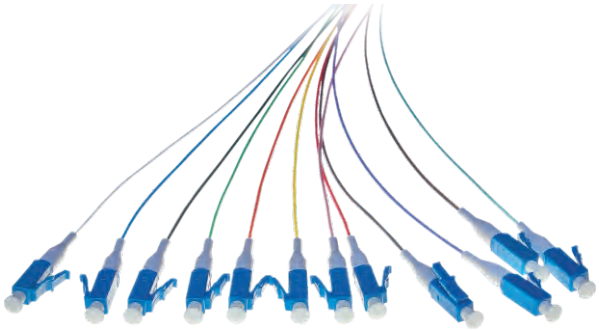


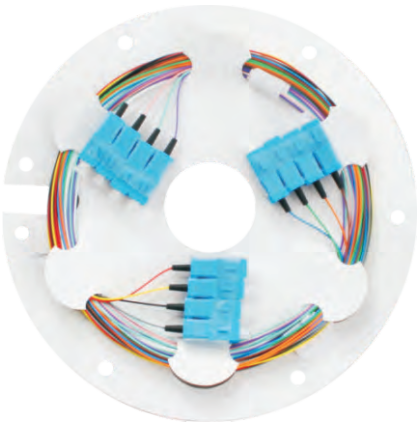


Coloured fibre cable pigtails SC

Pigtails are coiled onto discs (12 per disc) and put into sealed plastic bags.

Connector	Fibre	Index
SC (pigtails)	OM2 50/125 µm multi-mode	22QP520C.X
SC (pigtails)	OS1 9/125 µm single-mode	22QP920C.X





Coloured fibre cable pigtails, LC

Pigtails are coiled onto discs (12 per disc) and put into sealed plastic bags.

Connector	Fibre	Index
LC (12 pigtails)	OM2 50/125 µm multi-mode	22QP560C.X
LC (12 pigtails)	OS1 9/125 µm single-mode	22QP960C.X

Mode conditioning patchcords

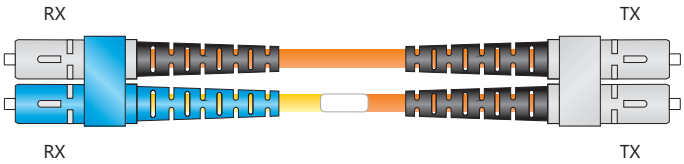
Mode Conditioning Fiber Patch Cords are made for Ethernet network (1000Base-LX) with 1300nm wavelength. The solution consists of duplex patch cord, where one of the two multi-mode fibers changes into single-mode. The cores of the two fibers are shifted relative to each other by a proper value. The product complies with standard IEEE 802.3z. This technology makes it possible to increase the transmission distance of 1000Base-LX technology up to 550m. While connecting Mode Conditioning cable to Ethernet network it is important to remember that yellow cable (single-mode) should be connected to the transmitter, whereas the orange one (multi-mode) to the receiver. At the other end of the fiber the connections should be made in the same way.

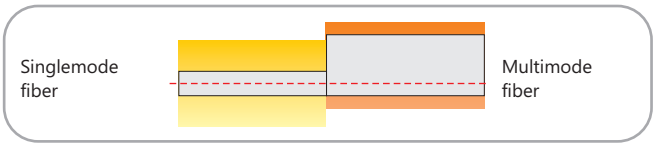
Features:

- IEEE-802z (Gigabit ethernet) Complaint
- Low insertion loss
- Easy to install

Parameters

Type of Connector	Cable	Durability	Operating temperature
SC, ST, FC, LC	LSZH 3 mm	1000 cycles	from -40℃ to +75℃





Ordering information

	Fiber	Connector 1	Connector 2			Length (m)
11MC				0	●	
	6 - OM1 62,5 µm 5 - OM2 50 µm	1 - ST 2 - SC 6 - LC	1 - ST 2 - SC 6 - LC			

MultiPatchcords

Factory pre-wired optical fiber cables with connectors are becoming more and more popular alternative for cables that are fusion spliced at installation. The advantages of this solution are: comfortable and quicker installation, better connection parameters thanks to factory conditions of assembly, polishing and testing of connectors and possibility of routing the cable with connectors in protective jacket. Along with the ready-for-use cables, a customer receives the test report. Therefore, the fitter does not have to carry out necessary tests on their own. BKT ELEKTRONIK offers a whole range of cables: loose tube, tight buffered, breakout and mini-breakout type with the following types of connectors: E2000, FC, LC, SC and ST polished to standards PC, UPC and APC.

Ordering information

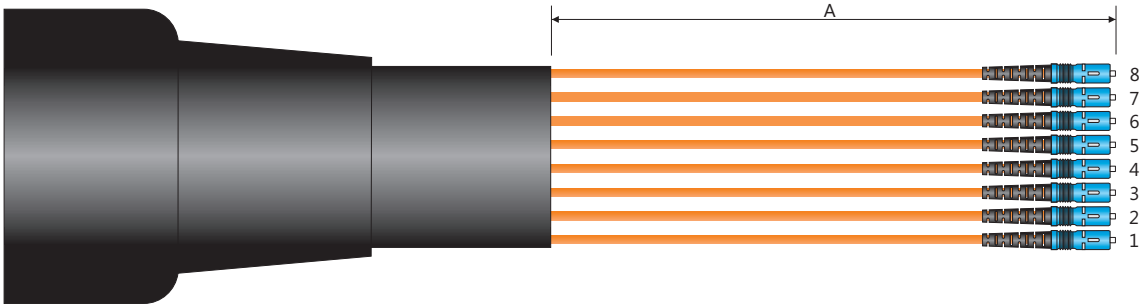
We are doing our best to meet all the technical requirements for our products when it comes to used cable and connectors, length of pigtails, types of cascade or the method of mounting the cable jacket. Therefore, please, contact our BKT ELEKTRONIK Trade Department in order to establish the final shape of the product.

Connector	Designation	
1		red
2		green
3		blue
4		yellow
5		white
6		grey
7		brown
8		violet
9		orange
10		black
11		pink
12		turquoise

Connector	Designation	
13	****	red + designation
14	****	green + designation
15	****	blue + designation
16	****	yellow + designation
17	****	white + designation
18	****	grey + designation
19	****	brown + designation
20	****	violet + designation
21	****	orange + designation
22	****	black + designation
23	****	pink + designation
24	****	turquoise + designation

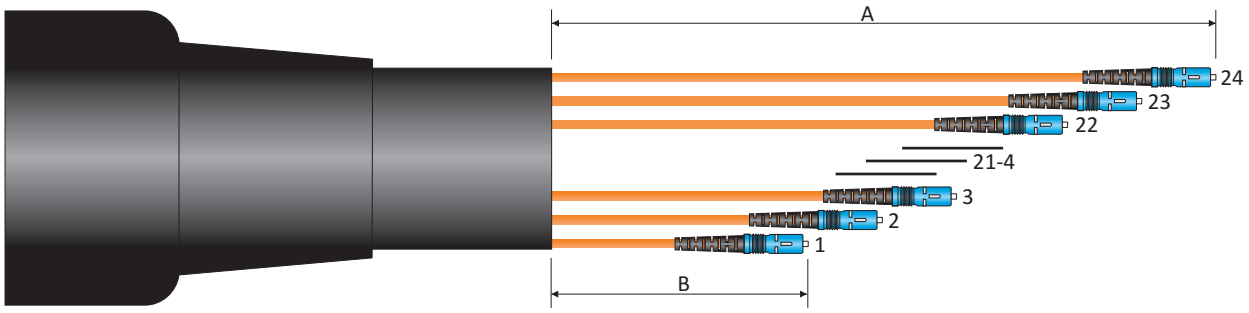
Cascades

Equal length fan-out



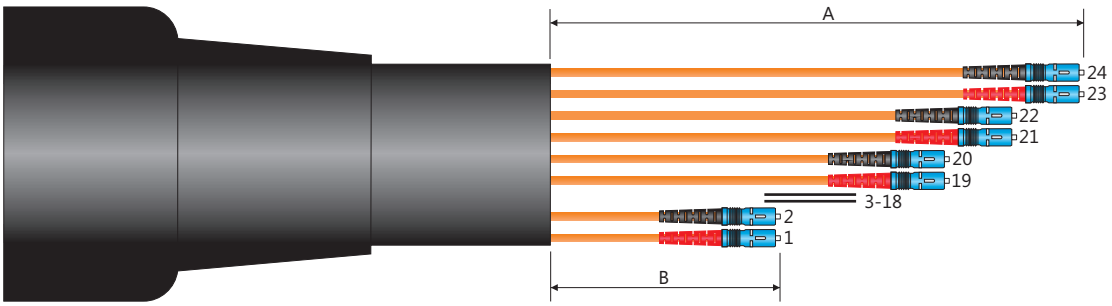
A - length (standard 1m)

Standard cascade simplex



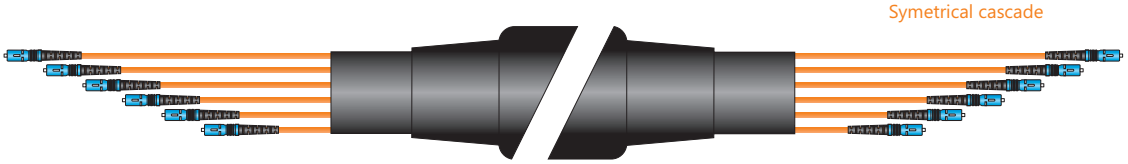
A - length (standard 1 m)
B - length the shortest tail (standard 0,4 m)

Standard cascade duplex



A - length (standard 1 m)
B - length the shortest tail (standard 0,4 m)

Symetrical cascade



Asymetrical cascade

Fiber Optic Cables

BKT optical cables
BKT Elektronik has been operating on Polish market for many years, offering optical cables with fibers from renowned fiber manufacturers: Draka and Sumitomo.
The cables are produced in cable factories strictly according to our designs and technical requirements regarding cable's structure, type of sheath, mechanical properties (including durability) etc. Such guidelines given to the cable factories are our property. BKT optical fiber cables comply with international and Polish standards related to product, production process and environment. The production process is subject to continuous control of BKT engineers.

We especially recommend the following products from our rich offer of optical cables:

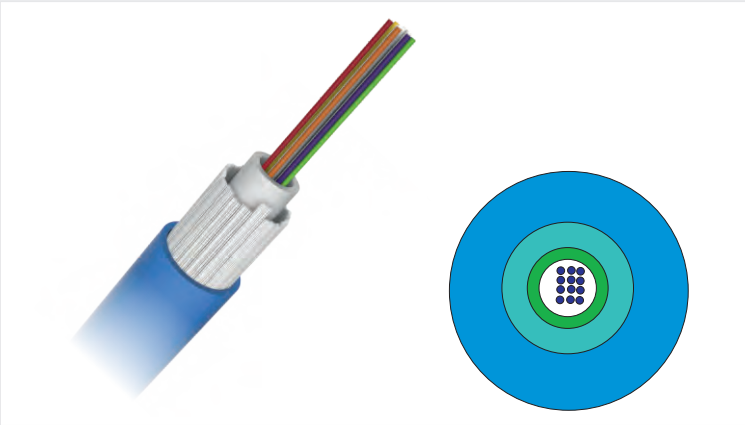
Universal optical tube cables – indoor/outdoor cables with central tube or multi-tube structure and various tensile strengths. The cables have rodent protection made of glass fiber or corrugated steel strip. Cable sheaths made of non-halogenated LSOH material, flame retardant LSOH FR or materials with increased fire resistance. We also provide tight buffered cables at the request of customers

Outdoor optical tube cables with central tube or multi - tube structure and various tensile strengths. They may be laid in telecom ducts or directly in the ground. The cables may have rodent protection made of glass fiber, corrugated steel strip or polyamide sheath. They may have one or two polyethylene sheaths.

Indoor tight buffered optical cables. We have pigtail cables, patch cords and multi-fiber cables on offer.
The internal cables include: cables with various tensile strengths and outer diameters (mini breakout, full breakout). The latest product among internal Draka cables are cables designed for data centers, which are characterized by light structure, small diameters and big number of fibers.

Micro cables – for blowing cable into micro ducts for backbone network and subscriber connections. They have central tube and multi-tube structure. Wide range of outer diameters allows blowing cables into micro tubes with inner diameter of even 4 mm.

Optical ground wires, ADSS cables, figure-eight optical cables.
For installation on utility poles, street lighting poles or poles in overhead contact systems. Offered as all-dielectric self-supporting cables or with supporting steel wire. They are mounted on poles with 50-250 m intervals.



UC[FIBRE] I/O CT D DA LSHF 1.0 kN E14

Applications:
- Universal, indoor and outdoor
- LAN backbones
- Telecom access lines
- Computer network, campus network

Standards:
- ISO 11801 2-nd edition
- EN 50173-1:2002
- IEC 60794-1

Flame resistance:
- IEC 60332-1-2 Single vertical wire test
- IEC 60754-1 No halogens
- IEC 60754-2 No acid matters
- IEC 61034-2 No dense smoke

Construction

Loose tube	Central tube, jelly filled; ø 2.8 mm with 2 –16 fibres, ø 3.5 mm with 24 fibres	
Colour sequence	1 Red	13 Yellow + marking every 70 mm
	2 Green	14 White + marking every 70 mm
	3 Blue	15 Grey + marking every 70 mm
	4 Yellow	16 Turquoise + marking every 70 mm
	5 White	17 Orange + marking every 70 mm
	6 Grey	18 Pink + marking every 70 mm
	7 Brown	19 Yellow + marking every 35 mm
	8 Violet	20 White + marking every 35 mm
	9 Turquoise	21 Grey + marking every 35 mm
	10 Black	22 Turquoise + marking every 35 mm
	11 Orange	23 Orange + marking every 35 mm
	12 Pink	24 Pink + marking every 35 mm
Reinforcement	Reinforced with glass fibre	
Sheath	1.0 mm, FireBur® blue, UV-resistant, IEC 50290-2-27	

Structure

Loose tube	Loose tube ø 2.8/3.5 mm filled with hydrophobic gel with 2-16/24 fibres
Strength member	Hydrophobic glass fibre insulation
Sheath	1.0 mm blue FireBur®, UV-resistant, IEC 50290-2-27

Designation

DIN/VDE	I/A- DQ (ZN) BHn, n-ilość włókien
Draka Denmark	UTnnnmm-79-xxx; nnn - ilość włókien, mm - typ włókna

Heat of combustion

2÷16 fibres:	660 MJ/km	0.18 KWh/km
24 fibres:	800 MJ/km	0.22 KWh/km

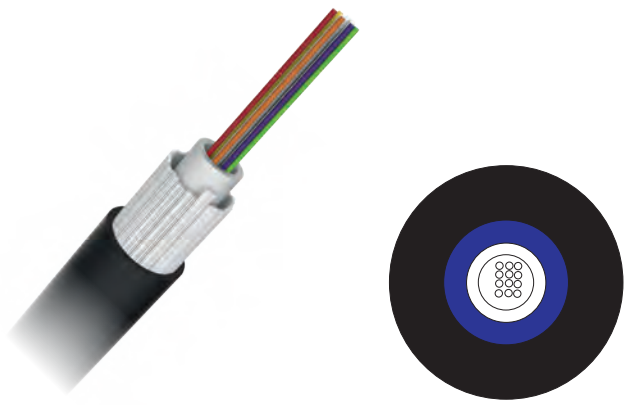
Physical properties

Property	Testing methodology	Value
Outer diameter		2 ÷ 16 fibres: 6.0 mm 18 ÷ 24 fibres: 6.5 mm
Weight		2 ÷ 16 fibres: 40 kg/km 18 ÷ 24 fibres: 45 kg/km
Maximum tensile strength	E1	1000 N (less than 1/2 of fibre strength)
Tensile strength (dynamic)	E1	750 N (less than 1/3 of fibre strength)
Tensile strength (static)	E1	500 N (no attenuation; less than 1/4 fibre strength
Breaking force	E3	1500N/dm
Impact	E7	15 Nm (no attenuation; no broken cable elements)
Torsion	E7	5 cycles ± 1 turn
Kink	E10	Cables do not form a kink when a loop's diameter is more than 100 mm
Minimum bending radius (dynamic)	E11	R=60 mm
Minimum bending radius (static)		R=100 mm
Temperature range	F1	Storage: from -40°C to +60°C Installation: from -15°C to +40°C Operation: from -40°C to ca. ± +60°C
Water penetration	F5B	Resistant to longitudinal water penetration

Ordering information

Number of fibres	Product code	Type of fibre	Fibre specification number	Index BKT
4	UCFIBRE I/O CT D DA LSHF 1.0 kN 4 MM51	OM2 50/125 multimode 500/500	C23	10250302
6	UCFIBRE I/O CT D DA LSHF 1.0 kN 8 MM51	OM2 50/125 multimode 500/500	C23	10250303
8	UCFIBRE I/O CT D DA LSHF 1.0 kN 8 MM51	OM2 50/125 multimode 500/500	C23	10250304
12	UCFIBRE I/O CT D DA LSHF 1.0 kN 12 MM51	OM2 50/125 multimode 500/500	C23	10250306
16	UCFIBRE I/O CT D DA LSHF 1.0 kN 16 MM51	OM2 50/125 multimode 500/500	C23	10250307
24	UCFIBRE I/O CT D DA LSHF 1.0 kN 24 MM51	OM2 50/125 multimode 500/500	C23	10250308
4	UCFIBRE I/O CT D DA LSHF 1.0 kN 4 OM3 B	OM3 MaxCap®BB 300 50/125 multimode	C31	10250402
6	UCFIBRE I/O CT D DA LSHF 1.0 kN 6 OM3 B	OM3 MaxCap®BB 300 50/125 multimode	C31	10250403
8	UCFIBRE I/O CT D DA LSHF 1.0 kN 8 OM3 B	OM3 MaxCap®BB 300 50/125 multimode	C31	10250404
12	UCFIBRE I/O CT D DA LSHF 1.0 kN 12 OM3 B	OM3 MaxCap®BB 300 50/125 multimode	C31	10250906
16	UCFIBRE I/O CT D DA LSHF 1.0 kN 16 OM3 B	OM3 MaxCap®BB 300 50/125 multimode	C31	10250407
24	UCFIBRE I/O CT D DA LSHF 1.0 kN 24 OM3 B	OM3 MaxCap®BB 300 50/125 multimode	C31	10250408
4	UCFIBRE I/O CT D DA LSHF 1.0 kN 4 MM61	OM1 62.5/125 multimode	C02	10250202
6	UCFIBRE I/O CT D DA LSHF 1.0 kN 6 MM61	OM1 62.5/125 multimode	C02	10250203
8	UCFIBRE I/O CT D DA LSHF 1.0 kN 8 MM61	OM1 62.5/125 multimode	C02	10250204
12	UCFIBRE I/O CT D DA LSHF 1.0 kN 12 MM61	OM1 62.5/125 multimode	C02	10250206
16	UCFIBRE I/O CT D DA LSHF 1.0 kN 16 MM61	OM1 62.5/125 multimode	C02	10250207
24	UCFIBRE I/O CT D DA LSHF 1.0 kN 24 MM61	OM1 62.5/125 multimode	C02	10250208
4	UCFIBRE I/O CT D DA LSHF 1.0 kN 4 SM2D	OS2 singlemode G652.D	C03e	10250102
6	UCFIBRE I/O CT D DA LSHF 1.0 kN 6 SM2D	OS2 singlemode G652.D	C03e	10250103
8	UCFIBRE I/O CT D DA LSHF 1.0 kN 8 SM2D	OS2 singlemode G652.D	C03e	10250104
12	UCFIBRE I/O CT D DA LSHF 1.0 kN 12 SM2D	OS2 singlemode G652.D	C03e	10250106
16	UCFIBRE I/O CT D DA LSHF 1.0 kN 16 SM2D	OS2 singlemode G652.D	C03e	10250107
24	UCFIBRE I/O CT D DA LSHF 1.0 kN 24 SM2D	OS2 singlemode G652.D	C03e	10250108
4	UCFIBRE I/O CT D DA LSHF 1.0 kN 4 OM4B	OM4 MaxCap® BB 50/125 multi mode	C32	10250502
6	UCFIBRE I/O CT D DA LSHF 1.0 kN 6 OM4B	OM4 MaxCap® BB 50/125 multi mode	C32	10250503
8	UCFIBRE I/O CT D DA LSHF 1.0 kN 8 OM4B	OM4 MaxCap® BB 50/125 multi mode	C32	10250504
12	UCFIBRE I/O CT D DA LSHF 1.0 kN 12 OM4B	OM4 MaxCap® BB 50/125 multi mode	C32	10250506
16	UCFIBRE I/O CT D DA LSHF 1.0 kN 16 OM4B	OM4 MaxCap® BB 50/125 multi mode	C32	10250507
24	UCFIBRE I/O CT D DA LSHF 1.0 kN 24 OM4B	OM4 MaxCap® BB 50/125 multi mode	C32	10250508

Fiber Optic Cables



UC[FIBRE] O CT D DA PE 1.5 kN

Application:
Equivalent of Z-XOTKtcdD. Intended for transmission of optical signal in the first, second, third and fourth transmission window. Used for transmission of data, sound and vision via WANs and LANs and for access connections. Cables with single-mode or multimode fibres, reinforced in the central tube with glass fibre, rodent resistant, fully dielectric; PE outer sheath, resistant to mechanical damage and UV radiation. Suitable to be laid in primary and secondary telecom ducts or for direct burial. Mechanical or pneumatic installation.

Standards:
- EN 187 000
- IEC 60794-3, PN EN 60794-3; 2002 (U)
- PN EN 60793-1-1; 2003 (U)
- IEC 60794-3-10
- IEC 60794-3-12
- ISO 11801 2-nd edition
- PN EN 50173-1
- PN EN 41003; 2001
- ITUT G.652D

Flame resistance:
Zero fire resistance

Construction

Loose tube	Central tube, jelly filled; ø 2.8 mm with 2 –16 fibres, ø 3.5 mm with 24 fibres	
Colour sequence	1 Red	13 Yellow + marking every 70 mm
	2 Green	14 White + marking every 70 mm
	3 Blue	15 Grey + marking every 70 mm
	4 Yellow	16 Turquoise + marking every 70 mm
	5 White	17 Orange + marking every 70 mm
	6 Grey	18 Pink + marking every 70 mm
	7 Brown	19 Yellow + marking every 35 mm
	8 Violet	20 White + marking every 35 mm
	9 Turquoise	21 Grey + marking every 35 mm
	10 Black	22 Turquoise + marking every 35 mm
	11 Orange	23 Orange + marking every 35 mm
	12 Pink	24 Pink + marking every 35 mm
Reinforcement	Reinforced with glass fibre	
Sheath	1.2 mm, black LLDPE, IEC 60811, IEC 60708	

Structure

Loose tube	ø 2.8 for 2-16 fibres, ø 3.5 mm for 24 fibres, filled with hydrophobic gel with 2 - ca. 16/24 fibres
Strength member	Hydrophobic glass fibre insulation
Outer sheath	1.2 mm, black LLDPE, IEC 60811, IEC 60708

Designation

DIN/VDE	A- DQ (ZN) B 2Y n, (n-number of fibres)
DMC	UC2000 CT-A PE
Draka Denmark	UTnnnmm-37-xxx, (nnn-number of fibres, mm – type of fibre)

Heat of combustion

2÷16 fibres:	660 MJ/km	0.18 KWh/km
24 fibres:	800 MJ/km	0.22 KWh/km

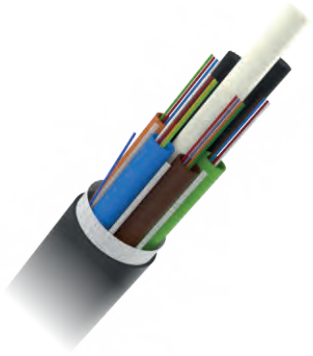
Physical properties

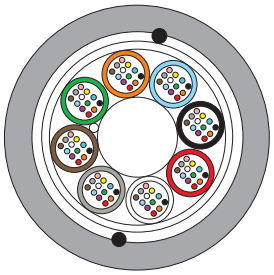
Property	Testing methodology	Value
Outer diameter		2 ÷ 16 fibres: 6.5 mm 24 fibres: 7.0 mm
Weight		2 ÷ 16 fibres: 40 kg/km 24 fibres: 45 kg/km
Maximum tensile strength	E1	1500 N (less than 1/2 of fibre strength
Tensile strength (dynamic)	E1	1000 N (less than 1/3 of fibre strength)
Tensile strength (static)	E1	750 N (no attenuation; less than 1/4 of fibre strength)
Breaking force	E3	2000N/dm
Impact	E7	20 Nm (no attenuation; no broken cable elements)
Torsion	E7	5 cycles ± 1 turn
Kink	E10	Cables do not form a kink when a loop's diameter is more than 200 mm
Minimum bending radius (dynamic)	E11	R=60 mm
Minimum bending radius (static)		R=100 mm
Temperature range	F1	Storage: from -40°C to +60°C (short term up to 70°C) Installation: from -15°C to +40°C Operation: from -30°C to +60°C
Water penetration	F5B	Resistant to longitudinal water penetration

Ordering information

Number of fibres	Description on cable	Fibre type	Fibre specification number	Index
4	UCFIBRE O CT D DA PE 1.5kN	MM51 OM2 50/125 multimode 500/500	C23	10230302
6	UCFIBRE O CT D DA PE 1.5kN	MM51 OM2 50/125 multimode 500/500	C23	10230303
8	UCFIBRE O CT D DA PE 1.5kN	MM51 OM2 50/125 multimode 500/500	C23	10230304
12	UCFIBRE O CT D DA PE 1.5kN	MM51 OM2 50/125 multimode 500/500	C23	10230306
16	UCFIBRE O CT D DA PE 1.5kN	MM51 OM2 50/125 multimode 500/500	C23	10230307
24	UCFIBRE O CT D DA PE 1.5kN	MM51 OM2 50/125 multimode 500/500	C23	10230308
4	UCFIBRE O CT D DA PE 1.5kN	OM3 Max-Cap-BB 50/125 multimode	C31	10230402
6	UCFIBRE O CT D DA PE 1.5kN	OM3 Max-Cap-BB 50/125 multimode	C31	10230403
8	UCFIBRE O CT D DA PE 1.5kN	OM3 Max-Cap-BB 50/125 multimode	C31	10230404
12	UCFIBRE O CT D DA PE 1.5kN	OM3 Max-Cap-BB 50/125 multimode	C31	10230406
16	UCFIBRE O CT D DA PE 1.5kN	OM3 Max-Cap-BB 50/125 multimode	C31	10230407
24	UCFIBRE O CT D DA PE 1.5kN	OM3 Max-Cap-BB 50/125 multimode	C31	10230408
4	UCFIBRE O CT D DA PE 1.5kN	OM4 Max-Cap -BB 50/125 multimode	C32	10230502
6	UCFIBRE O CT D DA PE 1.5kN	OM4 Max-Cap -BB 50/125 multimode	C32	10230503
8	UCFIBRE O CT D DA PE 1.5kN	OM4 Max-Cap -BB 50/125 multimode	C32	10230504
12	UCFIBRE O CT D DA PE 1.5kN	OM4 Max-Cap -BB 50/125 multimode	C32	10230506
16	UCFIBRE O CT D DA PE 1.5kN	OM4 Max-Cap -BB 50/125 multimode	C32	10230507
24	UCFIBRE O CT D DA PE 1.5kN	OM4 Max-Cap -BB 50/125 multimode	C32	10230508
4	UCFIBRE O CT D DA PE 1.5kN	MM61 OM1 62.5/125 multimode	C02	10230202
6	UCFIBRE O CT D DA PE 1.5kN	MM61 OM1 62.5/125 multimode	C02	10230203
8	UCFIBRE O CT D DA PE 1.5kN	MM61 OM1 62.5/125 multimode	C02	10230204
12	UCFIBRE O CT D DA PE 1.5kN	MM61 OM1 62.5/125 multimode	C02	10230206
16	UCFIBRE O CT D DA PE 1.5kN	MM61 OM1 62.5/125 multimode	C02	10230207
24	UCFIBRE O CT D DA PE 1.5kN	MM61 OM1 62.5/125 multimode	C02	10230208
4	UCFIBRE O CT D DA PE 1.5kN	SM2D OS2 singlemode G652.D	C03e	10230102
6	UCFIBRE O CT D DA PE 1.5kN	SM2D OS2 singlemode G652.D	C03e	10230103
8	UCFIBRE O CT D DA PE 1.5kN	SM2D OS2 singlemode G652.D	C03e	10230104
12	UCFIBRE O CT D DA PE 1.5kN	SM2D OS2 singlemode G652.D	C03e	10230106
16	UCFIBRE O CT D DA PE 1.5kN	SM2D OS2 singlemode G652.D	C03e	10230107
24	UCFIBRE O CT D DA PE 1.5kN	SM2D OS2 singlemode G652.D	C03e	10230108

Fiber Optic Cables





AN01: Indoor and outdoor cable, multi-tube, gel filled, U-DQH LSZH 2100N, equivalent of ZW-NOTKtsd.

Application:
- Universal, indoor and outdoor cable
- Intended for telecom networks, CATV and CCTV
- LAN backbones, campus network
- Computer network

Standards:
- EN 187 000
- ISO 11801 2-nd edition
- PN EN 50173-1:2002
- PN EN 60793-1-1
- PN EN 60793-2
- PN EN 60794-2
- PN EN 60794-3
- PN EN 41003; 2001

Flame resistance:
- IEC 60332-1-2 Single vertical wire test
- IEC 60754-1 No halogens
- IEC 60754-2 No acid matters
- IEC 61034-2 No dense smoke

Construction

Central strength member	Ø 3.5 mm – dielectric FRP rod												
Loose tube	Ø 2.4 mm filled with thixotropic gel, 12 fibres per tube												
Water resistance	Cable core protected with nonwoven fabric and swellable tape												
Rip cord	Two polyester cords for easy sheath cutting – ripcord												
Cable sheath	Thickness - 1.5 mm, black LSZH												
Fibre colours	Colour	BL	OR	GR	BR	GR	WH	RE	BL	YE	VIO	PI	TUR
Tube colours	Colour	BL	OR	GR	BR	GR	WH	RE	BL	YE	VIO	PI	TUR

Transmission parameters

Parameter	Value
Fibre type	G.652D (OS2)
Attenuation for 1310 nm wave	≤ 0.35 dB/km
Attenuation for 1550 nm wave	≤ 0.22 dB/km
Attenuation for 1383 nm (± 3 nm) wave	≤ 0.32 dB/km
Attenuation for 1625 nm wave	≤ 0.25 dB/km
Cut-off wavelength	≤ 1260 nm
Chromatic dispersion 1285 – 1330 nm	≤ 3.5 ps/nm/km
Chromatic dispersion 1550 nm	≤ 18 ps/nm/km
Chromatic dispersion 1625 nm	≤ 22 ps/nm/km
Fibre cladding diameter	125.0 ± 0.7 µm
Sheath diameter, colourless	245.0 ± 5 µm
Mode field diameter: 1310	9.2 ± 0.4 µm
Mode field diameter: 1550	10.4 ± 0.5 µm

Physical properties

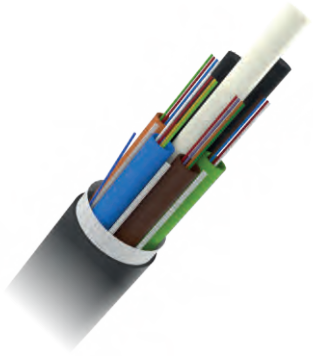
Properties	Testing methodology	Value
Maximum tensile strength	E1	2100N
Impact	E4	10 Nm
Torsion	E7	± 360°C
Temperate ranges	F1	Operation: -30°C to +50°C Installation: -10°C to +50°C Storage and transport: -40°C to ÷ +70°C
Minimum bend radius		Short-term: 15 x D Long-term: 20 x D

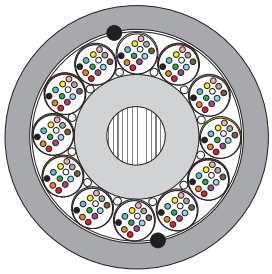
Number of fibres (number of fibres per tube)	Cable nominal diameter	Cable nominal weight
48J (4x12)	11.3 mm	120 kg/km
728J (6x12)	11.3 mm	125 kg/km
96J (7x12)	12.5 mm	155 kg/km
144J (12x12)	15.2 mm	210 kg/km

Ordering information

Number of fibres	Product description	Index
48J (4x12)	Cable FO U-DQH 48E 9/125 4X12E 9/125 2100N	102521B5.4
72J (6x12)	Cable FO U-DQH 72E 9/125 6X12E 9/125 2100N	102521G5.6
96J (8x12)	Cable FO U-DQH 96E 9/125 8X12E 9/125 2100N	102521H5.8
144J (12x12)	Cable FO U-DQH 144E 9/125 12X12E 9/125 2100N	102521J5.12

Fiber Optic Cables





AF05:Outdoor cable, gel filled, A-DQ(ZN) 2Y 2100N, equivalent of Z-XOTKtsd

Application:
- Outdoor applications
- Construction of large telecom networks
- CATV and CCTV

Standards:
- EN 187 000
- IEC 60794-3, PN EN 60794-3; 2002 (U)
- PN EN 60793-1-1; 2003 (U)
- IEC 60794-3-10
- IEC 60794-3-12
- ISO 11801 2-nd edition
- PN EN 50173-1
- PN EN 41003; 2001
- ITUT G.652D

Construction

Property	Testing methodology	Value												
Maximum tensile strength	E1	2100N												
Impact	E4	10 Nm												
Torsion	E7	± 360°C												
Temperate ranges	F1	Operation: -10°C do +70°C Installation: -10°C do +55°C Storage and transport : -40°C to ÷ +70°C												
Minimum bend radius		Short-term: 15 x D Long-term: 20 x D												
Fibre colours*		Colour	BL	OR	GR	BR	GR	WH	RE	BL	YE	VIO	PI	TUR
Tube colours*		Colour	BL	OR	GR	BR	GR	WH	RE	BL	YE	VIO	PI	TUR

Structure

Central strength member	Ø 3.5 mm - dielectric FRP rod
Loose tube	Ø 2.2 mm lor 2.4 mm, gel filled, 6 or 12 fibres per tube
Water resistance	Cable core protected with non - woven fabric and swellable tape
Rip cord	Polyester cord for easy sheath cutting - ripcord
Cable sheath	Thickness - 1.5 mm, black HDPE

Ordering information

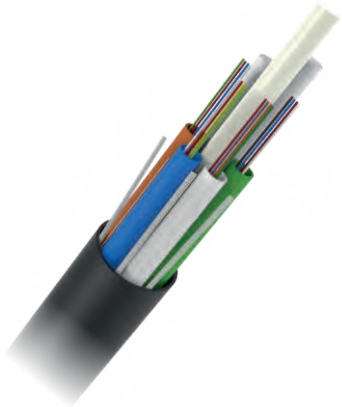
Number of fibres	Product description	Index
12J (2x6)	Cable FO A-DQ(ZN)2Y 12E 9/125 2x6 9/125 2100N	10237165.2
24J (2x12)	Cable FO A-DQ(ZN)2Y 24E 9/125 2X12E 9/125 2100N	10237185.2
24J (4x6)	Cable FO A-DQ(ZN)2Y 24E 9/125 4X6E 9/125 2100N	10237185.4
48J (4x12)	Cable FO A-DQ(ZN)2Y 48E 9/125 4X12E 9/125 2100N	102521B5.4
72J (6x12)	Cable FO A-DQ(ZN)2Y 72E 9/125 6X12E 9/125 2100N	102371G5.6
96J (8x12)	Cable FO A-DQ(ZN)2Y 96E 9/125 8X12E 9/125 2100N	102371H5.8
144J (12x12)	Cable FO A-DQ(ZN)2Y 144E 9/125 12X12E 9/125 2100N	102521J5.12

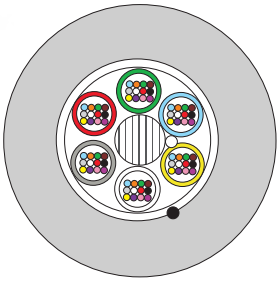
Transmission parameters

Parameter	Value
Fibre type	G.652D (OS2)
Attenuation for 1310 nm wave	≤ 0.35 dB/km
Attenuation for 1550 nm wave	≤ 0.22 dB/km
Attenuation for 1383 nm (± 3 nm) wave	≤ 0.32 dB/km
Attenuation for 1625 nm wave	≤ 0.25 dB/km
Cut-off wavelength	≤ 1260 nm
Chromatic dispersion 1285 - 1330 nm	≤ 3.5 ps/nm/km
Chromatic dispersion 1550 nm	≤ 18 ps/nm/km
Chromatic dispersion 1625 nm	≤ 22 ps/nm/km
Fibre cladding diameter	125.0 ± 0.7 µm
Sheath diameter, colourless	245.0 ± 5 µm
Mode field diameter: 1310 nm	9.2 ± 0.4 µm
Mode field diameter: 1550 nm	10.4 ± 0.5 µm

Number of fibres (number of fibres per rube)	Cable nominal diameter	Cable nominal weight
12J (2x6)	10.8 mm	90 kg/km
24J (4x6)	10.8 mm	90 kg/km
24J (2x12)	11.3 mm	92 kg/km
48J (4x12)	11.3 mm	95 kg/km
72J (6x12)	11.3 mm	100 kg/km
96J (7x12)	12.5 mm	125 kg/km
144J (12x12)	15.2 mm	175 kg/km

Fiber Optic Cables





Outdoor optical cable, gel filled and dry core - A-DQ(ZN)B2Y, 1500-3000N, the equivalent of Z-XOTKtsdD, rodent protection.

Application:
- Outdoor use
- For building vast telecommunications
- Cable television and city surveillance networks

Standards:
- EN 187 000
- IEC 60794-3, PN EN 60794-3; 2002 (U)
- PN EN 60793-1-1; 2003 (U)
- IEC 60794-3-10
- IEC 60794-3-12
- ISO 11801 2-nda edition
- PN EN 50173-1
- PN EN 41003; 2001
- ITUT G.652D

Construction

Property	Testing methodology	Value
Maximum tensile strength	E1	Cables 12-72J: 1500N, cable 96J: 2500N, cable 144J: 3000N
Impact	E4	15 Nm
Torsion	E7	± 360°C
Temperature range	F1	Operation: -40°C to +70°C Installation: -10°C to +50°C Storage: -40°C to ÷ +70°C
Minimum bend radius		Short term: 15 x D Long term: 20 x D
Fibers' colours*		Colour RE GR BL YE WH GR BR VIO TU BL OR PI
Tubes' colours*		Colour RE GR BL YE WH GR BR VIO TU BL OR PI

Physical properties

Central strength member	Ø 1.8 – 2.5 mm – dielectric FRP rod
Loose tube	Ø 1,8 mm filled with thixotropic gel, 12 fibers per tube
Water resistance	Cable core filled with water swellable nonwoven fabric
Cord for slitting the sheath	Ripcord - polyester cord for easy sheath slitting
Rodent protection	Layer of glass fiber
Cable sheath	Nominal thickness - 1.0 mm black HDPE UV-resistant

Transmission parameters

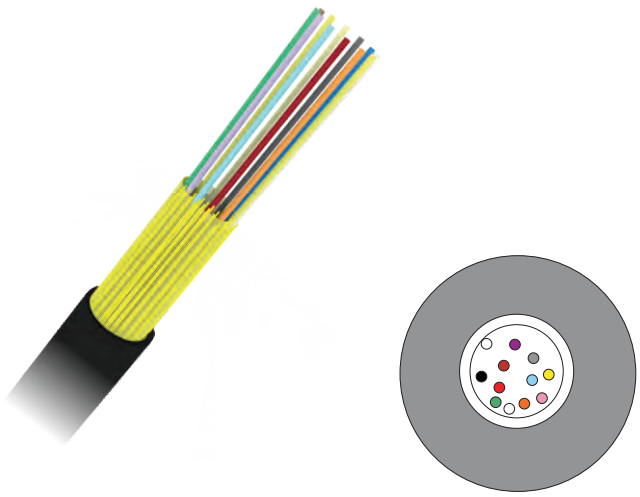
Parameter	Value
Fiber type	G.652D (OS2)
Attenuation for 1310 nm wave	≤ 0.35 dB/km
Attenuation for 1550 nm wave	≤ 0.22 dB/km
Attenuation for 1383 nm (± 3 nm) wave	≤ 0.35 dB/km
Attenuation for 1625 nm wave	≤ 0.25 dB/km
Cut-off wavelength	≤ 1260 nm
Chromatic dispersion 1285 - 1330 nm	≤ 3.5 ps/nm/km
Chromatic dispersion 1550 nm	≤ 18 ps/nm/km
Chromatic dispersion 1625 nm	≤ 22 ps/nm/km
Fiber cladding diameter	125.0 ± 0.7 µm
Sheath diameter, colourless	245.0 ± 5 µm
Mode field diameter: 1310 nm	9.2 ± 0.4 µm
Mode field diameter: 1550 nm	10.4 ± 0.5 µm

Ordering information

Number of fibers	Product description	Index
12J (1x12)	Cable FO BKT A-DQ(ZNB)2Y 12E 9/125 2x6 9/125 1500N	10233165.1
24J (2x12)	Cable FO BKT A-DQ(ZN)B2Y 24E 9/125 2X12E 9/125 1500N	10233185.2
48J (4x12)	Cable FO BKT A-DQ(ZN)B2Y 48E 9/125 4X12E 9/125 1500N	102331B5.4
72J (6x12)	Cable FO BKT A-DQ(ZN)B2Y 72E 9/125 6X12E 9/125 1500N	102331G5.6
96J (8x12)	Cable FO BKT A-DQ(ZN)B2Y 96E 9/125 8X12E 9/125 2500N	102331H5.8
144J (12x12)	Cable FO BKT A-DQ(ZN)B2Y 144E 9/125 12X12E 9/125 3000N	102331J5.12

Number of fibers (number of fibers per tube)	Cable nominal diameter	Cable nominal weight
12J (2x6)	9.0 mm	65 kg/km
24J (4x6)	9.0 mm	65 kg/km
48J (4x12)	9.0 mm	65 kg/km
72J (6x12)	9.0 mm	65 kg/km
96J (7x12)	10.0 mm	85 kg/km
144J (12x12)	12.5 mm	130 kg/km

Fiber Optic Cables



Outdoor micro cable, gel-filled, A-DQ(ZN)2Y 200N

Application:
- Outdoor use for micro duct systems
- Cable is all-dielectric.
- For building vast telecommunications
- Cable television and city surveillance networks

Standards:
- EN 187 000
- IEC 60794-3, PN EN 60794-3; 2002 (U)
- PN EN 60793-1-1; 2003 (U)
- IEC 60794-3-10
- IEC 60794-3-12
- ISO 11801 2-nd edition
- PN EN 50173-1
- PN EN 41003; 2001
- ITUT G.652D
- IEC 60794-5

Construction

Property	Value
Maximum tensile strength	200N
Temperature range	Operation: -40°C to +70°C Installation: -10°C to +50°C Storage and transport: -40°C to ÷ +70°C
Minimum bend radius	Short term: 15 x D Long term: 20 x D
Fibers' colours	Colour RE GR BL YE WH GR BR VIO TUR BL OR PI
	For number of fibers >12, stripes every 50 mm

Structure

Longitudinal reinforcement	Glass fiber
Loose tube	Ø 2.5 mm for 2-12J; Ø 2.8 mm for 16J; Ø 3.5 mm for 24J, gel-filled
Outer sheath	Thickness - 0.8 mm, black HDPE

Transmission parameters

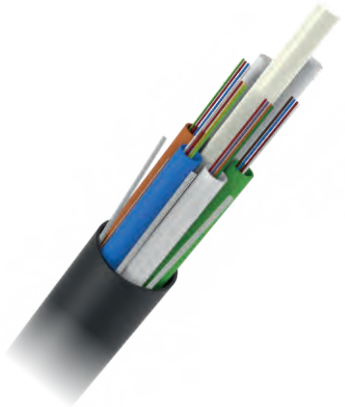
Parameter	Value
Fiber type	G.652D (OS2)
Attenuation for 1310 nm wave	≤ 0.35 dB/km
Attenuation for 1550 nm wave	≤ 0.22 dB/km
Attenuation for 1383 nm (± 3 nm) wave	≤ 0.34 dB/km
Attenuation for 1625 nm wave	≤ 0.25 dB/km
Cut-off wavelength	≤ 1260 nm
Chromatic dispersion 1285 – 1330 nm	≤ 3.5 ps/nm/km
Chromatic dispersion 1550 nm	≤ 18 ps/nm/km
Chromatic dispersion 1625 nm	≤ 22 ps/nm/km
Fiber cladding diameter	125.0 ± 0.7 µm
Sheath diameter, colourless	245.0 ± 5 µm
Mode field diameter: 1310 nm	9.2 ± 0.4 µm
Mode field diameter: 1550 nm	10.4 ± 0.5 µm

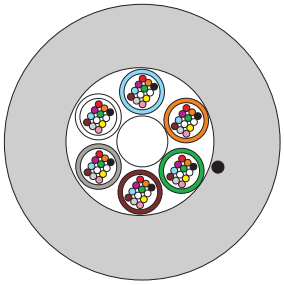
Ordering information

Number of fibers	Product description	Index
2J	Micro cable BKT FO A-DQ(ZN)2Y 2E 9/125 200N	10267115.1
4J	Micro cable BKT FO A-DQ(ZN)2Y 4E 9/125 200N	10267125.1
6J	Micro cable BKT FO A-DQ(ZN)2Y 6E 9/125 200N	10267135.1
8J	Micro cable BKT FO A-DQ(ZN)2Y 8E 9/125 200N	10267145.1
12J	Micro cable BKT FO A-DQ(ZN)2Y 12E 9/125 200N	10267165.1
16J	Micro cable BKT FO A-DQ(ZN)2Y 16E 9/125 200N	10267175.1
24J	Micro cable BKT FO A-DQ(ZN)2Y 24E 9/125 200N	10267185.1

Number of fibers	Nominal cable diameter	Nominal cable weight
2J	5.2 mm	25 kg/km
4J	5.2 mm	25 kg/km
6J	5.2 mm	25 kg/km
8J	5.2 mm	25 kg/km
12J	5.2 mm	25 kg/km
16J	5.5 mm	28 kg/km
24J	6.2 mm	30 kg/km

Fiber Optic Cables





Outdoor micro cable, gel-filled, dry core, A-DQ(ZN)2Y 800N

Application:
- Outdoor use, for micro duct systems.
- Cable is all-dielectric.
- For building vast telecommunications,
- Cable television and city surveillance networks.

Standards:
- EN 187 000
- IEC 60794-3, PN EN 60794-3; 2002 (U)
- PN EN 60793-1-1; 2003 (U)
- IEC 60794-3-10
- IEC 60794-3-12
- ISO 11801 2-nd edition
- PN EN 50173-1
- PN EN 41003; 2001
- ITUT G.652D
- IEC 60794-5

Construction

Property	Value
Maximum tensile strength	800 N
Temperature range	Operation: -40°C to +70°C Installation: -10°C to +50°C Storage: -40°C to ÷ +70°C
Minimum bend radius	Short term: 15 x D Long term: 20 x D
Fibers' colours*	Colour RE GR BL YE WH GR BR VIO TUR BL OR PI
Tubes' colours*	Colour RE GR BL YE WH GR BR VIO TUR BL OR PI

Structure

Central strength member	Ø 1.5 – 2.5 mm – dielectric FRP rod
Loose tube	Ø 1.8 mm, gel-fileld, 12 fibers per tube
Water resistance	Cable core protected with water swellable nonwoven fabric
Cord for slitting the sheath	Ripcord - polyester cord for easy sheath slitting
Cable sheath	Thickness - 0.5 mm black HDPE

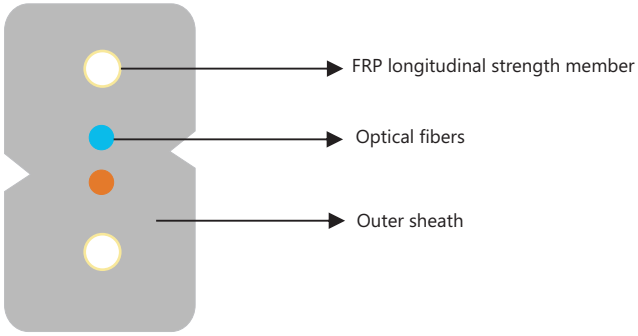
Transmission parameters

Parameter	Value
Fiber type	G.652D (OS2)
Attenuation for 1310 nm wave	≤ 0.35 dB/km
Attenuation for 1550 nm wave	≤ 0.22 dB/km
Attenuation for 1383 nm (± 3 nm) wave	≤ 0.32 dB/km
Attenuation for 1625 nm wave	≤ 0.25 dB/km
Cut-off wavelength	≤ 1260 nm
Chromatic dispersion 1285 – 1330 nm	≤ 3.5 ps/nm/km
Chromatic dispersion 1550 nm	≤ 18 ps/nm/km
Chromatic dispersion 1625 nm	≤ 22 ps/nm/km
Fiber cladding diameter	125.0 ± 0.7 µm
Sheath diameter, colourless	245.0 ± 5 µm
Mode field diameter: 1310 nm	9.2 ± 0.4 µm
Mode field diameter: 1550 nm	10.4 ± 0.5 µm

Ordering information

Number of fibers	Product description	Index
12 (1 x 12)	Micro cable FO A-DQ(ZN)2Y 12E 9/125 1X12 800N	10266165.1
24 (2 x 12)	Micro cable FO A-DQ(ZN)2Y 24E 9/125 2X12 800N	10266185.2
36 (3 x 12)	Micro cable FO A-DQ(ZN)2Y 36E 9/125 3X12 800N	102661A5.6
48 (4 x 12)	Micro cable FO A-DQ(ZN)2Y 48E 9/125 4X12 800N	102661B5.4
60 (5 x 12)	Micro cable FO A-DQ(ZN)2Y 60E 9/125 5X12 800N	102661E5.5
72 (6 x 12)	Micro cable FO A-DQ(ZN)2Y 72E 9/125 6X12 800N	102661G5.6
96 (8 x 12)	Micro cable FO A-DQ(ZN)2Y 96E 9/125 8X12 800N	102661H5.8
144 (12 x 12)	Micro cable FO A-DQ(ZN)2Y 144E 9/125 12X12 800N	102661J5.12

Number of fibers (number of fibers per tube)	Nominal cable diameter	Nominal cable weight	Dedicated inner diameter of a micro tube (mm)
12J (1 x 12)	6.0 mm	30 kg/km	≥ 8 mm
24J (2 x 12)	6.0 mm	30 kg/km	≥ 8 mm
36J (3 x 12)	6.0 mm	35 kg/km	≥ 8 mm
48J (4 x 12)	6.0 mm	35 kg/km	≥ 8 mm
60J (5 x 12)	6.0 mm	35 kg/km	≥ 8 mm
72J (6 x 12)	6.0 mm	35 kg/km	≥ 8 mm
96J (8 x 12)	6.8 mm	40 kg/km	≥ 10 mm
144J (12 x 12)	8.5 mm	55 kg/km	≥ 12 mm



FTTH DROP optical fiber cable 80N, 2-4 G657A.1 single-mode optical fibers

Application:
- Subscriber's cable for indoor and outdoor use with reduced bend radius.
- For building FTTH networks.

Standards:
- IEC 60794-3,
- PN EN 60794-2; 2002 (U)
- PN EN 60794-3; 2002 (U)
- PN EN 60793-1-1; 2003 (U)
- ISO 11801 2-nd edytion
- PN EN 50173-1
- PN EN 41003; 2001
- ITUT G.657A.1

Construction

Properties	Value
Maximum tensile strength	80 N
Temperature range	Operation: -30°C to +70°C Installation: -10°C to +50°C Storage: -30°C to ÷ +70°C
Minimum bend radius	Dynamic: - 30 mm Static: - 20 mm
Fibers' colours	Colour BL OR GR BR

Transmission parameters

Parameter	Value
Fiber type	G.657A.1
Attenuation for 1310 nm wave	≤ 0.35 dB/km
Attenuation for 1550 nm wave	≤ 0.22 dB/km
Attenuation for 1383 nm (± 3 nm) wave	≤ 0.35 dB/km
Attenuation for 1625 nm wave	≤ 0.25 dB/km
Cut-off wavelength	≤ 1260 nm
Chromatic dispersion 1285 – 1330 nm	≤ 3.5 ps/nm/km
Chromatic dispersion 1550 nm	≤ 18 ps/nm/km
Chromatic dispersion 1625 nm	≤ 22 ps/nm/km
Fiber cladding diameter	125.0 ± 0.7 µm
Sheath diameter, colourless	245.0 ± 5 µm
Mode field diameter: 1310 nm	8.6 ± 0.4 µm
Mode field diameter: 1550 nm	9.3 ± 10.57 µm

Structure

Longitudinal strength member	Ø 0.55 ± 0.1 mm – dielectric FRP rod
Loose tube	none
Cable sheath	1,0 mm – black or white LSOH

Number of fibers	Nominal cable diameter	Nominal cable weight
2J	2.0 x 3.0 ± 0.2 mm	7 kg/km
4J	2.0 x 3.0 ± 0.2 mm	8 kg/km

Ordering information

Number of fibers	Product description	Index
2J	FO BKT subscriber's DROP cable 2E/125 G657A1 LSOH 80N	10255615.0
4J	FO BKT subscriber's DROP cable 4E/125 G657A1 LSOH 80N	10255625.0

Micro tube

BKT Micro Duct System

In order to keep up with the latest trends in telecom networks technology, BKT Elektronik has launched a micro duct system. This technology may be used for building operational optical fiber networks and municipal networks, in FTTH networks, as well as new generation networks.
The system includes: single micro ducts 4-15 mm in diameter, micro tube bundles for blowing into the existing cable infrastructure or micro tube bundles for direct burial in the ground. Additionally, we offer a wide range of accessories: tube couplings, tube plugs, protective jackets for the bundles and specialist tools. These will make branching and joining of system elements much quicker and easier.

The most important advantages of micro duct systems:

- Lower maintenance costs incurred by cities and districts, due to lower fees for the burial of tubes along the roads
- Possibility of increasing the number of tubes of existing telecom duct system
- Possibility of building municipal networks in FTTx standard and the various structures:
  - star, tree or ring with a random number of branches
- Work performed in stages, which results in spreading investment costs and continuous development of the system
- Better utilization of existing infrastructure in city centers, which makes it possible to avoid time-consuming and expensive earthworks
- Lower costs of rebores and culverts due to smaller gauges of micro tubes compared to traditional pipelines
- Better filling of existing infrastructure with micro tubes compared to only a single optical cable that is laid in the existing infrastructure
- Smaller number of fusion spliced connections at the network branches

Mikrorury BKTmikro DB

Zastosowanie:
- Mikrorurka o wzmocnionej ściance do układania bezpośrednio w ziemi.
- Dzięki dużej wytrzymałości na rozciąganie mikrorury DB można również zaciągać metodą mechaniczną do istniejącej, częściowo zajętej, kanalizacji teletechnicznej.
- Koekstrudowana warstwa poślizgowa
- Współczynnik tarcia poniżej 0,1
- Istnieje możliwość wykonania mikrorury z pilotem do zaciągania mikrokabla

Standards:
- PN EN 50086-2-4
- ISO TR 9080
- PN EN-921
- ISO 13480
- ISO 527 (pkt.3)
- PN EN 638
- IEC 40794-1-2

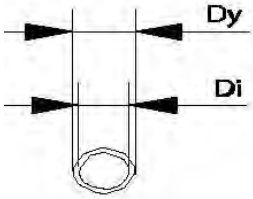
Budowa:
- Rurka z pierwotnego polietylenu, wysokiej gęstości o klasie PE80
- Grubość ścianki 2.0 ÷ 2.25 mm

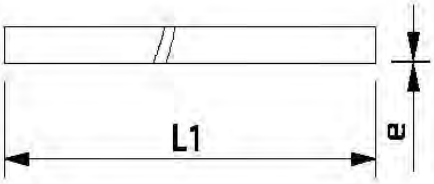
Mechanical parameters

Właściwość	Wartość
Owalność	5%
Wytrzymałość na ściskanie przy odkształceniu 5%	1000 N
Minimalny promień gięcia	10 x Dy
Wytrzymałość na ciśnienie hydrauliczne	12 MPa/20°C ≥ 1h 6.3 MPa/20°C ≥ 24h 4.6 MPa/80°C ≥ 165h 4.0 MPa/80°C ≥ 1000h
Współczynnik tarcia	0.1
Odporność na korozję materiałową	15 mm/24h
Maksymalna siła rozciągająca	1150 N

Ordering information

Product description	Dy (mm)	Di (mm)	e	L1 (m)	Index
Mikrorurka BKTMikro DB 7 x 2,0*UF	7.0	3.0	2.00	3500	102M5403
Mikrorurka BKTMikro DB 8 x 2,1*UF	8.0	3.8	2.10	3000	102M5406
Mikrorurka BKTMikro DB 10 x 2,25*UD	10.0	5.5	2.25	2000	102M5408
Mikrorurka BKTMikro DB 12 x 2,0*UD	12.0	8.0	2.0	1700	102M5410
Mikrorurka BKTMikro DB 14 x 2,0*UD	14.0	10.0	2.0	1100	102M5411





Prefabricated micro tube bundles

Prefabricated micro tube bundles BKTnet DB

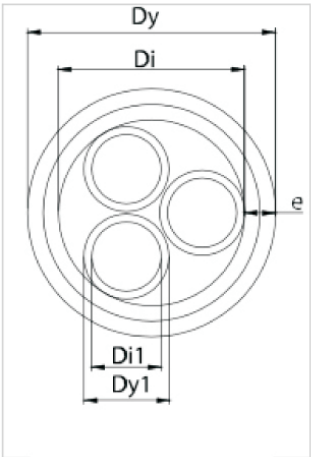
Application:
An ideal solution for fibre optic route networks and urban rings with a large number of holes. They allow for subsequent network extension, making redundant performance of expensive and onerous ground works. The bundle has the form of a tight tube which prevents the "spaghetti effect", i.e. spiral kinking of micro tubes during prefabrication causing maximum sections of micro cable blowing to be drastically shortened. A split T-connector or a PDC fork connector can be used to make a branch-off from BKTmikro DB tube or a smaller prefabricated bundle. If requested, bundle can be prefabricated together with a copper trace wires.

Standards:
- PN EN 50086-2-4
- ISO TR 9080
- PN EN-921
- ISO 13480
- ISO 527 (pkt.3)
- PN EN 638
- IEC 40794-1-2

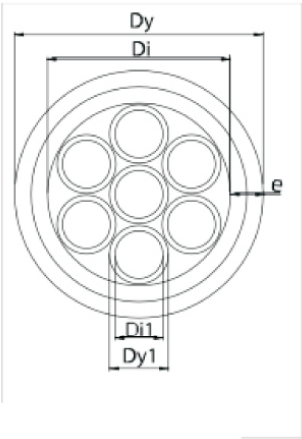
Structure:
Bundle consists of single, thin-walled BKTmikro micro tubes with a thickness of 0.6-1.2 mm, made of primary polyethylene. The double outer jacket ensures compression strength of 750N as per PN-EN 50086-2-4.

Ordering information

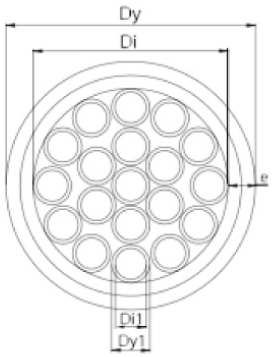
Product description	Dy (mm)	Di (mm)	E (mm)	Dy1 (m)	Di1 (mm)	L1 (m)	Index
Bundle BKTnet DB 12*5x0,6*UF	28.0	20.8	3.6	5.0	3.8	2000	102M5924
Bundle BKTnet DB 13*5x0,6*U+1x16*UD	33.0	26.0	3.5	5.0	3.8	2000	102M8320
Bundle BKTnet DB 19*5x0,6*UF	33.4	25.0	4.2	5.0	3.8	2000	102M8418
Bundle BKTnet DB 24*5x0,6*UF+1x10*UD	38.4	30.0	4.2	5.0	3.8	2000	102M8519
Bundle BKTnet DB 3*7x0,75*UD	20.5	15.1	2.7	7.0	5.5	2000	102M8114
Bundle BKTnet DB 7*7x0,75*UD	28.0	21.0	3.5	7.0	5.5	2000	102M8216
Bundle BKTnet DB 3*10x1,0*UD	27.4	21.6	2.9	10.0	8.0	2000	102M8115
Bundle BKTnet DB 4*10x1,0*UD+1x4*UD	30.5	24.1	3.2	10.0	8.0	2000	102M6022
Bundle BKTnet DB 5*10x1,0*UD+1x7*UD	34.8	27.0	3.9	10.0	8.0	2000	102M6123
Bundle BKTnet DB 7*10x1,0*UD	38.4	30.0	4.2	10.0	8.0	2000	102M8211
Bundle BKTnet DB 4*12x1,2*UD+1x5UF	36.4	29.0	3.7	12.0	9.6	2000	102M6026
Bundle BKTnet DB 7*12x1,2*UD	44.4	36.0	4.2	12.0	9.6	2000	102M8217



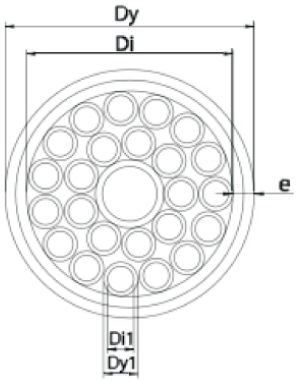
BKTnet DB 3



BKTnet DB 7

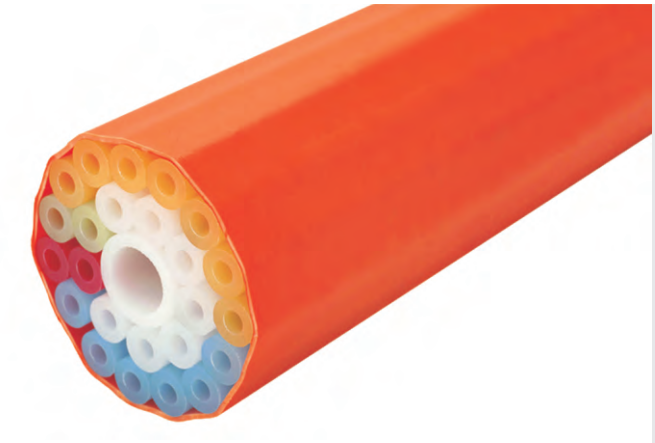


BKTnet DB 19



BKTnet DB 24

Prefabricated micro tube bundles



BKTsplit prefabricated micro tube bundles

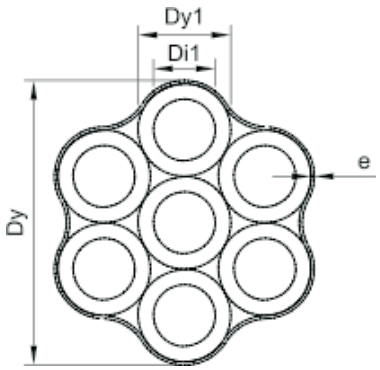
Application:
- Bundles of BKTsplit micro tubes for direct burial.
- Coextruded anti-skid layer in individual micro tubes.
- Friction coefficient below 0.1.
- Easy and quick making of branch-offs using connectors with protective caps due to the thin bundle jacket.
- Trace wires can be provided for bundles. An ideal solution for fibre optic distribution networks (star and tree topology).

Standards:
- PN EN 50086-2-4
- ISO TR 9080
- PN EN-921
- ISO 13480
- ISO 527 (pkt.3)
- PN EN 638
- IEC 40794-1-2

Structure:
Single micro tubes made of primary polyethylene, arranged in a high density bundle, class PE80. Wall thickness: 1.5 -2.0 mm. Covered with a thin PE coating with a thickness of 0.9 mm.

Ordering information

Product description	Dy (mm)	e	Dy1 (m)	Di1 (mm)	L1 (m)	Index
Bundle BKTsplit 7*7x1,50*UD	22.8	0.9	7.0	4.0	2000	102M5516
Bundle BKTsplit 12*7x1,50*UD	31.1	0.9	7.0	4.0	2000	102M5542
Bundle BKTsplit 3*12x2,0*UD	10.0	0.9	12.0	8.0	2000	102M5532
Bundle BKTsplit 4*12x2,0*UD	12.0	0.9	12.0	8.0	2000	102M5508
Bundle BKTsplit 5*12x2,0*UD	14.0	0.9	12.0	8.0	2000	102M5506
Bundle BKTsplit 7*12x2,0*UD	12.0	0.9	12.0	8.0	2000	102M5517
Bundle BKTsplit 2*14x2,0*UD	14.0	0.9	14.0	10.0	2000	102M5504
Bundle BKTsplit 4*14x2,0*UD	14.0	0.9	14.0	10.0	2000	102M5502
Bundle BKTsplit 5*14x2,0*UD	12.0	0.9	14.0	10.0	2000	102M5505
Bundle BKTsplit 7*14x2,0*UD	14.0	0.9	14.0	10.0	2000	102M5503



Ordering information

Property	Value
Individual tube ovality	5%
Compression strength at 5% deformation for micro tube	1000 N
Minimum bend radius for an individual micro tube	10 x Dy
Pressure classification for an individual micro tube	20 bar
Individual tube resistance to hydraulic pressure	12 MPa/20°C ≥ 1h 6.3 MPa/20°C ≥ 24h 4.6 MPa/80°C ≥ 165h 4.0 MPa/80°C ≥ 1000h
Friction coefficient for an individual tube	0.1
Individual tube resistance to corrosion	15 mm/24h
Maximum tensile strength for an individual tube	1150 N
Micro tubes bundle compression strength	1650 N
Maximum bundle pull force	390 daN

Wateproof tube couplings for connecting BKTmikro and BKTmikro DB micro tubes (not directly in the ground)

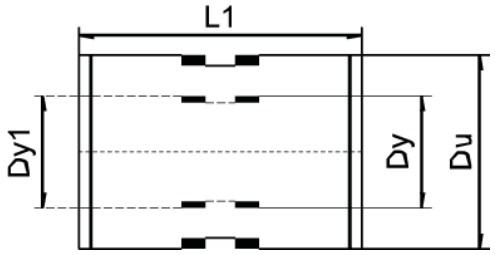
Application:
Connecting single micro tubes or micro tube bundles. You can easily connect single BKTmikro, BKTmikro DB micro tubes or prefabricated tube bundle using split T-connector or PDC fork connector.

Standards:
- EN 50411-6-1: 2011
- EN 50411: 2009
- EN 50411-2-8: 2009

Properties:
- Impulse resistance >1 J in temperature -20°C.
- Compression strength up to 12 bar.

Ordering information

Product description	Dy (mm)	Dy1 (m)	Du1 (mm)	L1 (mm)	Index
BKTfit MM 4 coupling	4.0	4.0	11.0	25.0	102M8602
BKTfit MM 5 coupling	5.0	5.0	13.0	26.6	102M8604
BKTfit MM 7 coupling	7.0	7.0	14.6	29.5	102M8603
BKTfit MM 8 coupling	8.0	8.0	14.6	29.5	102M8606
BKTfit MM 10 coupling	10.0	10.0	18.4	37.2	102M8608
BKTfit MM 12 coupling	12.0	12.0	21.0	38.0	102M8610
BKTfit MM 14 coupling	14.0	14.0	26.0	38.0	102M8611
BKTfit MM 15 coupling	15.0	15.0	26.0	38.0	102M8612



Wodoszczelna złączki przeznaczone do łączenia mikrorur BKTmikro DB do bezpośredniego układania w ziemi.

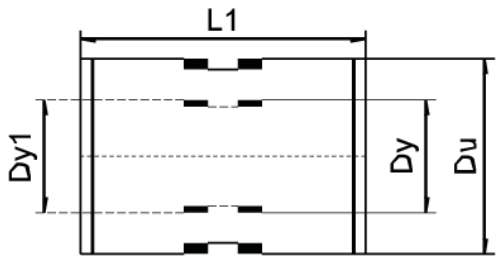
Zastosowanie:
Do połączeń pojedynczych mikrorur BKTmikro DB lub mikrorur w wiązkach BKTsplit, BKTflat. W łatwy sposób można wykonać połączenie pojedynczej rurki BKTmikro DB i ułożyć ją bezpośrednio w ziemi. Złączki są dostarczane z zamontowaną pokrywą ochronną, którą w razie potrzeby można zdemontować. Pokrywa pełni rolę zabezpieczenia przed przypadkowym otwarciem oraz zwiększa odporność złączki na uderzenie.

Standards:
- EN 50411-6-1: 2011
- EN 50411: 2009
- EN 50411-2-8: 2009

Własności:
- Wytrzymałość na udar >1 J w temperaturze -20°C
- Wytrzymałe pneumatycznie do 12bar
- Przezroczysta obudowa i pokrywa
- Zakres średnic od 7 do 16 mm
- Możliwość używania do -15 °C
- Większa odporność złączki na uderzenia dla stosowania bezpośrednio w ziemi
- Klipsy blokujące w pokrywie
- Oczekiwany okres eksploatacji 25 lat w normalnych warunkach instalacyjnych

Ordering information

Product description	Dy (mm)	Dy1 (mm)	Du (mm)	L1 (mm)	Index
BKTfit MM DB 7 coupling	7.0	7.0	26.0	41.3	102M9103
BKTfit MM DB 8 coupling	8.0	8.0	26.0	41.3	102M9106
BKTfit MM DB 10 coupling	10.0	10.0	29.0	49.7	102M9108
BKTfit MM DB 12 coupling	12.0	8.0	31.0	51.3	102M9110
BKTfit MM DB 14 coupling	14.0	14.0	32.0	51.3	102M9111
BKTfit MM DB 16 coupling	16.0	16.0	32.0	51.3	102M9112



BKT connector shields

BKT optical fibre enclosures are designed for management of optical fibres and their protection against environmental factors. They are distinguished by the high quality of sealing, a simple and highly efficient fibre management system and can be extended by another cassettes - the total volume of the enclosure is 10 cassettes for 24 welds. Completely equipped enclosures are available in three sizes: for 24, 96 and 144 welds. Enclosures can be used as splice enclosures or branch enclosures.

BKT "DOME" type round optical fibre enclosure

Application:
BKT "DOME" type round optical fibre enclosures are components used for connecting and protecting optical fibre connections for different applications. An enclosure can be used as a splice enclosure or a branch enclosure. It consists of 4 round ports and one oval port. Enclosures can be installed underground, on power line pylons or fitted to walls of cable chambers or other telecommunications devices. Enclosures include 6 cassettes consisting of 24-32 welds each. They are equipped with 144 weld sheaths. BKT "DOME" type enclosures can be mounted in distribution or FTTX local networks.

Technical Data:
- Ambient temperature: -40°C - +70°C
- Max. volume: 144-192 welds when connecting single fibres;
- Diameter of cables: 7- 18 mm;
- Tightness: pressure inside the enclosure - 100kPa without being changed within 24 hours or no water bell within 15 minutes when immersing the enclosure under the water.
- No changes in encapsulation when closing the enclosure three times;
- Impact resistance: IK10.

Technical Specification:
- Temperature range : -40°C - 70°C;
- Tightness: IP65;
- Impact resistance: IK10;
- Max. number of welds: 24;
- Number of cable entries: 3 round, 1 oval.

Accessories and Components

No.	Name	Quantity	Remarks
1.	Dome	1 pc	Height x diameter 340x100 (mm)
2.	Cassette for 12 welds	2 pcs	
3.	Basis	1 set	Fastens outdoor and indoor elements
4.	Plastic ring	1 set	Fastens the cover
5.	Sealing fastening	1 pc	Waterproof and sealing
6.	Earthing device	1 set	Earthing of metal parts of optical fibres

Specification

Weight (kg)	Round entries (ϕ - mm)	Oval entries (mm)	Type of tightness	Material
1,5	3 pc (ϕ 19 - mm)	1 pc (54 x 30 mm)	Dome	ABS, PC

Ordering information

Size (mm) ϕxH	Max. volume	No. of cassettes for welds	Matching cable diameter	Index
100 x 340	24	2	ϕ7 - ϕ18 mm	11320401

BKT connector shields



BKT "DOME" type round optical fibre enclosures

Application:
BKT "DOME" type round optical fibre enclosures are components used for connecting and protecting optical fibre connections for different applications. An enclosure can be used as a splice enclosure or a branch enclosure. It consists of 4 round ports and one oval port. Enclosures can be installed underground, on power line pylons or fitted to walls of cable chambers or other telecommunications devices. Enclosures include 6 cassettes consisting of 24-32 welds each. They are equipped with 96 weld sheaths. BKT "DOME" type enclosures can be mounted in distribution or FTTX local networks.

Technical Data:
- Ambient temperature: -40°C - +70°C
- Max. volume: 96-128 welds when connecting single fibres
- Diameter of cables: 7- 18mm
- Tightness: pressure inside the enclosure - 100kPa without being changed within 24 hours or no water bell within 15 minutes when immersing the enclosure under the water
- No changes in encapsulation when closing the enclosure three times
- Impact resistance: IK10

Technical Specification:
- Temperature range : -40°C - 70°C;
- Tightness: IP65;
- Impact resistance: IK10;
- Max. number of welds: 96-128
- Number of cable entries: 4 round, 1 oval.

Accessories and Components

No.	Name	Quantity	Remarks
1.	Dome	1 pc	Height x diameter 440x210 (mm)
2.	Cassette for 24-36 welds	2 set	
3.	Basis	1 set	Fastens outdoor and indoor elements
4.	Plastic ring	1 set	Fastens the cover
5.	Sealing fastening	1 pc	Waterproof and sealing
6.	Earthing device	1 set	For earthing of metal parts of optical fibres

Specification

Weight (kg)	Round entries (ϕ - mm)	Oval entry (mm)	Type of tightness	Material
3,0	4 pcs (ϕ 22 - mm)	1 pc (72 x 37 mm)	Kopuła	ABS, PC

Ordering information

Size (mm) ϕxH	Max. volume	No. of cassettes for welds	Diameter of matched cables	Index
210 x 440	96 - 128	4	ϕ7 - ϕ18 mm	11320402

BKT connector shields



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Technical Data:
- Ambient temperature: -40°C - +70°C;
- Max. volume: 144-192 welds when connecting single fibres;
- Diameter of cables: 7- 21 mm;
- Tightness: pressure inside the enclosure - 100kPa without being changed within 24 hours or no water bell within 15 minutes when immersing the enclosure under the water.
- No changes in encapsulation when closing the enclosure three times;
- Impact resistance: IK10.

Technical Specification:
- Temperature range : -40°C - 70°C;
- Tightness: IP65;
- Impact resistance: IK10;
- Max. number of welds: 144-192;
- Number of cable entries: 4 round, 1 oval.

Accessories and Components

No.	Name	Quantity	Remarks
1.	Dome	1 pc	Height x diameter 440x210 (mm)
2.	Cassette for 12 welds	6 set	
3.	Basis	1 set	Fastens outdoor and indoor elements
4.	Plastic ring	1 set	Fastens the cover
5.	Sealing fastening	1 pc	Waterproof and sealing
6.	Earthing device	1 set	For earthing of metal parts of optical fibres

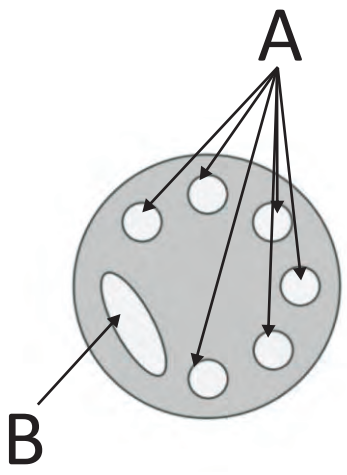
Specification

Weight (kg)	Round entries (ϕ - mm)	Oval entry (mm)	Type of tightness	Material
3,5	4 pcs (ϕ 22 - mm)	1 pc (72 x 37 mm)	Kopuła	ABS, PC

Ordering information

Size (mm) ϕxH	Max. volume	No. of cassettes for welds	Diameter of matched cables	Index
210 x 440	144 - 192	6	ϕ7 - ϕ21 mm	11320403

BKT connector shields



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Technical Data:
- Ambient temperature: -40°C - +70°C;
- Max. volume: 240 welds when connecting single fibres;
- Diameter of cables: 5-17.5 mm and 23 mm (oval port);
- Tightness: pressure inside the enclosure - 100kPa without being changed within 24 hours or no water bell within 15 minutes when immersing the enclosure under the water.
- No changes in encapsulation when closing the enclosure three times;
- Impact resistance: IK10.

Technical Specification:
- Temperature range : -40°C - 70°C;
- Tightness: IP65;
- Impact resistance: IK10;
- Max. number of welds: 240;
- Number of cable entries: 6 round, 1 oval.

Accessories and Components

No.	Name	Quantity	Remarks
1.	Dome	1 pc	Height x diameter 465x260 (mm)
2.	Cassette for welds	1 set	
3.	Basis	1 set	Fastens outdoor and indroor elements
4.	Plastic ring	1 set	Fastens the cover
5.	Sealing fastening	1 pc	Waterproof and sealing
6.	Double-sided excess tray	1 set	Used for rolling excess fibres
7.	Earthing device	1 set	For earthing metal parts of optical fibres

Specification

Weight (kg)	Entries	Type of tightness	Material
5,45	7	Dome	ABS, PC

Type	Size (mm) ϕ	Diameters of matching optical fibre cables (mm) ϕ
A	25	5 - 17,5
B	75 x 40	12 - 23

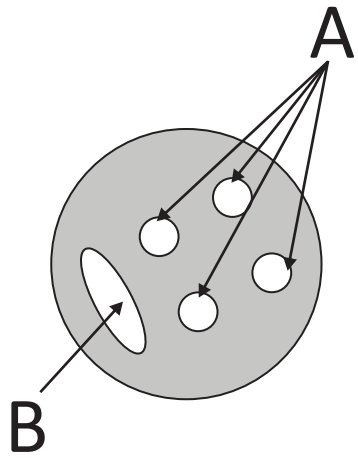
Ordering information

Size (mm) ϕxH	Max. volume	No. of cassettes for welds	Matching cable diameter	Index
260 x 465	240	1-10	ϕ5 - ϕ17,5 (ϕ 23)mm	11320410

Related product

Index: 11320039
Description: BKT optical fibre cassette for 24 welds for 11320410 enclosures

BKT connector shields



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Technical Data:
- Ambient temperature: -40°C - +70°C;
- Max. volume: 144 welds when connecting single fibres;
- Diameter of cables: 5-17.5 mm and 23 mm (oval port);
- Tightness: pressure inside the enclosure - 100kPa without being changed within 24 hours or no water bell within 15 minutes when immersing the enclosure under the water.
- No changes in encapsulation when closing the enclosure three times;
- Impact resistance: IK10.

Technical Specification:
- Temperature range : -40°C - 70°C
- Tightness: IP65
- Impact resistance: IK10
- Max. number of welds: 144
- Number of cable entries: 4 round, 1 oval

Accessories and Components

No.	Name	Quantity	Remarks
1.	Dome	1 pc	Height x diameter 450x230 (mm)
2.	Cassette for welds	1 set	
3.	Basis	1 set	Fastens outdoor and indroor elements
4.	Plastic ring	1 set	Fastens the cover
5.	Sealing fastening	1 pc	Waterproof and sealing
6.	Double-sided excess tray	1 set	Used for rolling excess fibres
7.	Earthing device	1 set	For earthing of metal parts of optical fibres

Specification

Weight (kg)	Entries	Type of tightness	Material
3,5	5	Dome	ABS, PC

Type	Size (mm) ϕ	Diameters of matching optical fibre cables (mm) ϕ
A	25	5 - 17,5
B	75 x 40	12 - 23

Ordering information

Size (mm) ϕxH	Max. volume	No. of cassettes for welds	Matching cable diameter	Index
260 x 465	144	1-6	ϕ5 - ϕ17,5 (ϕ 23)mm	11320412

Related product

Index: 11320039
Description: BKT optical fibre cassette for 24 welds for 11320412 enclosures

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